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Malaysia CDM Information Handbook

A Resource for
Clean Development Mechanism
Project Developers in Malaysia

Ministry of Natural Resources and Environment

Malaysia Energy Centre

Published by;

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Ministry of Natural Resources and Environment

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PREFACE

The CDM Information Handbook:
A Resource for Clean Development Mechanism Project Developers in Malaysia

The CDM Information Handbook is directed at local Clean Development Mechanism (CDM) project developers to empower them to put forward project ideas, particularly ideas with a development focus.

The principle areas covered by the guide are as follows:

- Introduction to the CDM
- The CDM Project Formalization
- National CDM Criteria
- Simplified Procedures for Small-Scale CDM Projects in Malaysia

The CDM Information Handbook bridges the gap between general introductions to the CDM and a step-by-step CDM project cycle. It covers the steps of CDM project development in the project design stage only, not implementation. It points project developers to detailed resources, where appropriate. Although this handbook is not everything a project developer needs to design and report on a CDM project, it does provide a comprehensive overview of how to get there.

Contents

1 INTRODUCTION TO THE CDM

The 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) aims to reduce emissions of greenhouse gases (GHGs) such as carbon dioxide and methane on a global scale. An increased output of GHG emissions into the atmosphere results in increasing temperatures on earth and climate change. One of the three flexible mechanisms in the Protocol that aims to reduce GHG and is relevant for developing countries like Malaysia is the Clean Development Mechanism (CDM).

The CDM allows industrialised countries with emission reduction commitments to meet part of their commitments **by investing in projects in developing countries** that reduce GHG emissions. The CDM helps the industrialised countries meet their emissions targets by earning 'credits' for their contribution to achieving emissions reductions in developing countries. For the developing countries, the benefit is that activities that reduce the combustion of fossil fuels (coal, oil, gas, kerosene) or reduce methane emissions (from landfill sites, for example) or improve land-use patterns (such as reforestation) will be able to attract additional investment.

This investment, which is directly related to the extent that GHG emissions are reduced, could make such businesses in the developing countries more attractive.

The basic requirements of a CDM project are therefore twofold: it has to meet certain measurable environmental criteria, and it has to fit in with the host country's development priorities partially in achieving the objective of sustainable development. The host country benefits from positive environmental improvements like reduced air and water pollution and less land degradation, and from social improvements like the creation of new jobs.

For more information on Kyoto Protocol and its actual text, please refer to the UNFCCC website: http://unfccc.int/resource/docs/convkp/kpeng.pdf

1.1 WHY WORRY ABOUT CLIMATE CHANGE?

The sun's energy falls continuously on the earth. Some of this energy is reflected back into space by the earth's atmosphere, but most of it passes through the atmosphere to warm the earth's surface. The energy from the earth's warming is emitted as infra-red radiation, and is absorbed by water vapour, carbon dioxide, and other naturally occurring GHGs that hold heat in the atmosphere. All lives depend on this natural greenhouse effect. If the GHGs did not slow down the release of the infra-red radiation back into space, the earth would be too cold to support life.

Since the industrial revolution, human activities have been adding huge quantities of GHGs to those naturally found in the atmosphere. As the concentration of these gases increases, they retain more heat energy.

This has led to increases in average global temperature – widely known as global warming – and other major changes in the climate system. The Intergovernmental Panel on Climate Change (IPCC) (www.ipcc.ch), a body of over 3,000 leading scientists working in climate change research, stated in its 2001 report that 'there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities'.

These changes are happening faster than any purely natural process, and the impacts are expected to be unprecedented. Higher temperatures combined with changes in rainfall and water run-off will profoundly affect both natural and human systems. Some of the changes predicted are reduced food security, loss of life due to catastrophic floods, homelessness, submerging of land due to sea-level rise, and increased deaths from diseases such as malaria. Countries with few resources will have the least capacity to adapt, and are the most vulnerable.

What human activities cause GHG emissions? Carbon dioxide (CO_2) is responsible for 70 - 72% of the impact (IPPC 2001a), primarily through the burning of fossil fuels but also due to rapid deforestation. Methane (CH_4) is responsible for about 20% of the GHG impact. It is released from fossil fuels (gas pipeline leaks and coal mines), wastes from agriculture (rice and cattle farming), and industry. Nitrous oxide (N_2O) is responsible for 6 - 7% of the GHG impact, through agricultural fertilisers, industrial processes and burning fossil fuels. The remaining trace gases come from industrial processes. To confront this vast global problem, therefore, we have to change one of the most fundamental activities of industrial economies – the burning of fossil fuels. This means changing many aspects of our lives: transport systems, methods of generating electricity, how efficiently we use energy of all kinds, industrial and agricultural practices. Reducing the emissions of GHGs, or promoting their increased absorption by vegetation, is called mitigation; all CDM projects are mitigation projects.

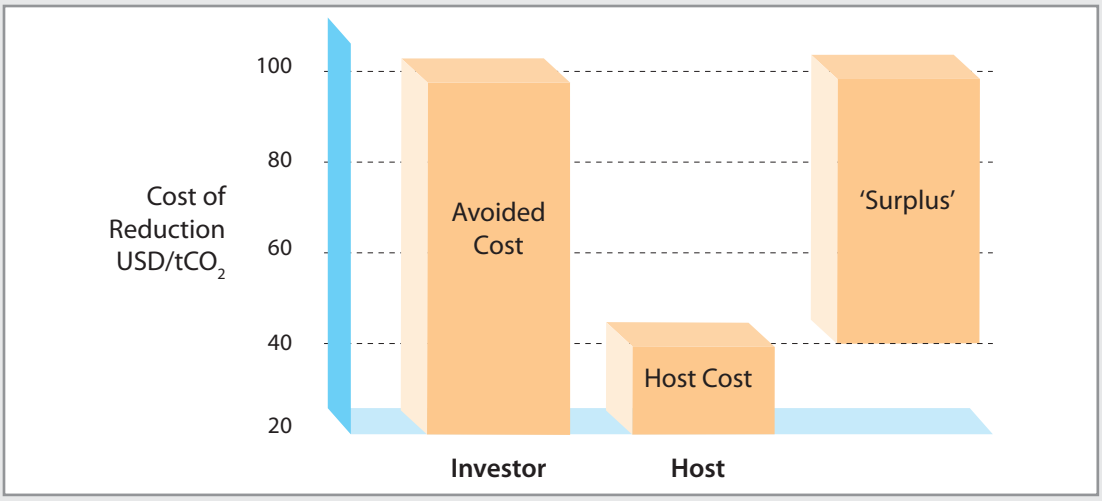
The international community first acknowledged climate change as an important global issue in 1992, when it adopted the UNFCCC at the Rio de Janeiro Earth Summit. The Convention set targets for industrialised countries to stabilise their emissions, although these were not legally binding. Growing evidence of human influence on climate change and the possible irreversible nature of its impacts led the international community to adopt the Kyoto Protocol in 1997. The Protocol contains legally binding emission targets for the industrialized countries, although widespread concern by industrialised countries over the costs led to the Protocol including a great deal of flexibility on how to meet targets. The time period for targets was stretched from one to five years, and the CDM and other mechanisms were introduced for trading emissions with other countries.

The Protocol entered into force on 16 February 2005. As a developing country, Malaysia has no quantitative commitments under the first commitment period of Kyoto Protocol (2008-2012). However, through the CDM, Malaysia can voluntarily participate in globally reducing emissions of GHGs.

1.2 THE RATIONALE FOR CARBON TRADING

GHGs mix uniformly in the earth's atmosphere. Unlike sulphur dioxide or low-level ozone, CO_2 and other GHGs have the same impact on climate everywhere in the world. It does not matter, therefore, where we begin to reduce net emissions. This fact provides the economic justification for international co-operation on climate change projects and project based emissions trading. International co-operation makes economic sense because emissions reduction in developing countries generally cost less than in industrialised countries. In **Figure 1.1**, the difference between the marginal reduction costs for the investor (industrialized country) and the host (developing country) is shown by the amount marked 'Surplus'. The host country and investor country can share the surplus so that both benefit.

Figure 1.1: Marginal Cost of Reduction in Investor and Host Country



1.3 WHAT IS THE CLEAN DEVELOPMENT MECHANISM?

The Kyoto Protocol includes two project-based mechanisms for international mitigation efforts: the CDM, between an industrialised and a developing country, and Joint Implementation (JI), between two industrialised countries (in this context 'industrialised' or Annex I countries include the countries with economy in transition of Eastern Europe). Malaysia as a developing country (also referred to as non-Annex I country) can only participate in the CDM.

A CDM project is a project, driven by market forces, that reduces GHGs. The CDM may be implemented in the following way. An emitter in the industrialised country calculates the cost of making the target set by its government. It may then achieve the required reduction at the calculated cost through its own "internal actions", such as decreasing consumption of fossil energy, and so forth. As an alternative, it may pursue a lower cost option by achieving cheaper reductions through projects in a developing country. If the GHG reductions in Malaysia, for example, can be achieved at a lower cost than the domestic action, and if the risks are acceptable and the barriers not too onerous, then there is incentive to invest in the project. In such a case, the investor from the industrialised country supplies capital or a technology, based on the future value of certified emission reduction units (CERs), also known as carbon credits. These carbon credits or CERs are a measure of the reduction of GHGs achieved by the project in the developing country.

The CDM thus represents a trade opportunity for developing countries to collaborate with industrialised country investors to develop new industries and technologies and assist in creating cleaner economies.

CDM was introduced to combine the interests of the Annex 1 and non-Annex 1 countries. The CDM has two key goals:

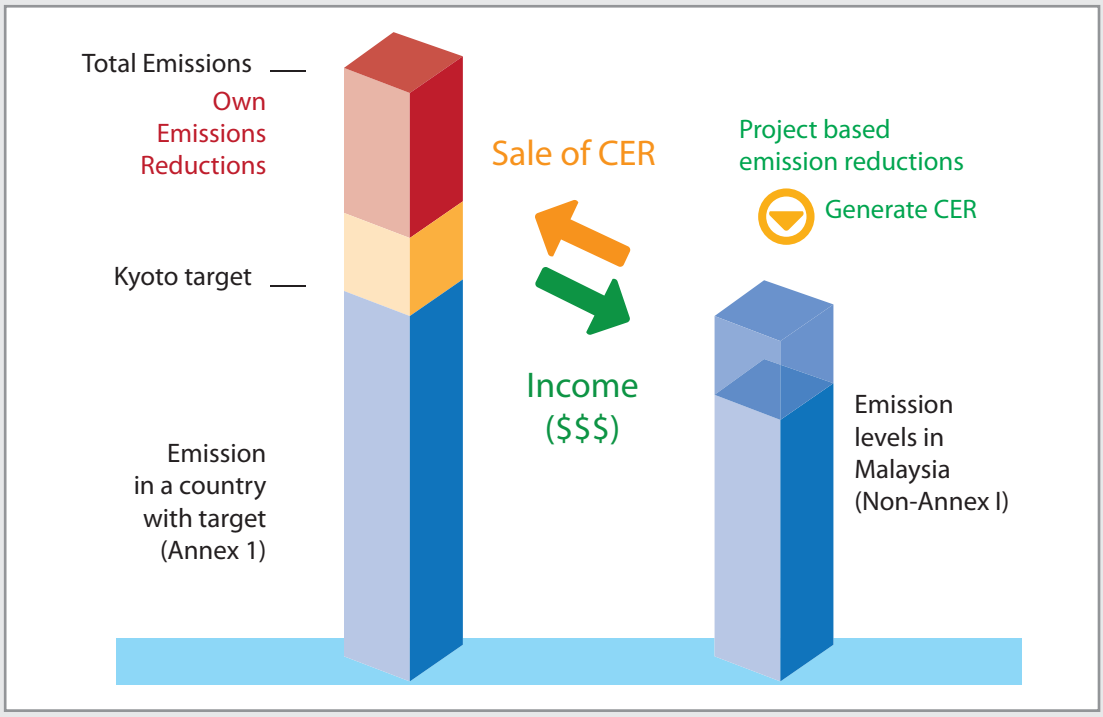
(i) To assist developing countries who host CDM projects to achieve sustainable development. In addition, there are clear benefits for project developers in using the CDM as it can be a driver for getting environmentally benign technologies more economically viable and overcome barriers that would otherwise prevent the project from being realised.

(ii) To provide developed countries with flexibility for achieving their emission reduction targets, by allowing them to take credits from emission reducing projects undertaken in developing countries.

Figure 1.2 illustrates schematically how the CDM works. As the figure presents, Annex I Parties which have emission caps under Kyoto, can meet these caps by buying emission reductions from projects that reduce GHG emissions located in non-Annex I countries. These countries that do not have emission caps can receive extra income for projects that reduce emissions by selling them to Annex I parties, contributing to sustainable development in the host country. In this context:

- A Party where CDM project is implemented is called a Host Party;
- The emission reductions resulting from the CDM are called certified emission reduction (CER);
- Reductions in emissions shall be additional to any that would occur in the absence of the certified project activity. See also Section 2.2 below.

Figure 1.2: Illustration on How CDM Works



In order to qualify for generating the tradable Certified Emission Reductions (CERs), which are the products of the CDM, the project must generate sustainable development benefits for the host country as a whole. For Malaysia, a specific set of criteria and indicators have been developed for measuring whether the project contributes to sustainable development. The contribution to sustainable development is a fundamental component of CDM projects in Malaysia.

The result of trading these emissions from one country to another is that the Annex I countries can use CERs to contribute to compliance of their quantified GHG emission reductions targets of the Kyoto Protocol. As a result, the total emissions cap of the Annex I country will increase. It is possible to generate and trade carbon credits under the CDM before the 1st commitment period (2008 – 2012). CERs issued based on emission reductions achieved during the period from the year 2000 up to 2007 can be used to assist in achieving compliance of Annex I Parties in the 1st commitment period.

1.4 HOW DOES THE CDM AFFECT MALAYSIA?

Industrialised countries have gradually developed domestic policies to comply with the Kyoto Protocol. Most countries are however still not meeting their target and looking for emission trading options. This has led to a growing demand for carbon credits, especially after the entry into force of the Kyoto Protocol. As an indication, the funds allocated by Annex I governments alone have increased from USD 275 million in 2004 to USD 950 million in April 2005.

Non-Annex I countries like Malaysia are well-placed to supply such carbon credits. Malaysia ratified the Kyoto Protocol on 4 September 2002 and is thus a Party to the Kyoto Protocol. At present, as a developing country Malaysia is not subjected to any commitments towards reducing GHG emissions. However, as a Party to Kyoto, Malaysia can voluntarily participate in the CDM and benefit from investments in the GHG emission reduction projects. This implies that extra revenues can be generated for renewable energy project, energy efficiency projects, waste management projects, etc. Such projects also contribute towards the overall improvement of the environment and to some extent bring additional economic and social benefits.

It is the prerogative of the host country to decide whether or not a project contributes to sustainable development. Therefore, the government of Malaysia can ensure that only those projects that are deemed to contribute to sustainable development can actually benefit from the CDM. Project developers will benefit directly from the extra revenues that the project can bring.

The additional funding channelled through the CDM could assist Malaysia in reaching its sustainable development objectives, such as cleaner air and water, improved land use and in many cases, reduced dependence on fossil fuels. In addition to catalysing green investment priorities in developing countries, the CDM offers an opportunity to make simultaneous progress on climate, development and local environmental issues.

For project developers in developing countries, the CDM can be used to modify planned or projected investments into projects with lower emissions of GHGs. Together this makes a win-win situation for all parties.

1.4.1 How can the CDM benefit at the project level?

Malaysia already has experience in implementing projects relevant to climate change and CDM - like renewable energy supply, demand side management, fuel switching, and forestry. At the project level, these projects typically use equity and debt to raise capital, and produce financial returns for the investor **(Figure 1.3)**. CDM projects are different because they include another kind of input – carbon investment. Also through the CDM, the project generates carbon credits which have a monetary value. Additional financial resources flow to the project that generates the carbon credits **(Figure 1.4)**. It should be noted that this form of project financing is different from equity or debt investments made for financial returns, even if it is made by the same investor.

Figure 1.3: Conventional Investment Project Inputs and Outputs

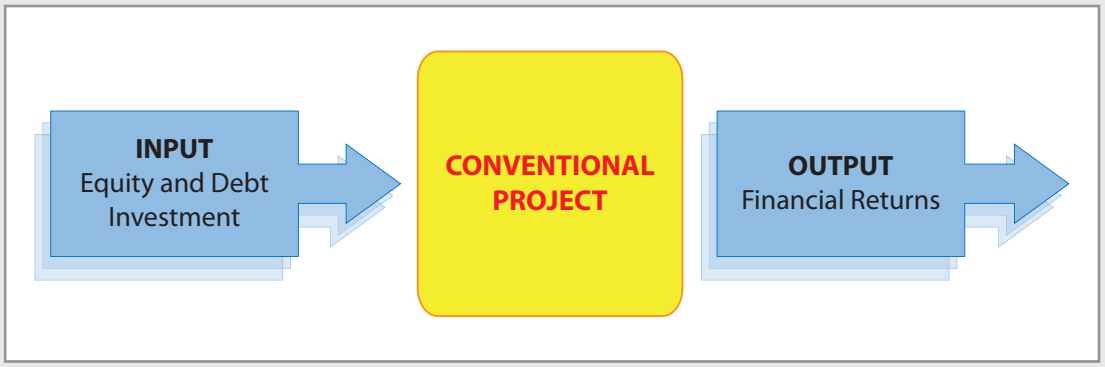
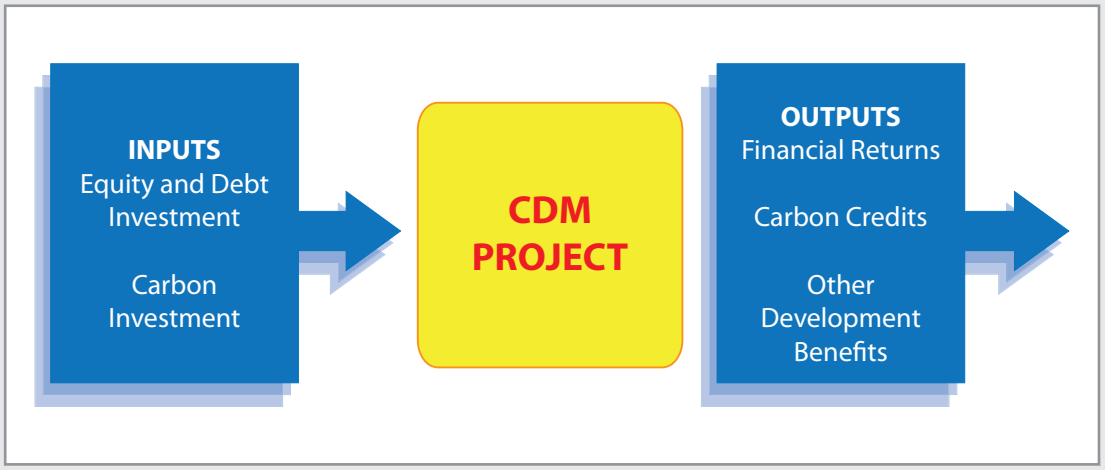


Figure 1.4: CDM Project Inputs and Outputs



Under the RE and EE programme funded by the Danish International Development Assistance (Danida) in 2004-2005, PTM has carried out various studies on the impact that CDM can have at the project level. The actual contribution of CDM revenues at the project level for the energy projects in Malaysia stems mainly from the fact that fossil fuels are replaced or from the fact that methane emissions are avoided.

For electricity project that are off-grid, diesel for engines is often the replaced fuel. For grid-connected electricity producing projects, the avoided emissions from the power stations connected to the grid to which the project will deliver can be calculated according to an international approved methodology (see also Section 2.2).

Calculations made for Peninsular Malaysia, Sarawak and the West Sabah grids in 2007 indicate that 0.684, 0.873 and 0.807 kg CO_2 can be displaced per kWh of renewable electricity generated respectively. For East Sabah, this number is as high as 0.8 kg/kWh, since it is only fossil fuel or diesel fired installations that would be displaced. Please refer to www.ptm.org.my for the latest value of Grid Connected Electricity Baseline in Malaysia.

For combined heat and power projects, GHG emissions may be saved from the production of heat. However, for those projects where biomass is currently being consumed for heat production (which is the case in many palm oil mills in Malaysia), no extra GHG savings is accrued for the heat produced from biomass combustion, since this is assumed to be a zero emissions fuel source where the CO_2 emitted from the burning of biomass is considered equal to the uptake of CO_2 by the plants.

Projects that involve the avoidance and/or use of methane that would otherwise have escaped to the atmosphere give a significant reduction of GHG emissions. This is because methane has a global warming potential that is 21 times higher than CO_2. Methane emissions in Malaysia are typically avoided in waste to energy projects or project activities that capture biogas from anaerobic digestion processes. Examples include capturing biogas from Palm Oil Mill Effluent (POME) or animal waste.

Preliminary estimates of the same Danida funded studies indicate that projects that for displace grid electricity only, the revenues of CDM can typically contribute between 1 and 1.5 sen/kWh generated, depending on the location of project. For individual projects where a higher load factor can be achieved, the impact of CDM could be more substantial. The CDM contribution for off-grid projects and projects located in Sarawak and East Sabah is slightly higher than in Peninsular Malaysia and West Sabah. The same is true for projects that reduce the consumption of electricity, like energy efficiency activities in buildings or in the industrial sector. For these projects, the potential extra income per kWh of electricity saved is slightly higher, around 1.1 – 1.6 sen/kWh generated. This is due to the fact that energy efficiency projects can also claim emission reductions for savings in distribution and transport losses, which are around 10% in Malaysia.

However, if a project also avoids methane emissions, which is the case for POME and landfill gas projects, the CDM contribution can be as high as 8 to 9 sen/kWh of electricity generated. This is a significant contribution compared to the maximum TNB tariff of 21 sen/kWh in Peninsular Malaysia.

CDM can thus have a significant impact on the financing of project activities that also reduce methane emissions. For example, without the CDM the development of a power generating plant using landfill gas or POME as a fuel source is unlikely, whereas with the CDM revenues, this can become a viable option for project developers. On the other hand, the CDM has only a marginal impact on projects that displace electricity only.

Finally, the studies estimate that the potential CERs that can be generated in Malaysia are 26 million CERs in 2010. This means a total potential of 125 million CERs can be generated before the year 2012.

Assuming an exchange rate of RM 4.7/Euro, at current CERs price of RM 47/tonne CO_2eq, the annual income in 2010 will be in the order of RM 1.2 billion/year from sale of CERs and the total income until 2012 will be in the order of RM 6 billion.

1.4.2 What types of projects qualify as CDM in Malaysia?

Table 1.1 shows examples of the types of projects eligible for CDM.

Table 1.1: Examples of Projects Eligible for CDM

Sector	Type of projects
Renewable Energy	• Biomass power generation – on-grid and off-grid • Biogas power generation from POME, animal waste etc. • Solar: Solar water heating; solar photovoltaic systems • Hydro: Mini-hydro power
Energy Efficiency	• Improving efficiency in electricity production • Improving combined heat and electricity production • Improved boilers; more efficient process heat and steam systems • Fuel switching • Energy efficiency through demand side management
Forestry	• Afforestation • Reforestation
Waste Management	• Power and heat production from wastes • Gas recovery from landfills • Anaerobic waste water treatment
Transport	• Efficiency improvements for vehicles • Switch to fuel systems with lower emissions
Agriculture	• Composting of agriculture wastes • Methane abatement from animal waste • Methane reduction in rice cultivation

The list of sectoral scopes for CDM projects is available at the UNFCCC website:
http://cdm.unfccc.int/DOE/scopelst.pdf

2 THE CDM PROJECT FORMALIZATION

This Chapter presents the steps that have to be taken in order to develop a CDM project. **Figure 2.1** below illustrates these various stages that the project developer will have to go through before the final Certified Emission Reductions (CERs) that generate the actual revenues can be issued. The stages involved in the CDM formalisation process include project development and design, national approval, validation, registration, monitoring and verification/certification. The last two are performed after the project is implemented, whereas the other stages are implemented during the project design phase.

Figures 2.2 (a) and **(b)** show a more detailed CDM process that is applicable in Malaysia and focuses on how to obtain national approval.

This chapter describes each of these stages in further detail:

- Section 2.1 describes how to receive the conditional letter of approval, which is optional;
- Section 2.2 provides information on how to prepare the PDD;
- Section 2.3 focuses on how to achieve national approval;
- Section 2.4 focuses on what needs to happen after the project has been registered with the CDM Executive Board; and
- Section 2.5 provides an estimate of the costs involved in going through all these 10 stages.

Malaysia also imposes an Administration Fee on all CDM Project Applications. The Administration Fee was imposed since 1 Sept 2006. This applies to all applications either in the forms of PIN or PDD. The fee structure is as below:

Table 2.1: Marginal Cost of Reduction in Investor and Host Country

Type of Document Submitted	Administration Fee (RM)
PIN	1,000
PDD	2,500 *(small-scale project*)*
	5,000 *(large-scale project*)*

**As defined by the CDM Executive Board*

Appendix 2 provides detail of the Administration Fee.

Figure 2.1: National CDM Project Cycle

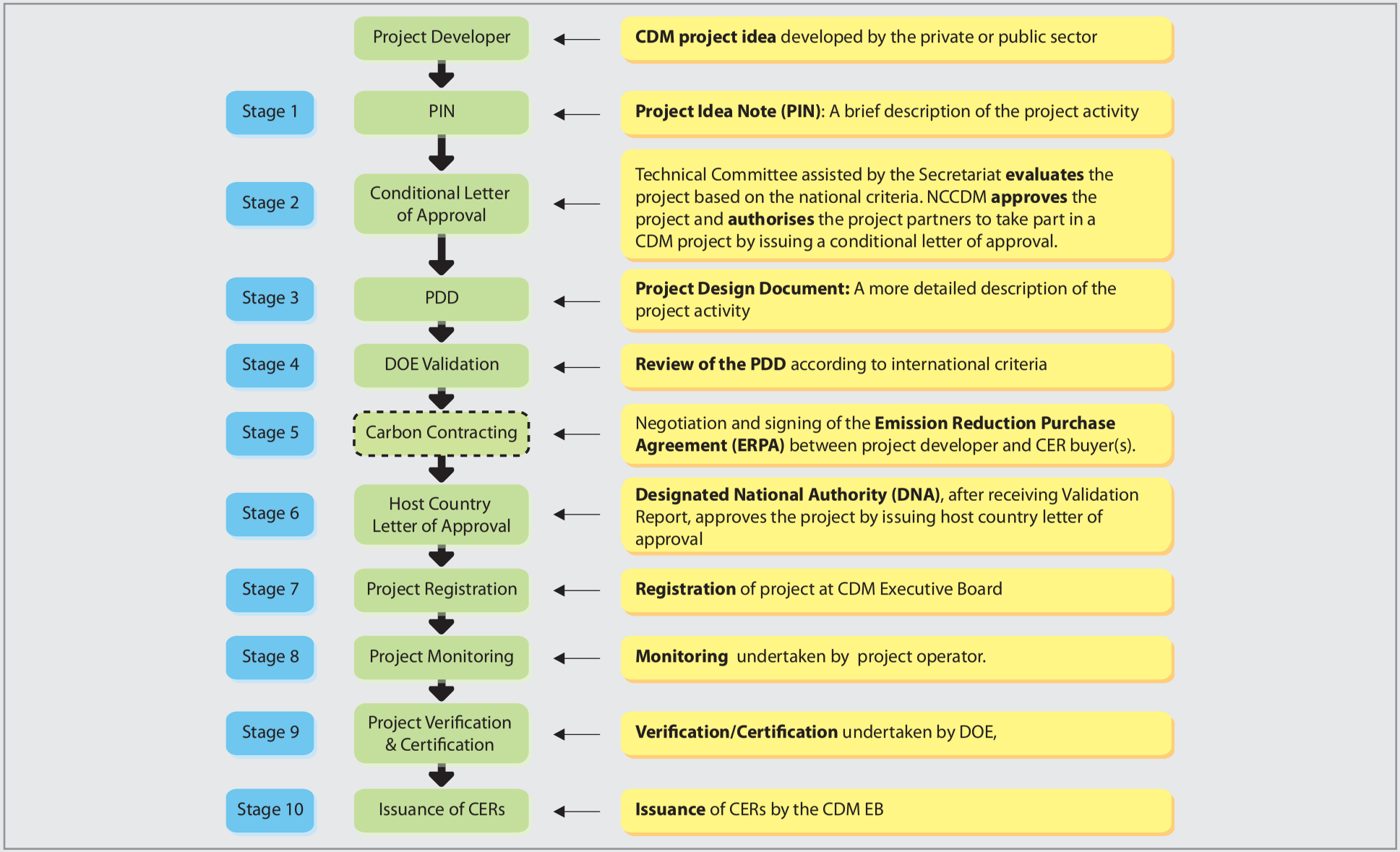


Figure 2.2 (a): National Approval Process for PIN Submission (Phase 1)

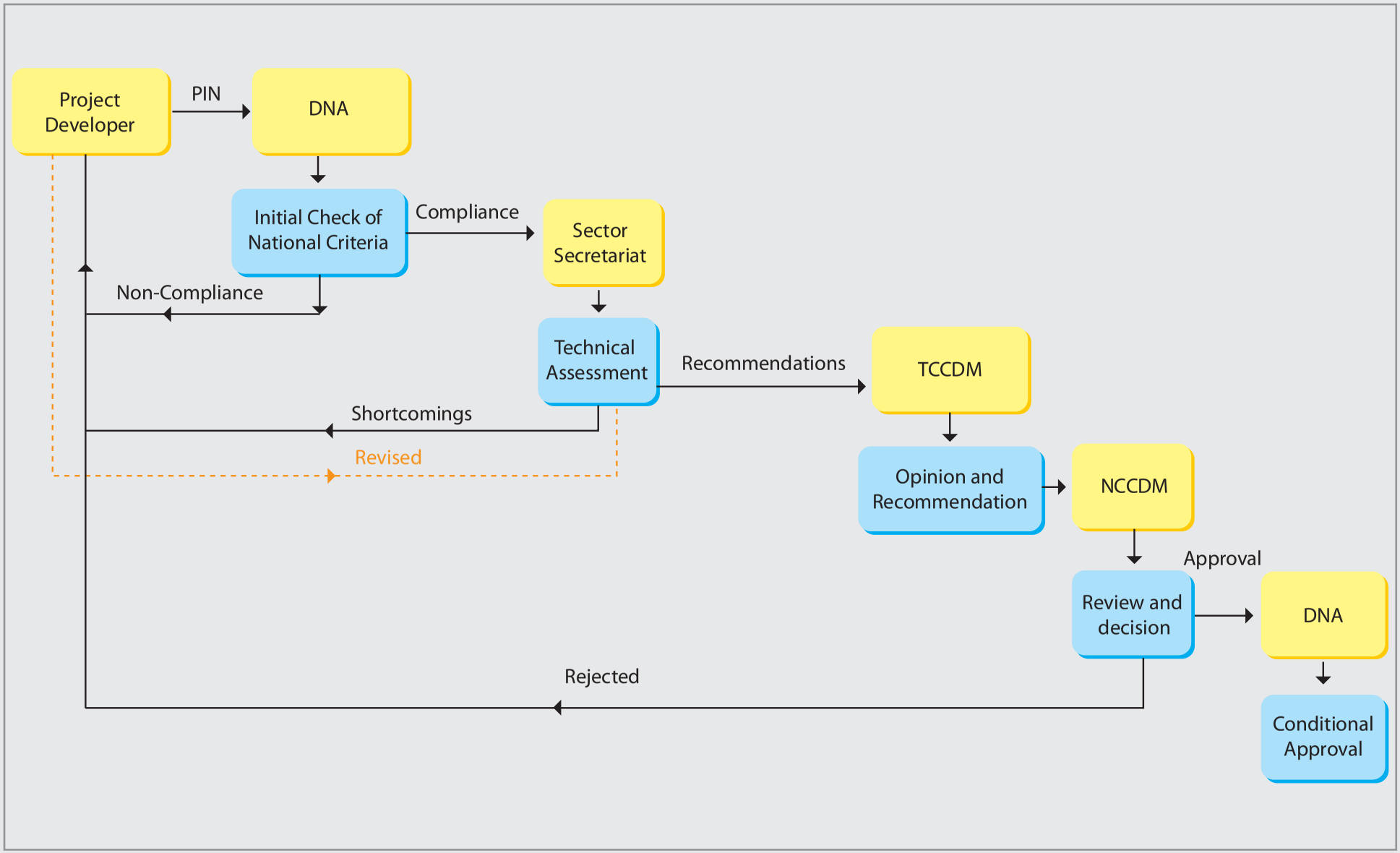


Figure 2.2 (b): National Approval Process for PDD Submission (Phase 2)

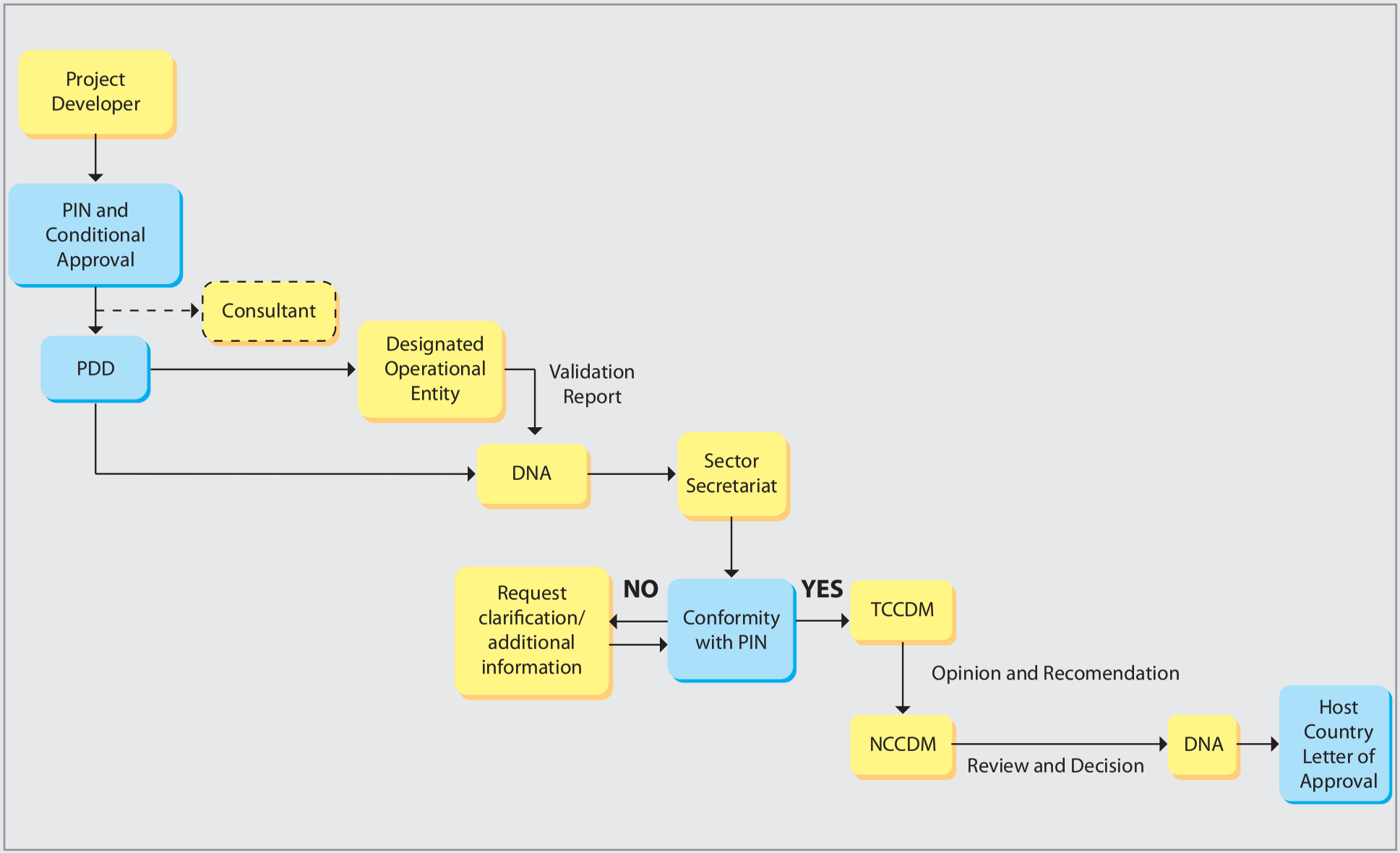
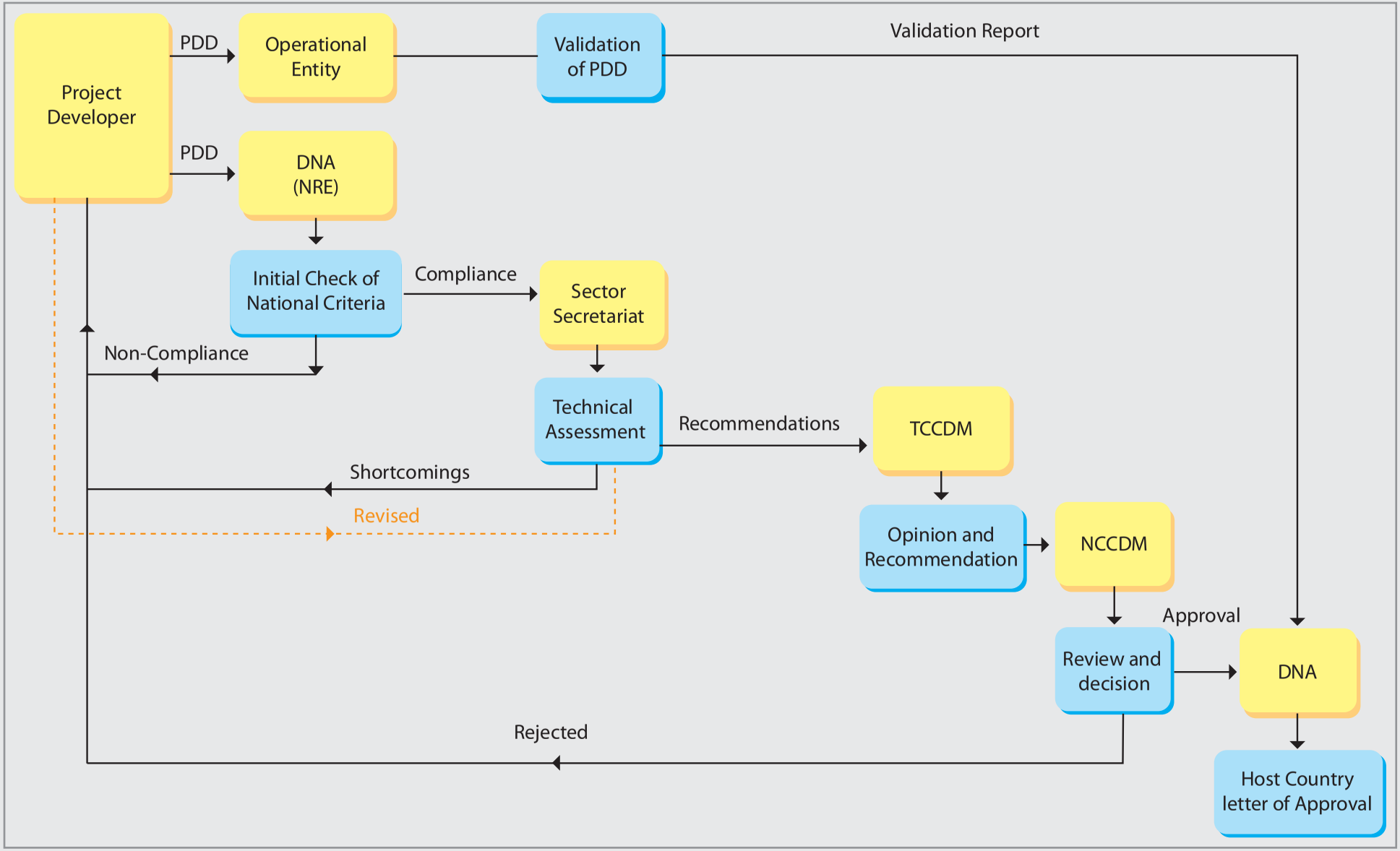


Figure 2.3: National Approval Process for Direct PDD Submission



2.1 HOW TO OBTAIN THE CONDITIONAL LETTER OF APPROVAL?

2.1.1 Stage 1: First screening of CDM eligibility

The project developer will start the process of developing the CDM project by carrying out a first quick screening on the CDM eligility of the project. The CDM is not beneficial to all projects and thus as a first step it is important to find out if the proposed activity is eligible under the CDM and can benefit from it. The checklist provided in **Appendix 1** can serve as a tool to do a preliminary project screening.

If the result is positive, the next step is to produce a brief description of the suggested CDM project by filling out the Project Idea Note (PIN). A standardised format for a PIN can be found in **Appendix 3** of this Handbook and on CDM website (http://www.ptm.org.my) for the energy sector, (http://citfor.frim.gov.my/cdm/) for forestry sector and (http://www.mardi.gov.my) for agriculture sector. The PIN can be used to approach potential buyers of CERs and also forms the basis for the initial national approval.

The PIN and Administration Fee (see **Appendix 2**)needs to be submitted to the Designated National Authority (DNA) of Malaysia, which is the Conservation and Environmental Management Division (CEMD) of NRE (for contact details, see Section 5). The DNA is the official institution that has been appointed as the focal point for CDM. For the DNA, the PIN is the preliminary screening document based on which it carries out the initial screening on whether the submitted project activity meets the national sustainability criteria and whether the project involve an improvement of technology.

It should be noted that the stage of submitting and evaluating a PIN has been added to the national CDM approval process to provide more security to the project developer. It aims to prevent project developers from having to spend a lot of time and money to prepare a PDD in a case where it is likely that the PDD will be rejected by the DNA. By first filling out the PIN, which will involve less effort and costs, the project developer can receive a pre-review of its proposed project activity.

2.1.2 STAGE 2: Process to receiving Conditional Letter of Approval

Final approval of the proposed project from the national CDM authority, i.e. the DNA is required in CDM project development process. Without national approval, the project cannot be submitted to the EB for consideration as CDM Project. Based on the PIN, the DNA will be able to provide a first judgement of the project and give a Conditional Letter of Approval.

The process for evaluating the PIN is as follows (also refer to **Figure 2.2 (a)**). Once the DNA receives a PIN it will, after a first quick screening, forward it for further evaluation to the respective Technical Secretariats. For energy projects, the PIN will be forwarded to Malaysia Energy Centre (PTM) for technical evaluation of the project. CDM proposals from the forestry and agriculture sector will be forwarded to Forest Research Institute Malaysia (FRIM) and Malaysia Agriculture Research and Development Institute (MARDI) respectively. Upon receiving the PIN, the Secretariat may liaise with the project developer for more details and/or clarification. It will then carry out the technical evaluation with the assistance of a Task Force, if necessary.

The Technical Committee (TC) on CDM (see the Terms of Reference in **Appendix 5**) will carry out technical evaluation and made recommendations of TC to the National Committee on CDM (NCCDM). If the NCCDM finds that the proposed project complies with all the national requirements, a conditional letter of approval will be issued by the DNA. This implies that the project developer can further submit the PDD for consideration and approval.

2.2 WHAT IS PDD AND HOW IS IT PREPARED?

The key task for the project developer in developing a CDM project is to prepare the CDM project documentation. This documentation, also referred to as Project Design Document (PDD), should include all relevant information about the project. Based on this information, it will be decided whether or not the project can be registered with the EB and generate Certified Emission Reductions (CERs). The document will be posted on the UNFCCC website and screened by various bodies that have an international mandate to do so.

2.2.1 STAGE 3: Development of a Project Design Document

A PDD contains the information needed for the project to get the **international approval** as a CDM project. The major issues to be resolved in the PDD are:

a) To give a description about the project, its purpose and the technology used;
b) To justify that the project is additional and would not have happened in the absence of CDM;
c) To establish the baseline scenario for the project and to calculate the GHG emission reductions by the project;
d) To describe a monitoring plan for the operational phase of the project to demonstrate that the emission reductions are actually occurring; and
e) To describe the environmental impacts and the opinion of local stakeholders on the project.

The above information should be filled out in the specific PDD template that has been developed for this purpose. The latest template can be downloaded from
http://cdm.unfccc.int/Reference/Documents.

In order to establish a fast track process for small scale projects a more simplified PDD has been established for projects that qualify as small scale CDM projects.[1] More information on the modalities and procedures for small-scale projects is available at
(http://cdm.unfccc.int/Reference/Documents/AnnexII/English/annexII.pdf)

Projects which are qualified as Small Scale CDM Energy projects are:

- renewable energy (RE) projects of not more than 15 MW in capacity; or
- energy efficiency (EE) improvement projects which reduce up to an equivalent of 60 gigawatt hours on energy consumption per year either on the supply or the demand side; or
- other projects that both reduce emissions and emit less than 60 kilo tonnes of CO_2 equivalent annually.

[1] *These fast track modalities and procedures for small scale projects were approved COP-8 held in October 2002.*

Projects which are qualified as small scale CDM Forestry projects are:

- afforestation or reforestation measures or action that results in greenhouse gas removals of less than 16 kilotonnes of CO_2 per year, and
- developed or implemented by low income communities and individuals as determined by the host Party.

The Project Design Document Form applicable for these small-scale projects is available at http://cdm.unfccc.int/Reference/Documents/SSC_PDD/English/SSCPDD_en.doc.

The UNFCCC provides further guidance on how to complete the Project Design Document template. Also further guidance is provided by the UNFCCC for some of the key issues in filling out the PDD. These include guidance on how to demonstrate additionality of the project and to develop the baseline and monitoring plan for the project.

Additionality

With regard to demonstrating additionality, the CDM Executive Board has established a tool, which can be downloaded from
http://cdm.unfccc.int/methodologies/PAmethodologies/AdditionalityTools/Additionality_tool.pdf.

Please note that for small scale CDM projects a more simplified process exists to demonstrate additionality, see
http://cdm.unfccc.int/methodologies/SSCmethodologies/AppB_SSC_%20AttachmentA.pdf.
However, it is of course also possible to use the additionality tool developed for large scale projects.

Baseline and monitoring

In order to quantify the amount of CERs as a result of the project, the project developer has to develop a baseline. The baseline for a CDM project activity is the scenario that represents the emissions that would have occurred in the absence of the proposed project activity. In other words, it is an estimate of the emissions that would have occurred in the business as usual scenario.

In addition, a project developer needs to develop a monitoring plan. The monitoring plan outlines how data will be collected from the project once it is operational. The monitoring plan can be established either internally by the project developer or externally by a specialised agent. The development of the monitoring plan itself must be included in the PDD. Once defined, the plan can be executed by the project developer and should be an integral part of the project's tracking system. The monitoring plan constitutes the basis of future verification.

It is important to note that when developing the project baseline and monitoring plan, it is based on a methodology that has been approved by the CDM Executive Board.

The project developer should check the applicability of existing methodologies to the project in question. This list of approved methodologies is available at the UNFCCC website at (http://cdm.unfccc.int/DOE/scopes.html).

If there is none available, a new methodology for baseline (CDM-NMB) and monitoring plan (CDM-NMM) must be developed by the project developer.

Even in cases where an existing methodology is applicable a project developer is free to use an already approved methodology or develop its own methodology. Please note that the process of approval of the methodology can be quite lengthy and in some cases can take over a year.

For small scale CDM projects there are again more simplified baseline methodologies and monitoring plans available. Please refer to the UNFCCC website for the list of approved methodologies for small scale projects at http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html.

Finally, the UNFCCC provides a guideline for completing several of the forms including:

- the PDD (CDM-PDD);
- the form for submitting a new baseline methodology (CDM-NMB); and
- the form for submitting a new monitoring plan (CDM-NMM)

This is available at the UNFCCC website:
(http://cdm.unfccc.int/Reference/Documents/Guidel_Pdd/English/Guidelines_CDMPDD_NMB_NMM.pdf)

2.3 THE KEY STAGES FOR CDM PROJECT APPROVAL

2.3.1 STAGE 4: Validation of the PDD by a Designated Operational Entity

When the project developer has finalised the PDD, the PDD must be validated by a Designated Operational Entity (DOE). It is up to the project developer to select and contract a DOE for the validation of its project.

The DOE can be compared to an auditor making sure that the information in the PDD is accurate and in accordance with the international requirements for CDM projects. The DOE works on behalf of and is accredited by the CDM Executive Board. A list of DOEs may be found on the UNFCCC website (http://cdm.unfccc.int/DOE/). Here you can also find the list of Applicant Entities (AE). An AE is an entity that is in the process of becoming a DOE but has not been officially accredited as such yet. It is also possible to contract an AE to carry out the validation, but it should be noted that the final validation can only be completed if the AE has received the status of DOE.

In appointing the DOE, project developers are advised to seek a quotation from at least 2 DOEs. It must be noted that the DOE appointed to validate the PDD can not be appointed again in the later stage to carry out the verification and issuance of the CERs, except for small-scale CDM projects.

For more information on this validation process, kindly refer to
http://cdm.unfccc.int/Projects/Validation.

2.3.2 STAGE 5: Carbon Contracting

As part of the national approval process, the project developer is required to have a CER Buyer in place. The national CDM criteria require that such a buyer is in place before the project is approved. This implies that no final host country approval will be given unless the project developer has entered into negotiations of an Emission Reduction Purchase Agreement (ERPA) with the CER buyer.

This agreement must set forth the terms and conditions of credit delivery and payment between the seller (the project developer) and the buyer and is a standard contractual relationship, designed to cover the legal aspects of credit ownership, the terms of payment and delivery and the management of risks inherent to the transaction.

2.3.3 STAGE 6: Host Country Letter of Approval

The PDD and the Administration Fee (see **Appendix 2**) must be submitted to the DNA. The condition for getting a final letter of approval from the DNA after having received the conditional letter of approval is that the project has gone through the previous stages accordingly (development of a Project Design Document and validation of the PDD).

The project developers may be asked to provide more detailed information and/or clarification on the project if requested by members of the NCCDM.

Project developers who decide to submit a PDD directly are required to submit additional information using the Additional Information Sheet (AIS). A standardised format for AIS can be found in **Appendix 4** of this Handbook and on the following websites:
http://www.ptm.org.my; http://citfor.frim.gov.my/cdm/ and http://www.mardi.gov.my.

This form requires extra information on how the project contributes to sustainable development, improvement of technology etc. This information is deemed necessary for NCCDM to make a decision.

2.3.4 STAGE 7: Registration with CDM Executive Board

The DOE will submit the validated PDD and the national approval letter to the CDM Executive Board (EB) for official registration to implement the project as a CDM project.

Registration is the formal acceptance by the EB of a validated project as a CDM project activity. However, the Executive Board could, at this stage, request for review the project prior to giving consent to its registration. For a complete list of projects submitted for registration, kindly refer to http://cdm.unfccc.int/Projects/request_reg.html.

Additional documentations may be required by the EB. For example, please refer to the list of projects already registered by the Executive Board at the following:
http://cdm.unfccc.int/Projects/registered.html.

2.4 HOW ARE CERTIFIED EMISSION REDUCTIONS OBTAINED?

2.4.1 STAGE 8: Monitoring

Once a project has started its operations, the project has to be monitored in order to determine the actual amount of emission reductions. Monitoring is the systematic surveillance of the project's performance by measuring and recording performance-related indicators. During the project design phase a first estimate of emission reductions has been made, which is reported in the PDD. The purpose of monitoring is to check on the project performance and to review whether the emission reductions that were estimated prior to the project operation have actually been achieved.

The monitoring activities must be carried out based on a approved monitoring methodology and plan. The data collected during monitoring should provide for information on the emissions related to the performance of the project activity as defined within the project boundary. It should also identify and measure all potential sources of leakage (emissions caused by the project but occurring outside the project boundary).

For information on CDM project activities for which monitoring reports have been made public, please refer to http://cdm.unfccc.int/Issuance/MonitoringReports

2.4.2 STAGE 9: Verification/Certification

Verification is an independent and periodic review by the DOE to ensure that the CERs have resulted according to the guidelines and conditions agreed upon in the initial validation of the CDM project.

Similar to the process of validation, it is the responsibility of the project developer to arrange for verification and to contract a DOE to carry out the verification process. For large scale CDM projects, the DOE performing the verification and certification must be different from the DOE who validated the same project.

The frequency of the verification activities is mainly a choice of the project developer, assuming it is within the acceptance of the DOE. The transaction costs (related to the verification) will increase if verification is carried out more frequently, but at the same time CERs can be issued and transacted more frequently.

Certification is the written assurance by the DOE that, during a specific time period, a project activity achieved the reductions as verified. The DOE is responsible for the request of certification.

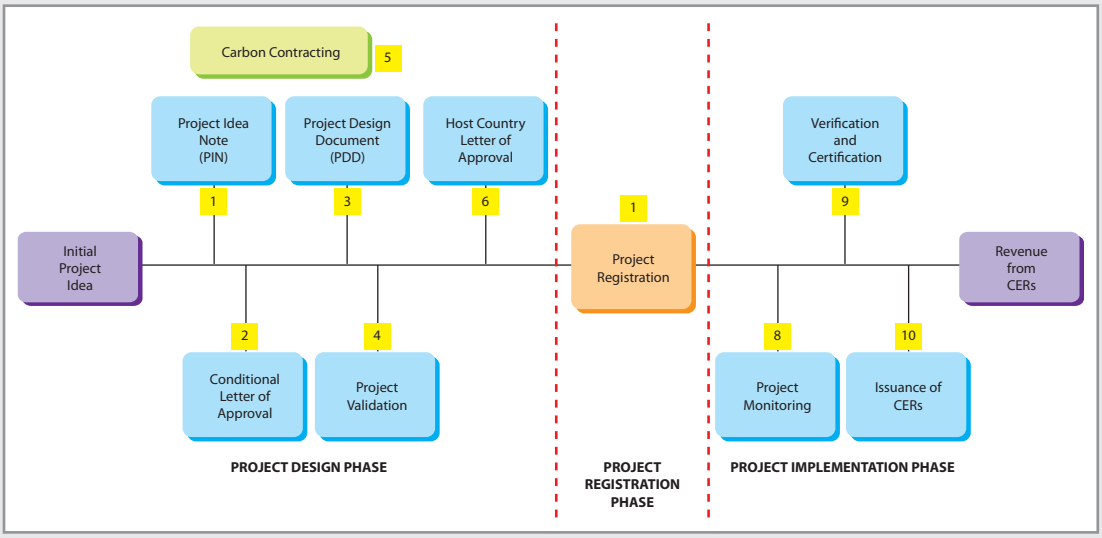
2.4.3 STAGE 10: Issuance of CERs

The certification report constitutes a request for issuance of CERs. The CDM Executive Board performs the issuance of CERs. Upon being instructed by the Executive Board, the CDM registry issues the quantity of CERs. Information on the different status of CDM project activities with regard to verification, requests for issuance and issuance is available at http://cdm.unfccc.int/Issuance.

2.5 COSTS INVOLVED IN DEVELOPING A CDM PROJECT

Transaction costs of CDM are related to the specific requirements which CDM imposes on an emission reduction project. To assess what these costs are, the CDM project cycle provides useful guidance on the principal activities that require transaction costs for CDM projects. These are illustrated in the following **Figure 2.3.**

Figure 2.3: CDM Project Cycle



CDM transaction costs can be divided into two categories – costs associated with the project design and registration phase; and the costs associated with the project implementation phase. From a financial perspective, it could be said that the project design and registration phase costs represent the risk capital (because it may not be recouped if the project fails), whereas the project implementation phase represents operational costs.

It is worth noting that the costs outlined above, both for the project design and registration and project implementation phases, generally reflect costs for energy and/or industrial sector projects. Land use and land use change (i.e. sinks) projects are likely to have similar costs, though these may be slightly higher due to the relatively more complicated efforts required for baselines and monitoring.

Project developers will have to calculate the return taking into account both the incremental investment and the additional revenues of preparing and implementing CDM projects. In practice, that means offsetting the CDM transaction costs that occur over and above normal project costs against the incremental financial benefits (i.e., the revenue from the sale of the carbon credits) and calculating the internal rate of return of the investment, taking into account the fact that the additional revenues generated through the CDM are supposed to help projects actually get developed.

As project developers consider developing CDM projects, they will need to weigh the financial benefits of doing so with the risks associated with these activities. In terms of the transaction costs, the design and registration costs represent risk capital as they take place before the project becomes operational and are incurred on the assumption that the project will be approved by the relevant authorities (host country DNA and validator). Operating transaction costs, on the other hand, are only paid during the course of the project implementation and therefore contain little risk for the project developer.

2.5.1 Transaction Costs for Large-Scale CDM Projects

Table 2.1 to **2.4** present indicative transaction costs for the various cost elements outlined below. Costs are expressed in ranges because they will depend on several factors, including the type of project, the size of the project, location, and the costs of consultants and intermediaries involved. The upper range of these figures coincides with estimates made by large multilateral institutions regarding the costs associated with developing CDM projects.

In terms of the methodology applied, calculations have been made for a "high transaction costs" scenario. This includes, for example, consultancy fees of USD 1,000 per day, complex project, new baseline methodology and the highest registration fee. On the other hand, there is the "low transaction costs" scenario which assumes consultancy fees of USD 700 per day, a project with little data requirements using an approved methodology and with a relatively low registration fee.

Table 2.1 Estimated Transaction Costs for the Preparation of a CDM Project (in USD)

Project Preparation Costs	Average (in $)	Low (in $)	High (in $)
- project assessment costs	9,000	3,000	15,000
- document preparation costs	37,500	15,000	60,000
- new baseline methodology	7,500		15,000
- validation	15,000	10,000	20,000
- Host country approval	1,500	-	3,000
- legal costs (ERPA)	27,500	5,000	50,000
- registration fee	20,000	10,000	30,000
- subtotal	**118,000**	**43,000**	**193,000**

Table 2.2 Estimated Transaction Costs for the Operation of a CDM Project (in USD)

Project Operation Costs	Average (in $)	Low (in $)	High (in $)
- monitoring	2,500	-	5,000
- verification	9,500	5,000	14,000
- subtotal	**12,000**	**5,000**	**19,000**

Table 2.3 Estimated Transaction Costs Relative to the Size of a CDM Transaction (in USD)

Cost as % of CER transaction	Average (in $)	Low (in $)	High (in $)
- success fee for sale of CERs	10%	5%	15%
- registration fee		n/a	n/a
- adaptation fee	2%	2%	2%
- subtotal	**12%**	**7%**	**17%**

Note: Costs were sourced from the Study on 'Transaction Costs on CDM Projects' conducted during 2004 – 2005 under the RE and EE programme funded by the Danish International Development Assistance (DANIDA)

2.5.2 Transaction Costs for Small-Scale CDM Projects

Despite the fact that simplified modalities and procedures have been developed for small-scale CDM projects, the transaction costs for small-scale projects may not have to be significantly lower than for large-scale projects. One of the reasons is that small-scale projects might just be much more complex to implement than large-scale.

For example, a project involving decentralised renewable energy technologies such as solar energy, household biogas digesters or efficient lighting would require much higher monitoring and verification costs than a centralised large-scale power plant which has all its energy outputs already metered. Indeed, **Table 2.4** below demonstrates that the higher cost estimate for a small-scale CDM project is higher than the lower cost estimate for a large-scale CDM project.

Table 2.4 Estimated Transaction Costs for the Preparation of a Small-Scale CDM Project (in USD)

Project Preparation Costs	Average (in $)	Low (in $)	High (in $)
- project assessment costs	5,250	3,000	7,500
- document preparation costs	17,500	10,000	25,000
- validation	7,500	5,000	10,000
- legal costs (ERPA)	3,250	1,500	5,000
- registration fee	5,000	5,000	5,000
- subtotal project prep phase	**38,500**	**24,500**	**52,500**

It is assumed that the monitoring and verification costs and the relative costs are in the similar range as for large-scale projects.

2.5.3 Summary of Transaction Costs

Tables 2.5 and **2.6** below provide a summary of the transaction costs for large-scale and small-scale projects in Malaysia.

Table 2.5 Summary of Transaction Costs for Typical CDM Projects (in USD)

Summary of Transaction Costs	Average (in $)	Low (in $)	High (in $)
Project Preparation Costs	118,000	43,000	193,000
Project Operation Costs	12,000	5,000	19,000
Relative Transaction Costs	12%	7%	17%

Table 2.6 Summary of Transaction Costs for Small-Scale CDM Projects (in USD)

Summary of Transaction Costs	Average (in $)	Low (in $)	High (in $)
Project Preparation Costs	38,500	24,500	52,500
Project Operation Costs	12,000	5,000	19,000
Relative Transaction Costs	12%	7%	17%

Note: Costs were sourced from the Study on 'Transaction Costs on CDM Projects' conducted during 2004 – 2005 under the RE and EE programme funded by the Danish International Development Assistance (DANIDA)

3 NATIONAL CDM CRITERIA

The revised national CDM criteria are as follows:

Criterion 1 Project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development

Criterion 2 Project implementation must involve participation of Annex I Party/Parties as CER buyer. In addition, they are encouraged to participate as equity or technology providers

Criterion 3 Project must provide technology transfer benefits and/or improvement of technology, including enhancement of local technology

Criterion 4 Project must fulfill all conditions underlined by the CDM Executive Board as follows:

i. Voluntary participation
ii. Real, measurable and long-term benefits related to mitigation of climate change; and
iii. Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

Criterion 5 Project proponent should justify the ability to implement the proposed CDM project activity

Each of the criteria will be discussed in further detail in the sections below.

3.1 CRITERION 1: PROJECT MUST SUPPORT THE SUSTAINABLE DEVELOPMENT POLICIES OF MALAYSIA AND BRING DIRECT BENEFITS TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT

Article 12.2 of the Kyoto Protocol stipulates that one of the objectives of the CDM is to *"assist parties not included in Annex I to achieve sustainable development*[2] ." The definition of sustainable development in CDM projects is the prerogative of the host government. Therefore, Criterion 1 is the core criterion used by the NCCDM to assess whether a proposed CDM project is in line with its sustainable development (SD) objectives, regardless of the sector of the project.

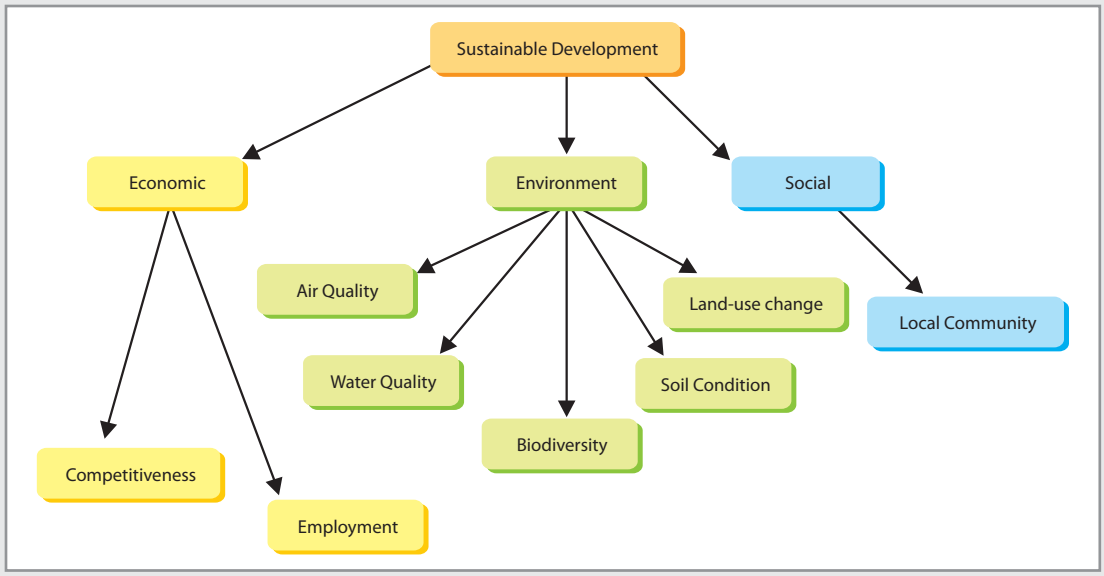
3.1.1 Interpretation and Indicators

CDM projects must bring direct and indirect SD benefits to the sector concerned and the economy as a whole. Benefits are defined as benefits of implementing CDM activities which are related to the three dimensions of SD, namely, social, economic and environmental.

The various aspects of SD shown in **Diagram 1** reflect the direct and indirect benefits which a CDM project may bring.

[2] *The Kyoto Protocol to the United Nations Framework Convention on Climate Change*

Diagram 1: Various Aspects of Sustainable Development



The measurement standard for indicators can either be in a quantitative or qualitative form. The qualitative measurement captures impacts that are important but cannot be easily quantified. **Table 3.1** below presents the indicators to support the Sustainable Criteria applicable for all CDM projects. If any identified impact is negative, this is not necessarily a reason for rejecting the project under the CDM. In such a case, project developer is required to provide detailed description of the measures undertaken to address the negative impact of the proposed CDM project. The NCCDM shall assess the project based on the overall impact of the project and its contribution to sustainable development.

Table 3.1: Proposed Indicators to Support the SD Criterion

Sustainable development dimensions	Aspects of SD	Indicators
Environment	Air quality	• Impact of project on GHG emissions • Impact of project on local air quality (e.g. emissions of SOx, NOx and particulates) • Impact from pollutants or any hazardous or toxic substances to air
	Water quality	• Impact of project on surface waters, underground waters, coastal waters or the sea
	Biodiversity	• Impact of the project on local biodiversity
	Soil condition	• Impact of the project on soil condition
	Land-use change	• Impact on areas on or around, which are important or sensitive for reasons of their ecology e.g. wetlands, watercourse • Impact on areas on or around the location which are protected under international, national or local legislation

Sustainable development dimensions	Aspects of SD	Indicators
Economic	Competitiveness	• Impact on technology improvement (uses cleaner, more efficient and environment friendly technology) • Impact on efficient utilization of resources
	Employment	• Impact on the number and quality of jobs created for the local community
Social	Local community	• Impact on quality of life of local community e.g. health, poverty alleviation • Impact of project on preservation of local heritage/culture

3.1.2 How to Apply the Indicators?

It is important to recognize that if a CDM project is not implemented, a business-as-usual or baseline scenario will be implemented. The baseline scenario will also have an impact on the sustainable development of Malaysia. As a consequence, the impact of the CDM project on the sustainable development indicators should be compared to the impact of the baseline scenario on the sustainable development indicators. The project is approved if it has a more favourable impact on sustainable development than the baseline alternative (See **Example 1**).

Example 1: Example of a Qualitative Measurement of Sustainable Impacts of a CDM Project

	Access to energy services	Utilization of RE energy resources	Local air pollution
Baseline case: Diesel for electricity generation in rural Sabah	High cost of diesel	Use of depletable fossil fuel	Local air pollution from burning diesel
CDM project: Biogas for (from chicken manure) electricity generation	Low cost of biogas	Use of renewable energy resource	Low local air pollution
Net impact of replacing baseline case with CDM project*	Lower energy supply cost	Sustainable use of energy resource and reduced depletion rate of non-renewable energy resource	Lower air pollution

** If the net impact is negative, project developer is required to provide detailed description of the measures undertaken to address the negative impact of the proposed CDM project*

For **energy related projects,** the following aspects are also relevant and should be checked:

1. Efficiency of resource utilization:
   - How does the project improve the efficiency of natural resource utilization?

2. Sustainable use of natural resources
   - How does the project promote the utilization of renewable energy resources?

3. Local community
   - Would the project improve the access of community to energy services

4. In line with energy policy
   - The project should be linked to the focal policy area of the energy sector. Reference should be made to strategies laid out in Malaysian 5-Year Development Plan such as:

     (i) Ensuring sufficiency, security, reliability, quality and cost-effectiveness of energy supply;

     (ii) Improving the productivity and efficiency of energy suppliers and promoting market-based approach in determining energy prices;

     (iii) Reducing the high dependence of petroleum products by increasing the use of alternative fuels;

     (iv) Promoting greater use of renewable energy for power generation and by industries;

     (v) Intensifying energy efficiency initiatives in the industrial, transport and commercial sectors as well as in government buildings;

     (vi) Expanding rural electricity coverage, particularly in Sabah and Sarawak; and

     (vii) Developing new sources of growth in the energy sector including participation of local companies in energy-related industries and services abroad.

   - Where flaring is used in methane abatement project, the project developer is required to utilize at least 10 percent of biogas for energy utilisation.

For **forestry related projects,** the following aspects are also relevant and should be checked:

Forestry project of sustainable development must fulfil the following:

1. One or more of the following sustainable development strategies and policies of the forestry/agriculture sector:

   (i) Ensuring adequacy and security of wood resource supply;

   (ii) Promoting the establishment of forest plantations to supplement timber supply from the natural forests;

   (iii) Promoting the conduct of research and education, and the conservation of biological diversity;

   (iv) Establishing forest areas for recreation, eco-tourism and public awareness and education;

(v) Encouraging private investment in forestry projects including the development of forest plantations in alienated or non-forested lands;

(vi) Promoting establishment of community forests to cater needs of local communities for eradication of poverty and diversification of income sources;

(vii) Promoting involvement of local community in forestry development and agro-forestry programmes;

(viii) Fostering closer international cooperation in sustainable forest management and to benefit from transfer of technology.

For **agriculture related projects**, the following aspects are also relevant and should be checked:

Agriculture projects should fall in line with Sustainable Development and fulfill one or more of the following strategies/policies:

i) Ensuring national adequacy and security of food supply;
ii) Promoting the conduct of research, education and conservation of biodiversity;
iii) Encouraging private investment in food production;
iv) Promoting the eradication of poverty and diversification of income sources in local communities;
v) Promoting organic recycling and utilization of wastes;
vi) Promoting advanced agricultural technology that enhance national competitiveness;
vii) Ensuring compliance with national and state legislations;
viii) Fostering closer international cooperation in sustainable agriculture and benefiting from transfer of technology

CDM projects that are in line with the SD criteria must comply with national and local legislations and regulations. For example, proposed CDM projects that are subject to the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 must prepare an EIA. (Refer to **Appendix 6** for list of prescribed activities that are listed under the EQA.)

3.2 CRITERION 2: PROJECT IMPLEMENTATION MUST INVOLVE PARTICIPATION OF ANNEX I PARTY/PARTIES AS CER BUYER. IN ADDITION, THEY ARE ENCOURAGED TO PARTICIPATE AS EQUITY OR TECHNOLOGY PROVIDERS

This criterion is in line with the fundamental principle of the Kyoto Protocol and the Marrakech Accords, which require that CDM projects involve participation from Annex I countries.

3.2.1 Interpretation

Annex I Party includes:

a) Annex I Party government; and/or

b) Authorized private and/or public entities from an Annex I Party.

A buyer is considered to be involved if a Letter of Intent is signed between the owner of the CDM project and an Annex I party for sale of the generated Certified Emission Reductions (CERs) before host country approval is given.

The share of equity of foreign direct investment in the project should be in compliance with the general investment guidelines for the sector in question.

3.3 CRITERION 3: PROJECT MUST PROVIDE TECHNOLOGY TRANSFER BENEFITS AND/OR IMPROVEMENT OF TECHNOLOGY, INCLUDING ENHANCEMENT OF LOCAL TECHNOLOGY

3.3.1 Interpretation

a) Technology transfer and/or improvement in technology include both 'soft' and 'hard' elements of technology.

b) CDM projects should lead to transfer of environmentally sound technologies and know-how.

c) Improvement in technology implies that the project applies a technology that is more efficient and less carbon intensive.

d) Technology transfer and/or improvement in technology should support the SD objectives of Malaysia. As such, CDM projects should lead to reduce depletion rate of non-renewable energy resources through the adoption of technologies with higher energy efficiency or renewable energy technologies which increases the deployment of renewable energy resources. Technologies that reduce GHG emissions significantly through other Greenhouse Gases listed in Annex A of the Kyoto Protocol should also be considered.

e) Technology transfer and/or improvement in technology should enhance the indigenous capacity of Malaysians to apply, develop and implement environmentally sound technologies.

3.3.2 Indicators

In order to ensure effective transfer of technology and/or improvement of technology employed in the energy sector, the relevant indicators should measure the following:

a) Impact of the project on indigenous capacity to apply, develop and implement environmentally sound technologies;

b) Impact on increased use of renewable energy resources and/or increased energy efficiency and/or reduction of greenhouse gas emissions;

c) Demonstration and replication potential of the technology; and

d) Impact on domestic energy-related industries and services (increased local content of skills and equipment in energy projects).

3.4 CRITERION 4: PROJECT MUST FULFILL ALL CONDITIONS UNDERLINED BY THE CDM EXECUTIVE BOARD

In order for a proposed CDM projects to get a National Host Country Approval, the project is also required to fulfill all conditions underlined by the CDM Executive board. The conditions are as follows:

(i) Voluntary participation;
(ii) Real, measurable and long-term benefits related to mitigation of climate change; and
(iii) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

The CDM Executive Board has given clear guidance to the additionality criterion that must be fulfilled by all CDM projects. It is the role of the Designated Operational Entity (DOE) to ensure that all the above criteria and the conditions set by the CDM EB are fulfilled by a CDM project developer.

In accordance with the existing national CDM approval process, these criteria are fulfilled when a DOE validates the CDM project. Upon delivery of a validated PDD, the DNA will provide Final Host Country Approval subject to the fact that all issues and requests for clarification from the DNA are met.

3.5 CRITERION 5: PROJECT PROPONENT SHOULD JUSTIFY THE ABILITY TO IMPLEMENT THE PROPOSED CDM PROJECT ACTIVITY

The project proponent of a proposed CDM project can justify their ability to implement the proposed project based on the following:

(i) Locally incorporated company;
(ii) Minimum paid-up capital of RM 100,000; and
(iii) Likely sources of financing the project.

3.5.1 Interpretation

a) Project developer can demonstrate to be locally incorporated by providing a certificate of incorporation, issued by the Companies Commission of Malaysia (Form 9, 24, 49 and MAA);

b) Information on paid-up capital can be retrieved from the Companies Commission of Malaysia register and should be attached as an Annex to the PIN or PDD at the submission; and

c) Likely sources of project finance and ongoing discussions between project developer and investors should be included in the PIN. If a PDD is submitted directly, project proponent is requested to report on Annex I Party/Parties participation and financing separately.

4 SIMPLIFIED PROCEDURES FOR SMALL-SCALE CDM PROJECTS IN MALAYSIA

In order to facilitate the approval process for small-scale projects, the NCCDM agreed that these projects should have a reduced demand for documentation in relation to the National CDM Criteria as specified in the table. Small scale projects are defined in line with the CDM Executive Board's criteria for small-scale projects, including the following:

a) Renewable energy project activities with a maximum output capacity equivalent of up to 15 MW
b) Energy efficiency improvement project activities which reduce energy consumption by up to the equivalent of 60 GWh per year
c) Afforestation or reforestation measures or action that results in greenhouse gas removals of less than 16 kilotonnes of CO_2 per year
d) Other project activities that both reduce anthropogenic emissions by sources and directly emit less than 60 kilotonnes CO_2 equivalent per year

Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5
No further documentation needed	Documentation to support the agreed interpretation	Documentation based on the indicators	Validated PDD	Provide supported documents

5 CONTACTS FOR FURTHER INFORMATION

5.1 DESIGNATED NATIONAL AUTHORITY (DNA) AND NATIONAL COMMITTEE ON CDM

Conservation and Environmental Management Division
Ministry of Natural Resources and Environment
Level 6, Wisma Sumber Asli
No. 25, Persiaran Perdana, Precinct 4
Federal Government Administrative Centre, 62574 Putrajaya

Contact person: Dr. Lian Kok Fei
Tel. No.: 603-8886 1125
E-mail: drlian@nre.gov.my

Contact person: Mr. Chong Poon Chai
Tel. No.: 603-8886 1131
E-mail: poonchai@nre.gov.my

Contact person: Mr. Shahril Faizal Abdul Jani
Tel. No.: 603-8886 1137
E-mail: faizal@nre.gov.my

Fax No.: 603-8888 4473
Website: www.nre.gov.my

5.2 CDM ENERGY SECRETARIAT

Pusat Tenaga Malaysia
No.2 Jalan 9/10, Persiaran Usahawan, Seksyen 9
43650 Bandar Baru Bangi, Selangor

Contact person: Mr. Azman Zainal Abidin
Tel. No.: 603-8921 0807
E-mail: azman@ptm.org.my

Contact person: Ms. Radin Diana R Ahmad
Tel. No.: 603-8921 0858
E-mail: diana@ptm.org.my

Fax No.: 603-8921 0801
Website: www.ptm.org.my

5.3 CDM FORESTRY SECRETARIAT

Forest Research Institute Malaysia (FRIM)
52109 Kepong
Selangor

Contact person: Dr. Norini Haron
Tel. No.: 603-6279 7540
E-mail: norini@frim.gov.my
Fax. No.: 603-6280 4629
Website: www.frim.gov.my

5.4 CDM AGRICULTURE SECRETARIAT

Malaysian Agricultural Research and Development Insitute (MARDI)
MARDI Headquarters,
P.O.Box 12301, General Post Office
50774 Kuala Lumpur

Contact person: Dr. Abd Jamil Zakaria
Tel. No.: 603 – 8943 7390
Email: zajamil@mardi.gov.my

Contact person: Mr. Shuhaimen Ismail
Tel. No.: 603 – 8943 7025
Email: aimen@mardi.gov.my

Fax. No.: 603 – 8948 7639
Website: www.mardi.gov.my

APPENDIX 1:
CHECKLIST FOR PRELIMINARY PROJECT SCREENING

A CHECKLIST FOR PRELIMINARY PROJECT SCREENING

1. Project should involve GHG covered by the Kyoto Protocol

Description: The six eligible GHG are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydro-fluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Question: Does my project involve a reduction of greenhouse gases that is eligible under the Kyoto Protocol? If not, the emission reductions achieved are not eligible under the CDM.

2. Project should contribute to Sustainable Development Objectives

Description: The project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development; otherwise it will not be approved by the NCCDM.

On 18 December 2008, the NCCDM endorsed the new national CDM criteria. According to the new national CDM criteria approved by the NCCDM, CDM projects must comply with the following criteria:

Criterion 1 Project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development

Criterion 2 Project implementation must involve participation of Annex I Party/Parties as CER buyer. In addition, they are encouraged to participate as equity or technology providers

Criterion 3 Project must provide technology transfer benefits and/or improvement of technology, including enhancement of local technology

Criterion 4 Project must fulfill all conditions underlined by the CDM Executive Board as follows:

i. Voluntary participation
ii. Real, measurable and long-term benefits related to mitigation of climate change; and
iii. Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

Criterion 5 Project proponent should justify the ability to implement the proposed CDM project activity

Question: Does my project meet the Malaysian National CDM Criteria? See also Section 3 of this Handbook for further details.

3. Project type

Description: The Kyoto Protocol and the CDM Executive Board do not explicitly mention project categories that are eligible under the CDM. However, nuclear energy projects and LULUCF projects other than afforestation and reforestation are not eligible under the first commitment period.

Question: Is my project type eligible under the Kyoto Protocol?

4. Non diversion of ODA

Description: If a project is financed by sources of public funding from an Annex I Party this must not result in a diversion of Official Development Assistance (ODA), and the sources of public funding must be separate and not be counted towards the financial obligations of the Annex I countries.

Question: Is ODA funding used to finance my project and if so, has ODA also been used for procurement of CERs?

5. Other environmental benefits

Description: The project should not result in significant negative environmental impacts. If significant impacts are expected then an Environmental Impact Assessment is usually required.

Question: Has my project undertaken an Environmental Impact Assessment? Does it have all environmental permits in place?

6. Costs versus benefits of the project

Description: In order to develop a CDM project, several costs will be incurred, including costs for developing the PIN and the PDD, costs for validation, registration and verification. These costs are also referred to as transaction costs.

The table below presents an overview of the costs related to developing a project as a CDM project under the Small scale guidelines.

Project Preparation Costs	Average (in $)	Low (in $)	High (in $)
- project assessment costs	5,250	3,000	7,500
- document preparation costs	17,500	10,000	25,000
- validation	7,500	5,000	10,000
- legal costs (ERPA)	3,250	1,500	5,000
- registration fee	5,000	5,000	5,000
- subtotal project prep phase	**38,500**	**24,500**	**52,500**

The table below presents an overview of the costs related to developing a CDM project.

Project Preparation Costs	Average (in $)	Low (in $)	High (in $)
- project assessment costs	9,000	3,000	15,000
- document preparation costs	37,500	15,000	60,000
- new baseline methodology	7,500		15,000
- validation	15,000	10,000	20,000
- Host country approval	1,500	-	3,000
- legal costs (ERPA)	27,500	5,000	50,000
- registration fee	20,000	10,000	30,000
- subtotal	**118,000**	**43,000**	**193,000**

Note: Costs were sourced from the Study on 'Transaction Costs on CDM Projects' conducted during 2004 – 2005 under the RE and EE programme funded by the Danish International Development Assistance (DANIDA)

In order to estimate the benefits of the project, a first rough estimate has to be made on how much emission reductions can be achieved by the proposed project activity. The table below provides an overview of some default emission factors that can be applied for a first rough calculation of emission reductions:

Parameters	Carbon Emissions Factor
Power generation projects not connected to the grid (using diesel)	0.8 kg CO_2/ kWh
Coal	2.43 tCO_2/tonne fuel
Natural Gas	2.13 tCO_2/tonne fuel
Fuel Oil	3.24 tCO_2/tonne fuel
GWP Methane	21
Afforestation/Reforestation	3.75-24.9 tCO_2/ha/year

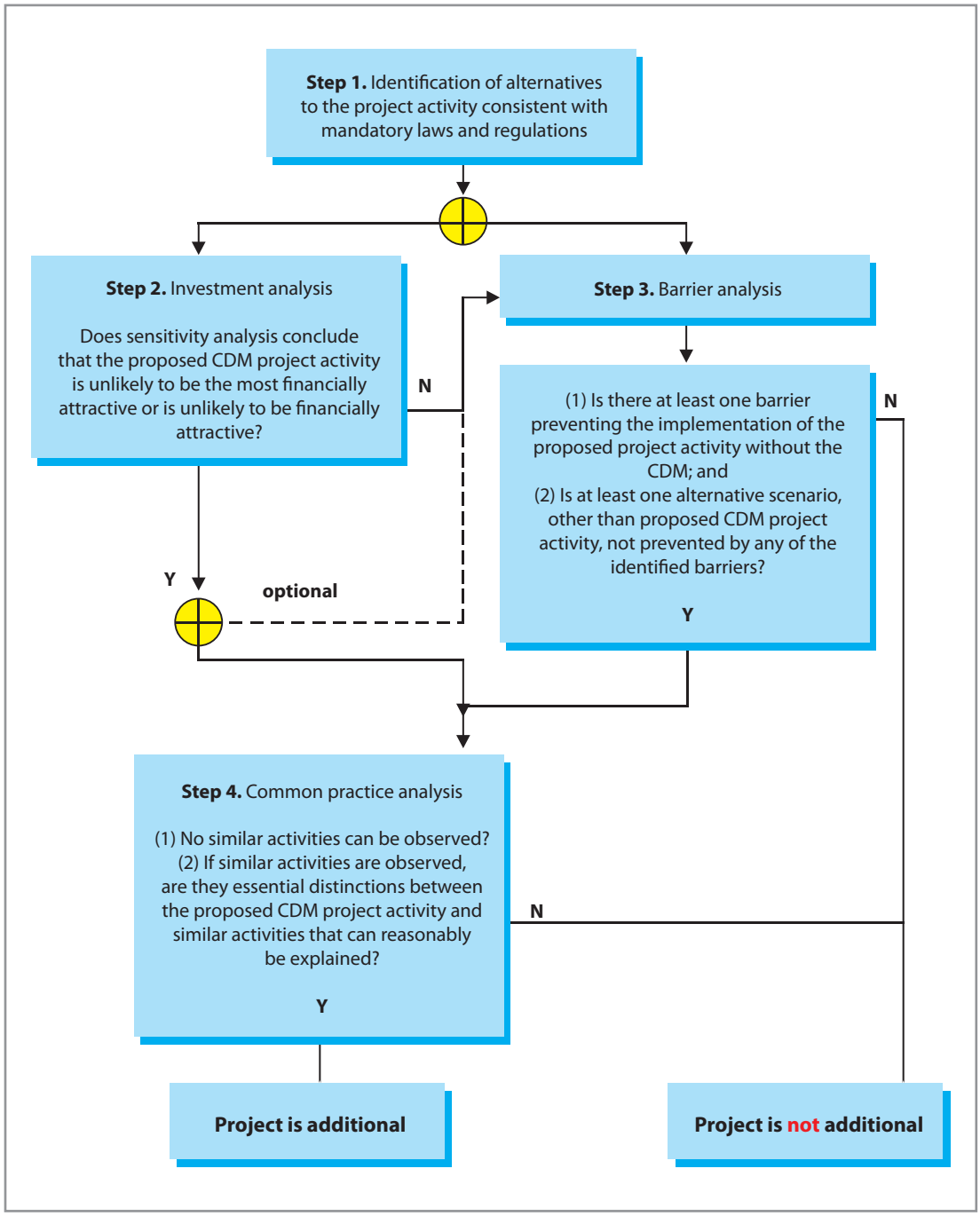
7. Additionality

Description: CDM projects have to "generate emission reductions that are additional to any that would have occurred in the absence of the project activity".

Question: Would the project pass the additionality test as shown in the **Figure A1** (consolidated tool)?

See also
http://cdm.unfccc.int/methodologies/PAmethodologies/AdditionalityTools/Additionality_tool.pdf
for details on how to go through the steps below.

Figure A1: CDM Additionality Test Tool



APPENDIX 2:
MALAYSIA CDM ADMINISTRATION FEE

MALAYSIA CDM ADMINISTRATION FEE

On 3 July 2006, the National Committee on CDM has agreed to impose an Administration Fee on CDM Applications.

The imposition of the Administration Fee will be effective from 1 September 2006. This applies to all new applications and to PINs that have progressed to the PDD stage. The fee structure is as below:

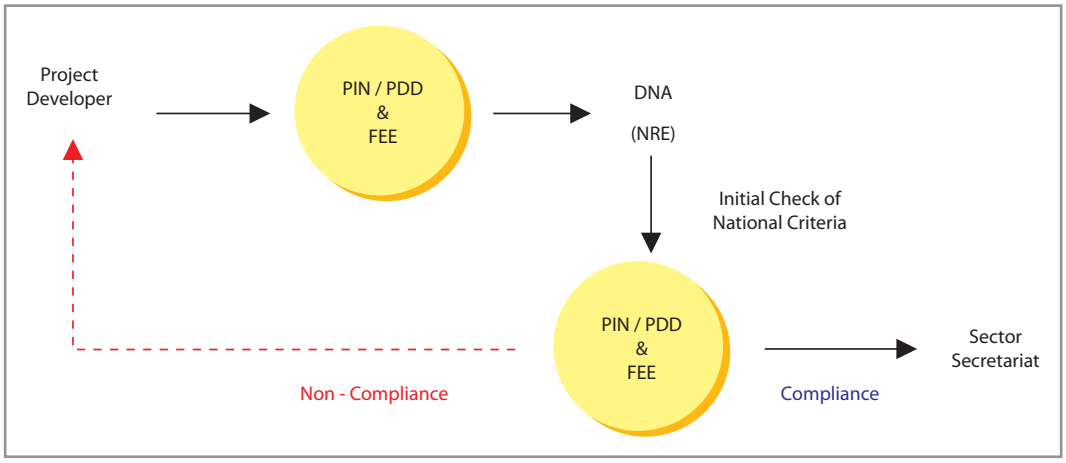
Type of Document Submitted	Administration Fee (RM)
PIN	1,000
PDD	2,500 *(small-scale project*)*
	5,000 *(large-scale project*)*

**As defined by the CDM Executive Board*

Payment Mode

The Administration Fee shall be paid by banker's cheque payable to PUSAT TENAGA MALAYSIA accompanied by the PIN or PDD submission to DNA.

The Administration Fee is non-refundable once the application reached the Secretariat. However, the banker's cheque will be returned to the project developer if the PIN or PDD is rejected by the DNA at the initial screening stage.



APPENDIX 3:
PROJECT IDEA NOTE (PIN) FOR CDM PROJECTS

PROJECT IDEA NOTE (PIN) FOR CDM PROJECT

The objective of the PIN is to determine whether the submitted project proposal contains all the relevant information to screen the project and to assess whether the project meets the National CDM Criteria.

Criterion 1: Project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development

Criterion 2: Project implementation must involve participation of Annex I Party/Parties as CER buyer. In addition, they are encouraged to participate as equity or technology providers

Criterion 3: Project must provide technology transfer benefits and/or improvement of technology, including enhancement of local technology

Criterion 4: Project must fulfil conditions underlined by the CDM Executive Board

Criterion 5: Project proponent should justify the ability to implement the proposed CDM project activity

CONTENTS

CHECKLIST *(Please √ once attached)*		
Project Idea Note (soft copy)		Attached
Project Idea Note (hard copy)		Attached
Attachment - certified copy of Form 9, 24, 49 and MAA (item A.1)		Attached
Attachment – certified copy of Letter of Intent from CERs buyer (item A.2)		Attached
Attachment – certified copy of Letter of Approval for Small Renewable Energy Programme (SREP); if applicable (item B.1)		Attached
Soft Copy of the spreadsheet for calculation of emission reduction (item C.2)		Attached
Attachment - CDM transaction cost (item D.2)		Attached
Attachment – Relevant document for additional sources of financing (item D.3)		Attached
Cash flow analysis for IRR calculation (soft copy)		Attached
Banker's Cheque for Administration Fee		

FOR OFFICIAL USE ONLY	
Date Received by NRE	
Date Received by Respective CDM Secretariat	
Date Submitted to Respective Technical Committee	
Date of Technical Committee Meeting	
Date of National Committee on CDM	

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

Title of the Project	
Name of Project Developer	
Date of Submission	

The completed PIN and Attachments should be sent in **hard and soft copy** to:

CONSERVATION AND ENVIRONMENTAL MANAGEMENT DIVISION
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT
LEVEL 6, WISMA SUMBER ASLI
NO. 25, PERSIARAN PERDANA, PRECINCT 4
FEDERAL GOVERNMENT ADMINISTRATIVE CENTRE
62574 PUTRAJAYA
(ATTN.: MR. CHONG POON CHAI/MR. SHAHRIL FAIZAL ABDUL JANI)

TEL: (603) 8886 1131/1137 FAX: (603) 8888 4473

EMAIL: poonchai@nre.gov.my/faizal@nre.gov.my

All inquiries shall be forwarded to:

RESPECTIVE CDM SECRETARIATS

ENERGY SECTOR
CONTACT PERSON: **MS. RADIN DIANA R AHMAD**
TEL. NO.: **603-8921 0858**
E-MAIL: **diana@ptm.org.my**

FORESTRY SECTOR
CONTACT PERSON: **DR. NORINI HARON**
TEL. NO.: **603-6279 7540**
E-MAIL: **norini@frim.gov.my**

AGRICULTURE SECTOR
CONTACT PERSON: **DR. ABD JAMIL ZAKARIA**
TEL. NO.: **603 – 8943 7390**
EMAIL: **zajamil@mardi.gov.my**

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A. PROJECT PARTICIPANTS

A.1 Project Developer	
Name of the Project Developer	
Person in Charge for CDM	
Type of Organization	Please (√) which is relevant ☐ Government agency ☐ Municipality/Local Authority ☐ Private Company ☐ Non Governmental Organization ☐ Others (please specify) _____
Paid-up Capital (Please provide a certified copy of **Form 9, 24, 49 and MAA**)	RM _____
Address	
Telephone	
Fax	
Email	
Website	
Brief Description of Core Business	

A.2 Project Partner (if applicable)

Please provide list of partners involved in the project and the roles / types of cooperation of each project partners such as equity participation, buyer of CERs, technology provider etc.
(Please provide a certified copy of Letter of Intent from the CERs buyer)

Local / Non-Annex I Countries Partnership	
Project Partners	**Roles of Partner**

Annex I Countries Partnership	
Project Partners	**Roles of Partner**

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

B. DESCRIPTION OF PROJECT ACTIVITY

B.1 Project Objectives

*Please provide a certified copy of Letter of Approval for Small Renewable Energy Power Programme (SREP); if applicable

Please state the condition of the site without and with CDM Project.	Without CDM With CDM

B.2 Expected Social, Economic and Environmental Benefits

Please provide the current situation before the implementation of the proposed CDM project. How will the proposed CDM project activity bring benefits to the three dimensions of sustainable development as below:

(i) Social (ii) Economic (iii) Environment	

B.3 Project Location

Address of Project Site	
City	
State	
Brief Description of the Project Boundary / Land Status*	

* Afforestation is the direct human-induced conversion of land that has not been forested for a period of at least 50 years, while reforestation implies conversion of land that once was forested, but that had been converted to non-forested land before or on December 31st, 1989 (UNFCCC, 2001b quoted from Dobson et al. 2003). Developers must demonstrate that the land within the project boundary was not covered by forests in 1990 and at project start.

B.4 Type of Project

Please (√) which is relevant *(more than one option is possible)*

- ☐ Energy industries (renewable/non-renewable sources)
- ☐ Energy distribution
- ☐ Energy demand
- ☐ Manufacturing industries
- ☐ Chemical industry
- ☐ Transport
- ☐ Mining/Mineral production
- ☐ Metal production
- ☐ Fugitive emissions from fuels (solid, oil and gas)
- ☐ Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
- ☐ Solvents use
- ☐ Waste handling and disposal
- ☐ Afforestation
- ☐ Reforestation
- ☐ Agriculture

Justification:

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

B.5 Project Size

Please (√) which is relevant

- ☐ Large–Scale Project
- ☐ Small–Scale Project (as decided during COP/MOP 2 and COP/MOP3)

For small-scale project, please (√) one of the following

- ☐ A maximum of 15 MW (or an appropriate equivalent) installed capacity for renewable energy projects
  Justification: _____
- ☐ A maximum of 60 GWh/year in savings for energy efficiency project
  Justification: _____
- ☐ Other project activities that result in emission reductions of less than or equal to 60,000tCO_2-equivalent/year
  Justification: _____
- ☐ Afforestation or reforestation measures or action that results in greenhouse gas removals of less than 16 kilotonnes of CO_2 per year
  Justification: _____

B.6 Estimated Project Schedule

Current Project Status	Please (√) which is relevant ☐ Feasibility Study ☐ Design Phase ☐ Negotiations Phase ☐ Contracting Phase ☐ Others (please specify) _____
Expected Date of Project Implementation Phase	DD/MM/YY
Expected First Year of Delivery of CERs	YY
Expected Operational Lifetime of the Project Activity	YY

B.7 Technical Description of the Proposed Project

- Describe the current technology in place at the project site (if applicable).
- Give description of the technology to be applied in the proposed project activities. Please provide the following information about your new installed equipment:

Origin of technology (Country): _____

Summary of the technology: _____

Efficiency: _____

Manufacturing Company and Location: _____

Please also indicate on whether this will be considered as improvement to the current technology.

- Does your project result in the transfer of the technology? If yes, please justify.

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

C. Estimated Greenhouse Gas (GHG) Emission Reductions

C.1 Targeted GHG In Accordance with the Kyoto Protocol

Please (√) which is relevant (more than one option is possible)

- ☐ Carbon Dioxide (CO_2)
- ☐ Methane (CH_4)
- ☐ Nitrous Oxide (N_2O)
- ☐ Hydrofluorocarbons (HFCs)
- ☐ Perfluorocarbons (PFCs)
- ☐ Sulphur Hexafluoride (SF_6)

C.2 Baseline Scenario

Give an estimate of the annual GHG emissions that would occur **in the absence** of the proposed CDM project for each of sources selected in the *Section C.1* above.

Give the first estimate of the annual GHG emissions that would occur **with** the proposed CDM project for each of sources selected in the *Section C.1* above.

(kindly provide soft copy of the calculation spreadsheet upon submission of PIN to the DNA)

C.3 Expected Emission Reductions

Please (√) which is relevant

☐ Fixed Crediting Period

A period of 10 years: _____tCO_2-equivalent/year

Total Emission reductions for 10 years: _____tCO_2-equivalent

☐ Renewable Crediting Period

1st Period of 7 years: _____tCO_2-equivalent/year

Total Emission reductions for 7 years: _____tCO_2-equivalent

2nd Period of 7 years: _____tCO_2-equivalent/year

Total Emission reductions for 14 years: _____tCO_2-equivalent

3rd Period of 7 years: _____tCO_2-equivalent/year

Total Emission reductions for 21 years: _____tCO_2-equivalent

Total Emission reductions up to 2012: _____tCO_2-equivalent

D. Project Financing

D.1 Total Estimated Project Costs Please state the estimated costs for the proposed project.	
Development Costs	RM_____
Equipment Costs	RM_____
Operating Costs (per year)	RM_____
Other Costs	RM_____
Total Project Costs	RM_____

D.2 CDM Transaction Costs	
Please indicate the estimated CDM Transaction Costs and who is paying for the costs (e.g. PDD development, validation, registration, etc.)	RM_____ (As attached)_____

D.3 Sources of Identified Financing Please state which is applicable	
Cash/Equity	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)
Short-Term/Long-Term Loan	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)
Additional Sources of Financing Please (√) which is relevant *(more than one option is possible)* ☐ Small-Renewable Energy Programme (SREP) ☐ Danida ☐ NEDO ☐ GEF ☐ Financial Assistance in the CDM Project Development ☐ National Incentives ☐ Tax Exemption ☐ Others: _____ *(kindly attach relevant document/agreement)*	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

D.4 Expected Revenues from CERs Transfer	
Indicative CER Price	USD$_____ per tCO_2-equivalent
Estimated Total Revenues from CERs during the Crediting Period	USD$_____
Amount of up-front for CERs, if applicable	USD$_____

D.5 Cash Flow Analysis	
IRR without CDM	
IRR with CDM	

(Please provide cash flow analysis)

E. PAYMENT DETAIL

E.1 Payment Detail	
Bankers Cheque Number	
Bank Name	

Bankers cheque with amount of RM1,000 made payable to PUSAT TENAGA MALAYSIA

Note: Upon submission of this PIN to the DNA Malaysia, selected information relating to company name, project name & type and estimated emission reduction will be published at the respective CDM Secretariat Websites. The Secretariats do not warrant any legal liability or responsibility for the accuracy, completeness, or damages caused by the usage of any information obtained from the website.

APPENDIX 4:
ADDITIONAL INFORMATION SHEET (AIS) FOR CDM PROJECT

ADDITIONAL INFORMATION SHEET (AIS) FOR CDM PROJECT

The Additional Information Sheet is designed for project proponent who decides to by-pass the PIN submission. This sheet is to determine whether the submitted PDD meets the National CDM Criteria as below:-

Criterion 1: Project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development

Criterion 2: Project implementation must involve participation of Annex I Party/Parties as CER buyer. In addition, they are encouraged to participate as equity or technology providers

Criterion 3: Project must provide technology transfer benefits and/or improvement of technology, including enhancement of local technology

Criterion 4: Project must fulfil conditions underlined by the CDM Executive Board

Criterion 5: Project proponent should justify the ability to implement the proposed CDM project activity

CONTENTS
A. Project Participants
B. Description of Project Activity
C. Project Financing
D. Payment Detail

CHECKLIST *(Please √ once attached)*		
Project Design Document (soft copy)		Attached
Project Design Document (hard copy)		Attached
Attachment - certified copy of Form 9, 24, 49 and MAA (item A.1)		Attached
Attachment – certified copy of Letter of Intent from CERs buyer (item A.2)		Attached
Attachment – certified copy of Letter of Approval for Small Renewable Energy Programme (SREP); if applicable (item B.1)		Attached
Attachment - CDM transaction cost (item C.2)		Attached
Attachment – Relevant document for additional sources of financing (item C.3)		Attached
Cash flow analysis for IRR calculation (soft copy)		Attached
Banker's Cheque for Administration Fee		Attached

FOR OFFICIAL USE ONLY	
Date Received by NRE	
Date Received by Respective CDM Secretariat	
Date Submitted to Respective Technical Committee	
Date of Technical Committee Meeting	
Date of National Committee on CDM	

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

Title of the Project	
Name of Project Developer	
Date of Submission	

The PDD and completed Additional Information Sheet should be sent in **hard and soft copy** to:

CONSERVATION AND ENVIRONMENTAL MANAGEMENT DIVISION
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT
LEVEL 6, WISMA SUMBER ASLI
NO. 25, PERSIARAN PERDANA, PRECINCT 4
FEDERAL GOVERNMENT ADMINISTRATIVE CENTRE
62574 PUTRAJAYA
(ATTN.: MR. CHONG POON CHAI/MR. SHAHRIL FAIZAL ABDUL JANI)

TEL: (603) 8886 1131/1137 FAX: (603) 8888 4473

EMAIL: poonchai@nre.gov.my/faizal@nre.gov.my

All inquiries shall be forwarded to:

RESPECTIVE CDM SECRETARIATS

ENERGY SECTOR
CONTACT PERSON: **MS. RADIN DIANA R AHMAD**
TEL. NO.: **603-8921 0858**
E-MAIL: **diana@ptm.org.my**

FORESTRY SECTOR
CONTACT PERSON: **DR. NORINI HARON**
TEL. NO.: **603-6279 7540**
E-MAIL: **norini@frim.gov.my**

AGRICULTURE SECTOR
CONTACT PERSON: **DR. ABD JAMIL ZAKARIA**
TEL. NO.: **603 – 8943 7390**
EMAIL: **zajamil@mardi.gov.my**

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

ADDITIONAL INFORMATION SHEET

A. PROJECT PARTICIPANTS

A.1 Project Developer	
Name of the Project Developer	
Type of Organization	Please (√) which is relevant ☐ Government agency ☐ Municipality/Local Authority ☐ Private Company ☐ Non Governmental Organization ☐ Others (please specify) _____
Paid-up Capital (Please provide a certified copy of **Form 9, 24, 49 and MAA**)	RM _____
Brief Description of Core Business	

A.2 Project Partner (if applicable)

Please provide list of partners involved in the project and the roles / types of cooperation of each project partners such as equity participation, buyer of CERs, technology provider etc.
(Please provide a certified copy of Letter of Intent from the CERs buyer)

Annex I Countries Partnership	
Project Partners	**Roles of Partner**

B. DESCRIPTION OF PROJECT ACTIVITY

B.1 Project Objectives

*Please provide a certified copy of Letter of Approval for Small Renewable Energy Power Programme (SREP); if applicable

Please state the condition of the site without and with CDM Project.	Without CDM With CDM

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

B.2 Expected Social, Economic and Environmental Benefits

How will the proposed CDM project activity bring benefits to the three dimensions of sustainable development as below:

(i) Social	
(ii) Economic	
(iii) Environment	

B.3 Type of Project

Please (√) which is relevant *(more than one option is possible)*

- ☐ Energy industries (renewable/non-renewable sources)
- ☐ Energy distribution
- ☐ Energy demand
- ☐ Manufacturing industries
- ☐ Chemical industry
- ☐ Transport
- ☐ Mining/Mineral production
- ☐ Metal production
- ☐ Fugitive emissions from fuels (solid, oil and gas)
- ☐ Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
- ☐ Solvents use
- ☐ Waste handling and disposal
- ☐ Afforestation
- ☐ Reforestation
- ☐ Agriculture

Justification: _____

C. Project Financing

C.1 Total Estimated Project Costs

Please state the estimated costs for the proposed project.

Development Costs	RM_____
Equipment Costs	RM_____
Operating Costs (per year)	RM_____
Other Costs	RM_____
Total Project Costs	RM_____

C.2 CDM Transaction Costs

Please indicate the estimated CDM Transaction Costs and who is paying for the costs (e.g. PDD development, validation, registration, etc.)	RM_____ (As attached)_____

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

C.3 Sources of Identified Financing Please state which is applicable	
Cash/Equity	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)
Short-Term/Long-Term Loan	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)
Additional Sources of Financing Please (√) which is relevant *(more than one option is possible)* ☐ Small-Renewable Energy Programme (SREP) ☐ Danida ☐ NEDO ☐ GEF ☐ Financial Assistance in the CDM Project Development ☐ National Incentives ☐ Tax Exemption ☐ Others: _____ *(kindly attach relevant document/agreement)*	Organization participating in financing: _____ Amount: RM_____ or USD$_____ (for International Funding Sources)

C.4 Expected Revenues from CERs Transfer	
Indicative CER Price	USD$_____ per tCO_2-equivalent
Estimated Total Revenues from CERs during the Crediting Period	USD$_____
Amount of up-front for CERs, if applicable	USD$_____

C.5 Cash Flow Analysis	
IRR without CDM	
IRR with CDM	

(Please provide cash flow analysis)

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

D. PAYMENT DETAIL

D.1 Payment Detail	
Bankers Cheque Number	
Bank Name	

Bankers cheque with amount of RM2,500 (small-scale project) OR RM5,000 (large scale-project) made payable to PUSAT TENAGA MALAYSIA

Note: Upon submission of the PDD and this Additional Information Sheet to the DNA Malaysia, selected information relating to company name, project name & type and estimated emission reduction will be published at the respective CDM Secretariat Websites. The Secretariats do not warrant any legal liability or responsibility for the accuracy, completeness, or damages caused by the usage of any information obtained from the website.

This template shall not be altered. It shall be completed without modifying/adding headings, format or font.

APPENDIX 5:
MALAYSIAN CDM INSTITUTIONAL FRAMEWORK

THE MALAYSIAN CDM INSTITUTIONAL FRAMEWORK

The National Steering Committee on Climate Change (NSCCC) has established a two-tiered organisation for CDM implementation in Malaysia.

On 31 May 2002, the NSCCC chaired by the Secretary General of the Ministry of Natural Resources and Environment (NRE) had agreed to the following:

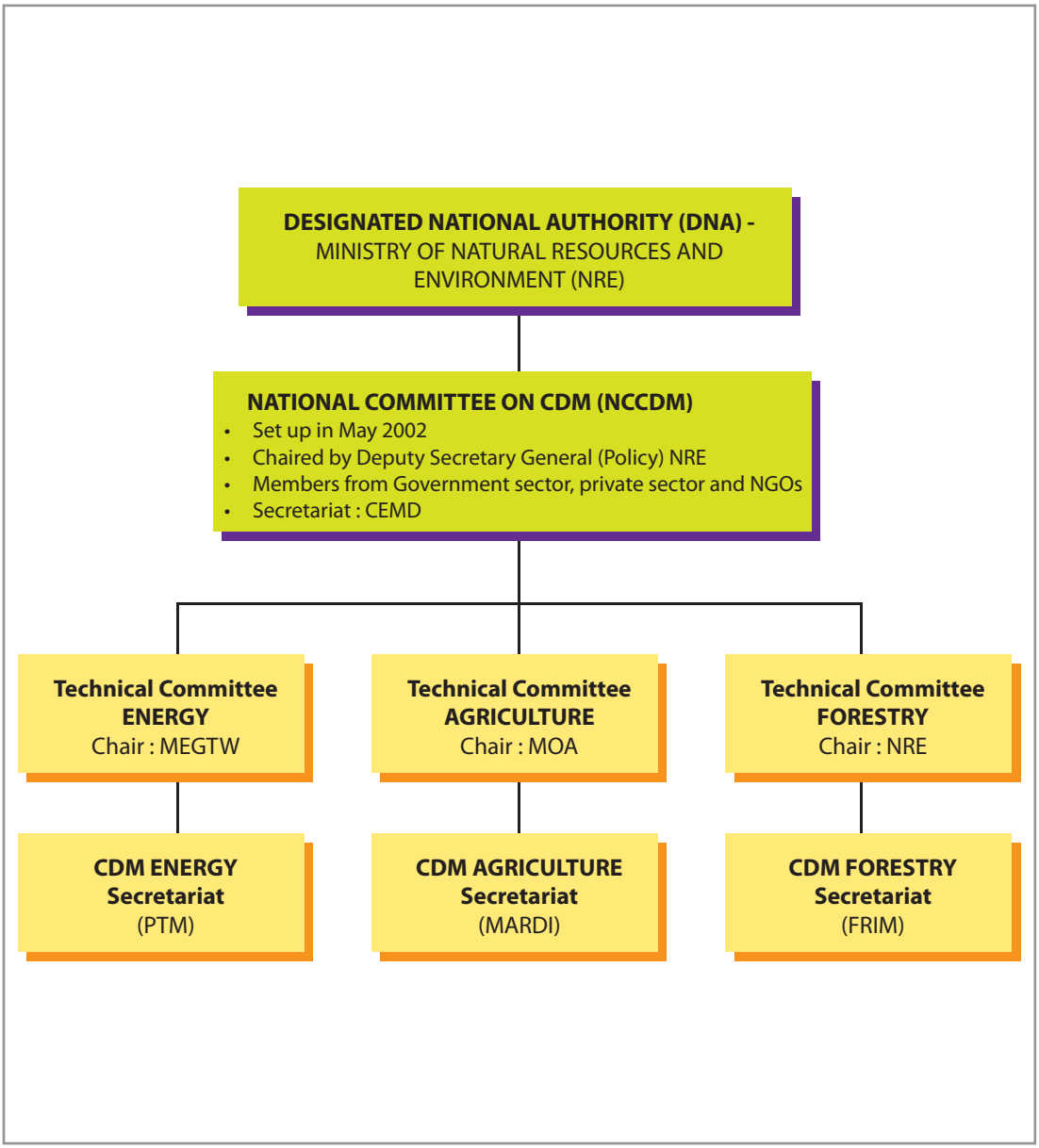
- Establish a National Committee on CDM, its Terms of Reference (ToR) and membership; and
- Establish two Technical Committees, chaired by the Ministry of Energy, Green Technology and Water (MEGTW) and NRE respectively.

On 10 April 2007, the Technical Committee for Agriculture sector, chaired by the Ministry of Agriculture (MoA) has been established.

The Conservation and Environmental Management Division of the Ministry of Natural Resources and Environment is the CDM Designated National Authority (DNA) in Malaysia. The DNA, which has been registered with the UNFCCC secretariat, is responsible in issuing the Host Country Letter of Approval to the CDM project proponent. This letter is one of the requirements for the submission of CDM project at the CDM Executive Board level.

Figure A2 shows the set-up of the CDM national institutional arrangement. The roles, ToR and membership of the various Committees are outlined in the following paragraphs.

Figure A2: National CDM Institutional Arrangement



CEMD : Conservation and Environmental Management Division
MEGTW : Ministry of Energy, Green Technology and Water
PTM : Malaysia Energy Centre
MOA : Ministry of Agriculture and Agro-based Industry
MARDI : Malaysian Agricultural Research and Development Institute
FRIM : Forest Research Institute Malaysia
NGOs : Non-Governmental Organisations

1. Designated National Authority (DNA)

Role of DNA

- In Malaysia, the DNA is the Ministry of Natural Resources and Environment (NRE). The DNA is empowered to issue relevant endorsements and host country approvals and manage the local regulatory aspects of the CDM. The endorsement from the host country DNA is required in order to register a project with CDM EB of UNFCCC.

Terms of Reference of DNA

- To develop national policies, strategies, criteria and guidelines for the implementation of CDM projects;
- To notify changes in the application status of CDM projects in the pipeline to all stakeholders concerned e.g. NCCDM members, TCCDM members, Secretariat and project developers;
- To issue the formal letter of host country approval and conditional letter of approval to project developer;
- To ensure CDM projects are being monitored and executed by the project developers after the host country approval has been given according to the monitoring plan, an integral part of the project's tracking system which is based on an internationally recognised monitoring methodology and provides collection of data necessary for estimating the baseline as well as the emissions within the project boundary;
- To maintain a CDM Registry of CDM projects in Malaysia;
- To respond to requests related to the national CDM policies;
- To plan and call for NCCDM Meeting at least three times a year according to the CDM Annual Schedule;
- To prepare minutes of NCCDM meetings and circulate it to all members; and
- To monitor and keep account of CERs from Malaysia.

2. National Committee on CDM (NCCDM)

Role of NCCDM

- To review and evaluate CDM project proposals as requested by the DNA and assist DNA in other CDM policy issues for which they seek advice.

Terms of Reference of NCCDM

- To screen CDM projects against the policy related issues of the approved national CDM criteria and provide endorsement and approval of the projects. The screening of projects should also take into account screening results, advice and recommendation from the TCCDM;
- To formulate national policies, strategies, national CDM criteria and provide guidelines for implementation of CDM projects;
- To meet at least three times a year, or more often if necessary. The meetings can be held in different forms, depending on the issues to be deliberated; and
- To deal with other specific requests from the DNA.

Membership of the NCCDM

1. Deputy Secretary General (Policy), Ministry of Natural Resources and the Environment – **Chairman**
2. Conservation and Environmental Management Division, NRE – **Secretariat**
3. Forestry Division, Ministry of Natural Resources and Environment
4. Malaysian Meteorological Service
5. Ministry of Plantation Industries and Commodities
6. Ministry of Energy, Green Technology and Water
7. Economic Planning Unit
   i. Energy Section
   ii. Environment Section
8. Ministry of Agriculture and Agro-Based Industries
9. Ministry of International Trade and Industry
10. Ministry of Transport
11. Ministry of Science, Technology and Innovation
12. Malaysia Energy Centre (PTM)
13. Forest Research Institute Malaysia (FRIM)
14. Malaysian Agricultural Research and Developement Institute (MARDI)
15. Centre for Environment, Technology and Development Malaysia (CETDEM)
16. Business Council for Sustainable Development Malaysia (BCSDM)
17. Malaysia Climate Change Group

3. Technical Committees on CDM (TCCDM)

Role of the Technical Committees

- To carry out technical and financial evaluation of the CDM project proposals using the recommendations provided by the Secretariat based on their evaluation of the projects.

Terms of reference for the Technical Committees

- To evaluate the technical and financial components of proposed CDM projects based on the approved national CDM criteria;
- To recommend and submit evaluated CDM project proposals to the NCCDM for further consideration;
- To respond to request from the DNA regarding guidance on specific issues in the sector concerned;
- To meet at least three times a year, or more often is necessary, which can be held in different forms, depending on the issues to be deliberated (refer to Annual Schedule); and
- MEGTW, MARDI and (FRIM/NRE) to prepare minutes of Technical Committee meetings on Energy, Agriculture and Forestry respectively and distribute it to all members.

Membership of Technical Committee on CDM (Energy)

1. Deputy Secretary General (Energy), Ministry of Energy, Green Technology and Water – **Chairman**
2. Malaysia Energy Centre (PTM) – **Secretariat**
3. Economic Planning Unit
4. Energy Commission
5. Department of Environment
6. Malaysian Palm Oil Board
7. Federation of Malaysia Manufacturers
8. Business Council for Sustainable Development Malaysia
9. Association of Banks

Membership of Technical Committee on CDM (Forestry)

1. Ministry of Natural Resources and Environment - **Chairman**
2. Forest Research Institute Malaysia - **Secretariat**
3. Forestry Department Peninsular Malaysia
4. Forestry Department Sabah
5. Forest Department Sarawak
6. Natural Resources Environment Board, Sarawak
7. Jabatan Hal Ehwal Orang Asli
8. Timber Trade Federation Malaysia
9. Malaysian Palm Oil Board
10. Malaysian Rubber Board
11. Sarawak Timber Association
12. Sabah Timber Association
13. Two (2) Non-Governmental Organisations

Membership of Technical Committee on CDM (Agriculture)

1. Ministry of Agriculture and Agro-based Industry – **Chairman**
2. Malaysian Agricultural Research and Development Institute – **Secretariat**
3. Department of Agriculture Peninsular Malaysia
4. Department of Agriculture Sarawak
5. Department of Agriculture Sabah
6. Universiti Putra Malaysia
7. Malaysian Palm Oil Board
8. Malaysian Rubber Board
9. Veterinary Services Department

Note: The TC membership is a tentative proposal (can be added or removed)

4. Secretariat

The Secretariat will provide support to the respective Technical Committee in carrying out its duties. In addition, in order to foster and promote CDM project development, the Energy/Forestry/ Agriculture Secretariat acts as a resource centre on CDM in providing the following assistance:

- To carry out evaluation of CDM project proposals and submit the results of the evaluation to the TCCDM for consideration;
- To provide inputs to the formulation of the CDM policy and marketing strategy on the request from DNA (i.e. assessment of needs for capacity building and assessment of CDM potential in Malaysia);
- To assess CDM potential in the sectors concerned;
- To provide assistance and respond to requests of foreign and local investors and developers involved in the identification and development of project proposals;
- To create awareness on CDM and disseminate information (through the website, media and organization of events, such as seminars and stakeholder meetings);
- To create a national database on CDM activities;
- To assist the DNA in monitoring the CDM projects based on the monitoring plan after the project has been registered by EB;
- To assist DNA in maintaining the CDM registry;
- To assist the DNA in updating CDM project activities in the national website;
- To provide reference materials to guide in CDM project development; and
- To network with relevant stakeholders and identify relevant local experts.

Projects in other sectors

The NCCDM will consider proposals in the energy, forestry, waste, transport and agriculture sectors (as in **Table 1.1**). Depending on the type of projects and its field of application, the proposal will be forwarded to the appropriate Technical Committee for evaluation.

Should there be no expertise in any particular field of application, other relevant institutions will be considered by the NCCDM to carry out the evaluation.

APPENDIX 6:
LIST OF PRESCRIBED ACTIVITIES EXTRACTED FROM THE ENVIRONMENTAL QUALITY (PRESCRIBED ACTIVITIES) (EIA) ORDER 1987)

LIST OF PRESCRIBED ACTIVITIES (EXTRACTED FROM THE ENVIRONMENTAL QUALITY (PRESCRIBED ACTIVITIES) (EIA) ORDER 1987)

Petroleum

(a) Oil and gas field development
(b) Construction of off-shore and on-shore pipelines in excess of 50 kilometres in length
(c) Construction of oil and gas separation, processing, handling and storage facilities
(d) Construction of oil refineries
(e) Construction of produce depots for the storage of petrol, gas or diesel (excluding service stations) which are located within 3km of any commercial, industrial or residential areas and which have a combined storage capacity of 60,000 barrels or more

Power Generation and Transmission

(a) Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 megawatts
(b) Dams and hydroelectric power schemes with either or both of the following:
    i. dams over 15 metres high and ancillary structures covering a total area in excess of 40 hectares
    ii. reservoirs with a surface area in excess of 400 hectares
(c) Construction of combined cycle power stations
(d) Construction of nuclear-fueled power stations

Waste Treatment and Disposal

(a) Toxic and hazardous waste
    (i) Construction of incineration plant
    (ii) Construction of recovery plant (off-site)
    (iii) Construction of wastewater treatment plant (off-site)
    (iv) Construction of secure landfill facility
    (v) Construction of storage facility (off-site)

(b) Municipal solid waste
    (i) Construction of incineration plant
    (ii) Construction of composting plant
    (iii) Construction of recovery/recycling plant
    (iv) Construction of municipal solid waste landfill facility

(c) Municipal sewage
    (i) Construction of wastewater treatment plant
    (ii) Construction of marine outfall

APPENDIX 7: ACRONYMS

CDM	Clean Development Mechanism
CEMD	Conservation and Environmental Management Division (Ministry of Natural Resources and Environment)
CERs	Certified Emissions Reductions (A unit of greenhouse gas reductions that has been generated and certified under the provisions of Article 12 of the Kyoto Protocol, in reference to the CDM. This unit is equal to one metric ton of carbon dioxide equivalent)
COP	Conference of Parties (The COP is the supreme body of the Convention. The word "conference" is not used here in the sense of "meeting" but rather of "association" of the Parties)
DNA	Designated National Authority (National authority that endorses CDM project proposals that meet sustainable development goals)
DOE	Designated Operational Entity
EB	Executive Board of CDM
EIA	Environmental Impact Assessment
FRIM	Forest Research Institute Malaysia
GHGs	Greenhouse gases
IET	International Emissions Trading (A mechanism whereby Annex 1 Parties with emissions commitments may trade their emission allowances with other (Annex 1) Parties. The aim is to improve the overall flexibility and economic efficiency of making emissions cuts)
JI	Joint Implementation (A mechanism whereby a developed country can receive emissions reductions units when it helps finance projects that reduce net emissions in another developed country)
MARDI	Malaysian Agricultural Research and Development Institute
MoA	Ministry of Agriculture and Agro-based Industry
MEGTW	Ministry of Energy, Green Technology and Water
NRE	Ministry of Natural Resources and Environment
MPIC	Ministry of Plantation Industries and Commodities

NCCDM	National Committee on CDM
NSCCC	National Steering Committee on Climate Change
ODA	Official Development Assistance
PDD	Project Design Document
PIN	Project Idea Note
PTM	Malaysia Energy Centre
TCCDM	Technical Committee CDM
UNFCCC	United Nations Framework Convention on Climate Change