

CHAPTER 4: CDM INSTITUTIONS, RULES, GLOBAL PROCEDURES AND ITS IMPLICATIONS FOR SOUTH AFRICA.

4.1. OVERVIEW

The United Nations Framework Convention on Climate Change (UNFCCC) of 1992 has its ultimate objective the stabilization of greenhouse gas (GHG) concentration in the atmosphere. This is to prevent dangerous anthropogenic interference with the climate system. The UNFCCC secures commitments from signatory states regarding various aspects of climate change mitigation efforts. The Convention in Article 7 allocates the responsibility for implementation to a Conference of the Parties (COP) which it established as the supreme body for the UNFCCC. A subsidiary body for scientific and technological advice was also established to provide the COP and its subsidiary bodies with advice on scientific and technological matters. A subsidiary body for review and implementation is also provided for in the Convention. The UNFCCC also allows the COP to adopt protocols to the Convention.

The Kyoto Protocol⁵⁵ of 1997 is such a protocol adopted by the COP in Kyoto, Japan. The Protocol spells out the GHG other than those covered in the Montreal protocol that is to be reduced and the rates of reduction. The clean development mechanism to enable developing countries to achieve sustainable development and contribute to the objectives of the Convention is defined in the Protocol. The establishment of the concept of Certified Emission Reduction (CER) and that of the Executive Board to supervise the CDM process also emanates from Article 12 of the Protocol. The concept of operating entities certifying emission reductions and the key principles to be adhered to in these CDM projects is also specified in the Protocol. The period within which claims for CER via CDM projects can be claimed for the first commitment period (2008-2012) is also specified as projects occurring from the year 2000 till the beginning of this commitment period.

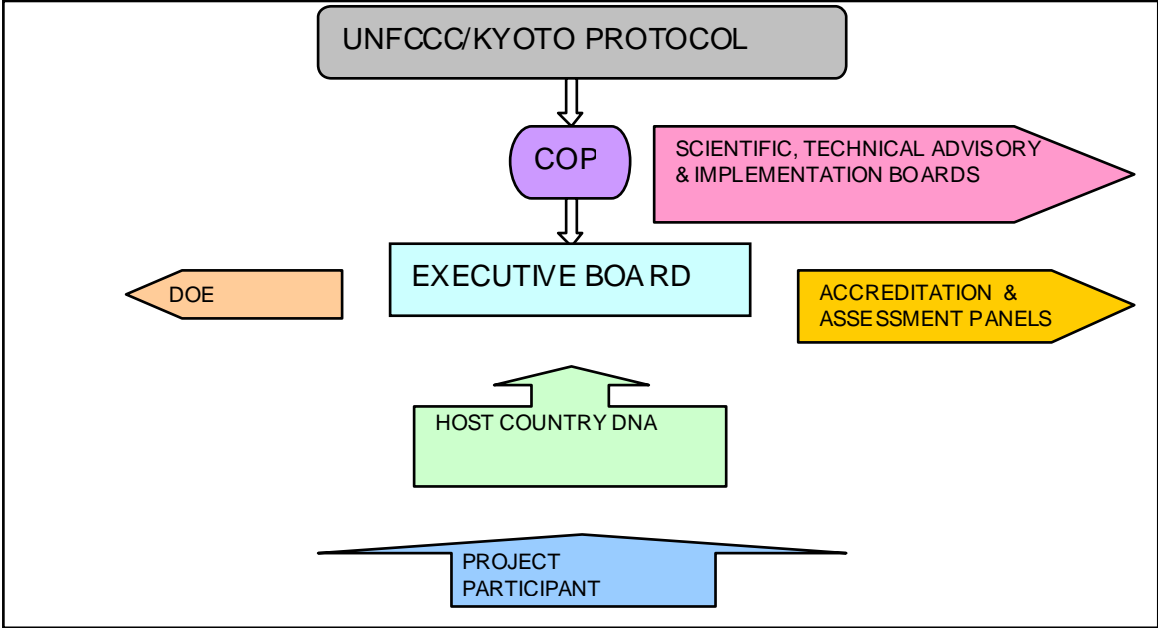
The Executive Board in turn has applied itself to realizing the objectives of the Convention and working within the parameters set by the COP through the Kyoto Protocol. A set of

⁵⁵ Full text of the Kyoto Protocol is available at www.unfccc.int.

Modalities and Procedures⁵⁶ for the Executive Board have been set by the COP. These form the basis on which the Executive Board performs its functions of assisting and assessing CDM projects and processes.

The above provides an overview of the instruments, institutions and processes guiding CDM, and this will be elaborated upon in the first section of this chapter. This chapter will also analyse the role of the Designated National Authority (DNA) for developing countries seeking to use the CDM instrument to mitigate GHG emissions. The Kyoto Protocol broadly outlines the sectors or sources of GHG emissions, and this chapter will seek to outline sectors of current international investment activity in CDM as well as those areas that South Africa would have an interest in promoting for CDM purposes. This chapter will also outline how South Africa could promote the emergence of local Designated Operating Entities (DOE) within the current set of rules applicable to this process.

Figure 8: Hierarchy of Institutions relevant to CDM



⁵⁶ The full text of the M&P for CDM is available at www.cdm.unfccc.int/documents

4.2. GLOBAL RULES AND PROCEDURES

4.2.1. UNFCCC

The [UNFCCC](http://cdm.unfccc.int/) (<http://cdm.unfccc.int/>) provides an internationally binding framework upon which all internationally sanctioned activities relating to GHG emission are to be abated. The Convention is promoted at the level of the United Nations and signatories are member states of the UN system that ascribe to the principles and commitments of the Convention and also other UN Conventions and declarations that seek to address issues relating to protection of the global climate and the environment. The Convention affirms that these responses to climate change should be coordinated with social and economic development in an integrated manner that takes into account the needs of developing countries to achieve economic growth and eradicate poverty.

The Convention sets out in Article 3 the principles that Parties should be guided by in implementing its provisions. These are:

- That the Parties should protect the climate system for the benefit of present and future generations of humankind within their common but differentiated responsibilities as developed and developing countries, with developed countries taking a lead in this process.
- Developing countries that are vulnerable and adversely affected by climate change, and especially those developing countries that would bear a disproportionate burden under the Convention, should be given full consideration in terms of their needs and special circumstances.
- All Parties should take precautionary measures to anticipate, prevent, or minimize the causes of climate change and mitigate its adverse effects, and actions which would result in serious and irreversible damage to the global climate, should not be undertaken on the premise that full scientific evidence to this effect does not exist. These measures may be undertaken in a cooperative manner and ideally at at lowest cost possible, taking into account the varying socio-economic levels of Parties.
- Parties should promote sustainable development appropriate for each Party and climate change policies and measures should be integrated with national development programmes. Further, it is recognized that economic development is essential for adopting measures to address climate change.

- Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing countries, thus enabling them to better address the problems of climate change. Measures purportedly for combating climate change should not be a arbitrary or unjustifiable discrimination on international trade.

The Convention also spells out the common but differentiated responsibilities for Parties which include:

- the collection of data regarding national inventories of GHG emissions by source and removal by sinks according to agreed methodologies
- trying to formulate and implement measures for the mitigation of GHG emissions & removal by sinks, together with measures to facilitate adequate adaptation to climate change
- the development & diffusion of technologies that mitigate GHG emission, including the transfer of technologies, practices and processes that control, reduce or prevent man made GHG emissions in sectors including in the main, energy, transport, industry, agriculture, forestry, & waste management
- an effort in promoting sustainable management & cooperation in conserving and enhancing sinks & reservoirs of GHG, including biomass, forests, and oceans as well as other terrestrial, coastal, & marine ecosystems.
- to cooperate in adapting for climate change impacts, with appropriate plans for coastal zone management, water resources, & agriculture. Further to for protecting and rehabilitating areas, particularly in Africa, affected by drought, desertification and floods
- to take climate change considerations into account where feasible, in economic environmental, and social policies and actions, and to apply impact assessments to minimize adverse effects on the economy, on public health, and the quality of the environment for projects designed to mitigate or adapt to climate change
- to promote and cooperate in scientific, technological, technical, socio-economic and other research , and development of data related to the climate system which could assist in the understanding of climate change or various response strategies

- to promote and cooperate in education, training, and public awareness related to climate change in order to have the widest participation in this process, including non governmental organizations, and
- to communicate to the COP information relating to implementation

The Convention also makes specific mention that the Parties included in Annex 1, will provide new and additional financial resources to meet the agreed full costs of developing countries in complying with the obligations. This would include costs related to the transfer/access of technology, vulnerability due to adverse effects of climate change, and the special circumstances of least developed countries. Economies in transition and those developing country Parties heavily dependent upon production, processing and export of fossil fuels would receive consideration in the global effort to mitigate climate change from GHG emissions.

4.2.2. Conference of the parties

The Conference of the Parties is established under the UNFCCC as the supreme body of the Convention. Its task is to review the implementation of the Convention and related legal instruments that the COP may adopt. Its main functions being to:

- Periodically examine the obligations of the Parties and the institutional arrangements under the Convention, and contrast this with experience gained in implementation and the evolution of scientific and technological knowledge.
- Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects
- Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects
- Promote and guide the development and periodic refinement of comparable methodologies which are to be agreed by the COP, relating to the preparation of inventories of GHG emissions by sources and removals of sinks, and to evaluate the effectiveness of measures to limit the emissions and enhance the removals of these gases

- Assess from information declared by Parties, the implementation and effect of measures taken under the Convention on environmental, economic, and social impacts and how the objectives of the Convention are being achieved.
- Consider and adopt regular reports on the implementation of the Convention and make these publicly available.
- Mobilize financial resources as envisaged for developing countries and also appropriate the general financial contribution of all Parties within an equitable and balanced approach.
- Establish all subsidiary bodies that are necessary for the implementation of the Convention.
- Review reports submitted by its subsidiary bodies and provide guidance to them
- Agree upon and adopt rules of procedure and financial rules for itself and any subsidiary bodies.
- Seek and use the services, information, and cooperation of competent international organizations and intergovernmental and NGO's, and
- Exercise all other functions as required by the objectives of the Convention and as assigned to it by the Convention.

The COP has instituted its own rules and procedures at its first session (COP 1), as well as that for subsidiary bodies. These are detailed under [“ Decision 17/CP.7 - CDM modalities and procedures”](#).

4.2.3. The Kyoto Protocol

The Kyoto Protocol adopted by the COP which is provided for in the UNFCCC seeks to set out concrete measures for GHG emissions reduction and also directs the manner in which mechanisms/institutions that will assist in this process will operate. The Protocol sets out clear areas for Annex 1 Parties in achieving its quantified emission limitation and reduction commitments. The greenhouse gases identified as being within the ambit of the Protocol are listed as :

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)

- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆)

The sectors that the Protocol seeks to ensure GHG emissions abatement are also identified in the Protocol firstly as the energy sector which includes under fuel combustion areas such as energy industries, manufacturing and construction, transport, other sectors and other. The energy sector includes under fugitive emissions from fuels areas such as solid fuels, oil and natural gas, and other.

Industrial processes constitutes the other main sector which includes sources such as the minerals products industry, the chemical industry, metal production, other production, production/consumption of halocarbons and sulfur hexafluoride, and other.

Solvent and other product use constitutes the other major sector.

Agriculture is another major sector identified, and this includes enteric fermentation, manure management, rice cultivation, agricultural soils, prescribed burning of savannahs, field burning of agricultural residues, and other.

Waste constitutes the final sector for GHG abatement, and the specific areas in this sector include solid waste disposal on land, wastewater handling, waste incineration, and other.

The Protocol stipulates that the parties listed in Annex 1 shall not exceed carbon dioxide equivalents (CO₂e) emissions of greenhouse gases listed above as per their quantified limitation and reduction commitments as prescribed in Annex B. The overall goal is a 5% reduction below 1990 levels in the commitment period 2008-2012. The Protocol further stipulates that those Parties in Annex 1 should have made demonstrable progress by 2005 in achieving their commitments under the Protocol. Net changes in GHG emissions by sources and removals by sinks resulting from direct human induced land use change and forestry activities (afforestation, reforestation, and deforestation since 1990) shall be used to meet the commitments of the Protocol.

An important aspect from a developing country perspective is that the Protocol establishes the idea of the clean development mechanism (CDM) to assist Parties not included in Annex 1 in achieving sustainable development and in contributing to goals of the Convention. The concept of annex 1 Parties using the CDM to achieve compliance with their quantified emission limitation and reduction commitments under the Protocol is also envisaged.

4.2.4. The Executive board of the CDM

The Executive Board (EB) was established in 1998 under the COP to drive the supervision of CDM projects. The EB members consist of both developing (non Annex 1) and developed/economy in transition (Annex 1) country members. The EB operates under the [Decision 17/CP.7 - CDM modalities and procedures](#) which the COP approved as the set of rules under which CDM projects may be governed by the EB. The concept of a local entity which will act as an interface with the Board is prescribed in these modalities and procedures in this document as Decision “29” where “Parties participating in CDM shall designate a national authority for the CDM”.

The CDM is open to participation by private and public entities are subject to the authority and guidance of the COP which is delegated to the executive board of the CDM. Emission reductions resulting from CDM projects will be certified by operating entities designated by the COP on the basis as specified in the Protocol that:

- Voluntary participation approved by each party involved
- Real, measurable and long term benefits for mitigation of climate change occur, and
- Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

A key principle espoused in the protocol relating to the CDM is that it will assist in arranging funding for certified project activities as necessary. The COP will also elaborate modalities and procedures with the objective of ensuring transparency, efficiency, and accountability through independent auditing and verification of project activities.

The Protocol guides the EB regarding how proceeds from certified project activities are to be used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to adverse effects of climate change to meet cost adaptation.

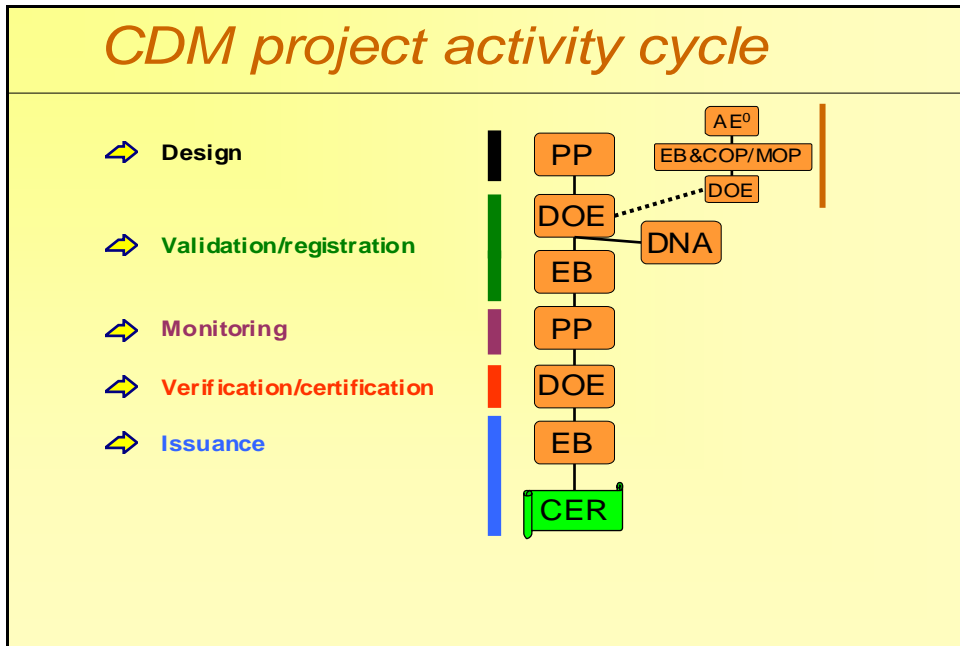
The Certified Emission Reductions (CERs) obtained during the period from the year 2000 up to the first commitment period can be used to assist in achieving compliance in the first commitment period which is stipulated in the Protocol as 2008-2012.

The EB operates within the Modalities and Procedures* set out by COP, which includes the following key aspects which will be of specific interest to CDM project participants as determined by decision [APPENDIX G \(Modalities and procedures\).pdf](#) (Annex C):

- Approve new methodologies, re: baselines, monitoring plans and project boundaries (this will be elaborated below in the section detailing methodology & baselines)
- Review simplified modalities, procedures, and the definitions of small scale projects and make such recommendations to COP [APPENDIX G \(Modalities and procedures\).pdf](#) (Annex C) credit operational entities and designate operational entities and make recommendations to COP, and re-accredit, suspend and withdraw accreditation
- Publicize information on proposed CDM projects needing funding and matching this with investors seeking opportunities, to assist in funding,
- Develop & maintain a public registry of CDM project activities of registered projects (as contained in [APPENDIX G \(Modalities and procedures\).pdf](#) (Annex D))

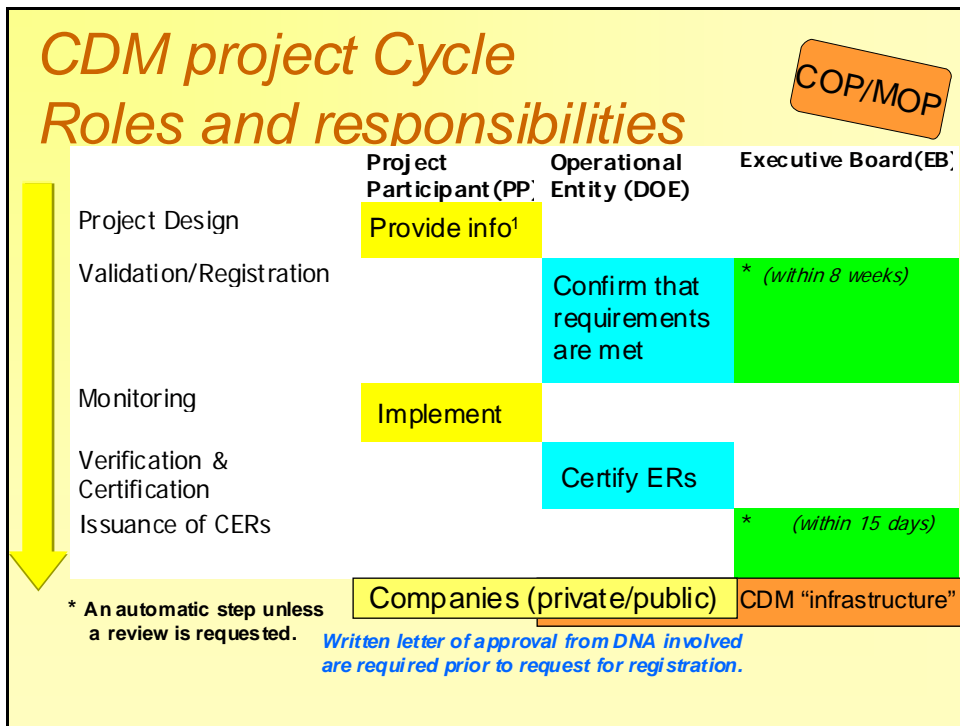
The CDM project activity cycle is represented by the following diagrams and gives an indication of the process that interested project participants would have to follow.

Figure 9: CDM project activity cycle



Source: UNFCCC, www.cdm.unfccc.int/documents

Figure 10: CDM project cycle (Roles and responsibilities)



Source: UNFCCC, www.cdm.unfccc.int/documents

4.2.5. Baseline Methodologies

The terms of reference as defined in [APPENDIX G \(Modalities and procedures\).pdf](#) (Annex C) defines what the EB needs to do as regards establishing baselines and monitoring methodologies for recommendation to COP. These are to be developed while taking into account the current practices in the host country or an appropriate region and observed trends. The issue of low cost technology for the activity or project category needs to be observed by the EB.

Currently the EB has set up 4 methodologies which it has approved for usage by project participants. These can be viewed at <http://cdm.unfccc.int/EB/Panels/meth> in project design documents lodged at the registry of the EB.

The EB also allows project participants to propose its own methodologies and currently 30 project design documents are available for scrutiny at www.cdm.unfccc.int/methodologies/process. These are instructive for South African project participants since they vary in terms of sectors that projects are envisaged. The mechanism for new methodologies that need to be proposed can be extracted on <http://cdm.unfccc.int/pac/howto/CDMProjectActivity/NewMethodology/Pnm.pdf>. The last deadline for the submissions in this process was 23 January 2004 so South African developers will need to prepare themselves for the next round which the EB will announce shortly.

4.2.6. Project design document

The EB has developed a Project Design Document (PDD) which is available to project participants (See appendix H) [D:\APPENDIX H \(CDM PDD document\).pdf](#). The PDD requires the project participants to provide this in the context of [APPENDIX G \(Modalities and procedures\).pdf](#) (Annex B):

- general information on the project,
- a baseline methodology, addressing leakages and strengths and weaknesses
- duration of the project activity,
- monitoring methodology and plan,
- calculation of GHG emissions by sources,
- environmental impacts

- stakeholder comments as required of public comment

This document is attached as Appendix H ([D:\APPENDIX H \(CDM PDD document\).pdf](#)) to this chapter of the report.

4.2.7. Small Scale Projects – PDD and Methodology

The COP via [D:\APPENDIX I \(Guidance to EB\).pdf](#) mandated the Executive Board to have a differentiated mechanism to address the project design and methodology of small scale projects. This simplified modalities and procedures for small scale projects was further developed by the EB into two aspects related to project design and methodology documents which appear as Appendix A & B respectively in the above document..

Definitions of what constitutes small scale projects are explained in terms of the power limits of CDM projects proposed. In the current scenario this applies to projects that are able to demonstrate:

- maximum output capacity equivalents of up to 15MW or its equivalent, or
- energy efficiency increases result in a decrease of consumption by 15GWh
- other projects that emit less than 15kt of carbon dioxide equivalent annually

Those project participants seeking to register their projects as small scale will need to show these criteria and use the guidelines set out in Appendix A & B of the modalities and procedure of Decision 17/CP.7.

4.2.8. Designated Operating Entities

The task of accrediting DOE's falls to the Executive Board as mandated by the COP in Annex D in [Decision 17/CP.7](#). The EB has set accreditation standards for the DOE's in Appendix A of the Modalities and Procedure document which can be accessed at www.cdm.unfccc.int. The EB can also in terms of the mandate from the COP conduct ongoing reviews to see if these standards are currently being met and has the power to suspend, withdraw and sanction any failure on the part of DOE's or its sub-contractors.

Once these entities have been designated, Annex E of [Decision 17/CP.7](#) stipulates the role of DOE's to be that of:

- validating proposed CDM project activities
- verifying and certifying reductions in anthropogenic emissions by sources of GHG
- complying with applicable laws of Parties hosting CDM project activities when performing its functions
- showing that it or its subcontractors do not have conflict of interests with project participants
- performing *inter alia*, validation or verification and certification.(this can be done by a single DOE if the EB grants this permission)
- maintaining a publicly available list of all CDM project activities which it has performed any function.
- Submitting an annual activity report to the EB
- Making that information from CDM project participants not labelled confidential available to the public as required by the EB

Companies who seek to register with the Board in order to be accredited as DOE's can do so via forms attached at Appendix J [D:\APPENDIX J \(Accreditation application form\).pdf](#) The Modalities and Procedures for DOE's stipulates that there should be balanced regional representation from all the UN regions. Current applications which number 21 have been mainly from Annex 1 countries (19) while non Annex1 countries in Asia/Pacific have made 2 applications. This leaves Africa with no such applications and as such would constitute an opportunity for local DOE applicants. This is examined later in the section looking at the fostering of local DOE's in South Africa.

4.3. THE ROLES OF THE DESIGNATED NATIONAL AUTHORITY (DNA)

4.3.1 Approval of CDM Projects for the Executive Board

The DNA, as defined in <http://cdm.unfccc.int/Reference/Documents> is expected to act as the focal point for the Board to understand host country attitudes towards CDM projects. This role is spelt out in the project activity cycle and the approval by the DNA is regarded as the first step towards consideration by the Board of such a project. Thus the Kyoto Protocol requires that the signatory countries establish a DNA to evaluate projects in terms of its

sustainable development criteria if the activities under the CDM provide a benefit to the country. Other legal requirements would also have to be met by CDM project activity. These include the issue of property rights to CER's, cost implications for the DNA to consider when approving projects, the implications for exchange control regulations, as well as the tax status of CER's generated and traded.⁵⁷ South Africa will have to consider these issues when setting up a legislative and institutional framework for CDM. National taxation regimes govern the taxation on carbon credits traded and as it was shown in chapter 3, in Brazil, India and China these issues will be catered for in the establishment of the DNA structure or in ongoing deliberations of issues affecting CDM. It is expected that the DNA would bring together a variety of CDM relevant government departments such as DEAT, DME, **the dti**, DWAF, DOT, and NT. This will help in alleviating policy inconsistencies for CDM activities approved by the DNA should these run counter to policy positions in Government. The preceding chapter evaluating other DNA structures of developing countries indicates that these issues are catered for in the composition of their DNA's.

It is evident from the experience presented for Brazil that specific national priorities are the guidelines under which a DNA will assess project applications. This could form the basis for a South African DNA to operate or it could, after national consultations decide upon a different approach for how it considers project applications. The DNA is thus required to evaluate CDM projects on sustainable development criteria and to indicate its approval of projects to the Board if these criteria are met. The Board will only proceed to register projects and with the other Project Activity Cycle steps if this approval occurs by the host country DNA. The DNA does not need to rank various CDM projects since projects do not diminish a country's chance of having other projects accepted by the Board. The South African Government has indicated in its First National Communication to the COP what it regards as sustainable development criteria.

⁵⁷ Ji, JS. Saunders, R., & Niles, J-O., 2000, *Forest Protection: Cleaning up the CDM*, Stanford University.

Table 7: Proposed Sustainable Development Criteria for Project Approval

Criteria	Indicator
Environmental impacts	
Local environmental quality impacts	<ul style="list-style-type: none"> ▪ Air quality changes in terms of priority pollutants ▪ Water quality changes in terms of priority pollutants ▪ Other impacts (e.g. noise, safety, property value, visual impacts, traffic)
Change in usage of natural resources	<ul style="list-style-type: none"> ▪ Change in usage of water, fuel or other non-renewable natural resources
Biodiversity impacts	<ul style="list-style-type: none"> ▪ Changes to local and regional biodiversity
Economic impacts	
Macroeconomic impacts	<ul style="list-style-type: none"> ▪ Balance of payment impacts (increase or decrease in foreign exchange requirements)
Appropriate technology transfer	<ul style="list-style-type: none"> ▪ Cleaner technologies to be used in the project (from international or local sources) ▪ Technological skills to be transferred and future self reliance of project ▪ Previous successful application of the technology ▪ Is technology appropriate to South Africa ▪ Does project provide demonstration and replication potential
Social impacts	
Alignment with national, provincial and local development priorities	<ul style="list-style-type: none"> ▪ General assessment against available policies and plans
Social equity and poverty alleviation	<ul style="list-style-type: none"> ▪ Job creation (number of jobs created/destroyed, duration of time employed, distribution of employment opportunities, types of employment, categories of people to be employed in terms of gender and racial equity) ▪ Local economic development impacts ▪ Whether project location has particular developmental needs ▪ Distribution of project benefits
General Criteria	
General project acceptability	<ul style="list-style-type: none"> ▪ Frivolous projects; ▪ Projects clearly unlikely to succeed; ▪ Grossly unfair distribution of benefits from the project

Source: DEAT discussion document, Establishment of the DNA in South Africa to consider CDM Projects under the Kyoto Protocol, April 2003.

The DME has subsequently tabled the following set of questions which will guide the DNA when assessing CDM project suitability based on sustainable development criteria. A scoring mechanism similar to that employed by the Brazilian DNA is proposed.

Proposes Checklist to Guide the DNA when Assessing the Sustainable Development Impact of Projects

	<i>Criteria</i>	<i>Indicator</i>
Ecological	Impact on local environmental quality	<ul style="list-style-type: none"> Will the project increase air pollution in the area? Will the project increase water pollution in the area? Will the project increase solid waste in the area? Will the project have any other negative environmental impacts (such as: noise, safety, property, value, visual impacts, traffic)
		<ul style="list-style-type: none"> Will the project improve air quality in the area? Will the project alleviate current environmental problems in the area? Will the project incorporate pollution reduction or waste minimisation initiatives?
		<ul style="list-style-type: none"> Will the project reduce community access to resources?
	Change in usage of natural resources	<ul style="list-style-type: none"> Will the project increase the sustainability of usage of water, minerals or other non renewable natural resources Will the project achieve more efficient resource utilisation?
		<ul style="list-style-type: none"> Will the project result in a loss of local or regional biodiversity? Will the project result in a gain in local or regional biodiversity?
Economic	Economic impacts	<ul style="list-style-type: none"> Will the project substantially increase foreign exchange requirements? Will the project have a negative impact on existing economic activity in the area? Will the project increase the cost of energy
		<ul style="list-style-type: none"> Will the project substantially decrease foreign exchange requirements? Will the project have a positive impact on existing economic activity in the area? Will the project lead to increased foreign investment?
	Appropriate technology transfer	<ul style="list-style-type: none"> Will the project include the transfer of obsolete technology?
		<ul style="list-style-type: none"> Will the project result in the introduction of appropriate technology into South Africa? Will the project result in local skills development? Will the project provide demonstration & replication potential Will the project incorporate cleaner production technology?
Social	Alignment with national provincial and local development priorities	<ul style="list-style-type: none"> Will the project undermine other government objectives? Will the project increase the cost of other services? Will the project result in relocation of communities?
		<ul style="list-style-type: none"> Will the project provide infrastructure or essential services to the area? (eg increased access to energy) Will the project complement other development objectives in the area? Will the project contribute to a specific sectoral objective? Example: to increase access to renewable energy.
	Social equity and poverty alleviation	<ul style="list-style-type: none"> Will the project result in job losses? (specify the number of jobs created/destroyed, duration of time employed, distribution of employment opportunities, types of employment, categories of people to be employed in terms of gender and racial equity) Will the project have a negative impact on community social structures? Will the project have a negative impact on social heritage?
		<ul style="list-style-type: none"> Will the project result in the creation of jobs? (provide details as above) Will the project provide any social amenities to the community in which it is situated? Will the project contribute to the development of a previously underdeveloped area?
General	General project acceptability	<ul style="list-style-type: none"> Is the project in accordance with available policies and plans of government? Are the distribution of project benefits deemed to be reasonable and fair? Is the project frivolous? <p>Is the project clearly unlikely to succeed?</p>

Rapid DNA turn around times will help project participants reduce costs in the project preparation phase. A current assessment of the Brazilian DNA indicates that projects submitted in September 2003 and resubmitted in February 2004 await DNA approval in March 2004. More recently the Brazilian DNA has taken an average of 60 days per project for two projects given approval status. Thus a DNA would need to adjust its assessment period, include 30 days for public comment as prescribed by the Modalities and Procedures issued by the COP, to provide project participants with an approval letter for the Executive Board.

The Executive Board expects that approval by the DNA suggests that all policy and legal ramifications have been considered by the host country and that the CDM project does not contradict any policy or law. Approval of a project also suggests that all public comments required by the Board have been catered for within the 30 day period. Appendix K ([FINAL CDM\APPENDIX K \(DNA flows\).xls](#)) details the proposed process flow developed for SA by the DEAT which could form the basis for how engagement with the DNA will occur in South Africa.

4.3.2. Interface with Investor Countries

The section on benchmarking investor and competitor countries reveals that investor countries require in many instances the existence of a DNA in order to initiate MoU's that can facilitate the placing of funds to develop and support CDM projects by their private and public institutions. This was demonstrated to be the case for the Danish and Dutch CDM institutions who expect that the existence of a DNA will allow easier conclusion of agreements that facilitate cooperation with the host country. This would also include training and other support measures which may not be project specific which a host country can utilize to support the groundwork for CDM activities. The experience of the Brazilian DNA is instructive, in that it acts as the focal point for engagement with CDM institutions of investor countries.

4.3.3. Interface with Project Participants

Project participants, whether foreign or domestic, require that a point of authority exist that can define policy on CDM projects, explain processes for approval and generally act as the CDM entry point into the host country. This also demonstrates the priority that the country

has for CDM investment. The DNA acts as a investment facilitation measure for project participants. The DEAT have made suggestions in the discussion document⁵⁸ “Establishment of the Designated National Authority (DNA) in South Africa to consider CDM Projects under the Kyoto Protocol” around the procedure flow for CDM activity in South Africa. This appears as appendix K ([D:\APPENDIX K \(DNA flows\).xls](D:\APPENDIX K (DNA flows).xls)) in this chapter of the report.

4.4. FOSTERING DOE's IN THE LOCAL ECONOMY

The Modalities and Procedures set out by the COP stipulate the ideal that there be regional representation in the DOE's accredited by the Executive Board from the various UN regions. The current applications received by the Board suggest that the majority of applications are from Annex 1 Western European and Asia Pacific Parties. Of the 21 applications received, only 2 are from non-Annex 1 Parties but none are from the African region. This presents an opportunity for South African firms with the requisite ability and skills to register as DOE's. The Executive Board recommended to the COP/MOP 4 applicant entities to be considered as DOE's, these entities are Japanese, Norwegian, German, and Anglo-French based companies.

The current procedures and forms for registration are detailed in the section above but the actual process involved and the criteria set by the COP in [D:\APPENDIX G \(Modalities and procedures, D17 CP 7\).pdf](D:\APPENDIX G (Modalities and procedures, D17 CP 7).pdf) Annex D is detailed above. Summarised, the procedures for accreditation are thus:

- An application for accreditation is received by an entity
- The preliminary consideration of the applicable file by the CDM-AP
- The desk review by the CDM-AT of the documentation provided by the AE
- A number of witnessing activities by the CDM-AT as requested by the CDM-AP to assess whether AE can perform validation & verification/certification tasks as DOE in the scope of accreditation for which it has applied for
- The reporting of the CDM-AT to the CDM-AP
- The recommendation and accreditation by the CDM-AP to the Executive Board
- The decision by the Executive Board on accreditation & therefore recommendation for designation to the COP/MOP

⁵⁸ DEAT discussion document (2003), *Establishment of the DNA in South Africa to consider CDM Projects under the Kyoto Protocol*,

Basic standards required from applicants are broadly conveyed in Annex A in the modalities and procedure report involves standards that include:

Table 8: Standards for the accreditation of operational entities

1. An operational entity shall:

- (a) Be a legal entity (either a domestic legal entity or an international organization) and provide documentation of this status;
- (b) Employ a sufficient number of persons having the necessary competence to perform validation, verification and certification functions relating to the type, range and volume of work performed, under a responsible senior executive;
- (c) Have the financial stability, insurance coverage and resources required for its activities;
- (d) Have sufficient arrangements to cover legal and financial liabilities arising from its activities;
- (e) Have documented internal procedures for carrying out its functions including, among others, procedures for the allocation of responsibility within the organization and for handling complaints. These procedures shall be made publicly available;
- (f) Have, or have access to, the necessary expertise to carry out the functions specified in modalities and procedures of the CDM and relevant decisions by the COP/MOP, in particular knowledge and understanding of:
 - (i) The modalities and procedures and guidelines for the operation of the CDM, relevant decisions of the COP/MOP and of the executive board;
 - (ii) Issues, in particular environmental, relevant to validation, verification and certification of CDM project activities, as appropriate;
 - (iii) The technical aspects of CDM project activities relevant to environmental issues, including expertise in the setting of baselines and monitoring of emissions;
 - (iv) Relevant environmental auditing requirements and methodologies;
 - (v) Methodologies for accounting of anthropogenic emissions by sources;
 - (vi) Regional and sectoral aspects;
- (g) Have a management structure that has overall responsibility for performance and implementation of the entity's functions, including quality assurance procedures, and all relevant decisions relating to validation, verification and certification. The applicant operational entity shall make available:
 - (i) The names, qualifications, experience and terms of reference of senior management personnel such as the senior executive, board members, senior officers and other relevant personnel;
 - (ii) An organizational chart showing lines of authority, responsibility and allocation of functions stemming from senior management;
 - (iii) Its quality assurance policy and procedures;
 - (iv) Administrative procedures, including document control;
 - (v) Its policy and procedures for the recruitment and training of operational entity personnel, for ensuring their competence for all necessary functions for validation, verification and certification functions, and for monitoring their performance;
 - (vi) Its procedures for handling complaints, appeals and disputes;
- (h) Not have pending any judicial process for malpractice, fraud and/or other activity incompatible with its functions as a designated operational entity.

2. An applicant operational entity shall meet the following operational requirements:

- (a) Work in a credible, independent, non-discriminatory and transparent manner, complying with applicable national law and meeting, in particular, the following requirements:
 - (i) An applicant operational entity shall have a documented structure, which safeguards impartiality, including provisions to ensure impartiality of its operations;
 - (ii) If it is part of a larger organization, and where parts of that organization are, or may become, involved in the identification, development or financing of any CDM project activity, the applicant operational entity shall:

- Make a declaration of all the organization's actual and planned involvement in CDM project activities, if any, indicating which part of the organization is involved and in which particular CDM project activities;
 - Clearly define the links with other parts of the organization, demonstrating that no conflicts of interest exist;
 - Demonstrate that no conflict of interest exists between its functions as an operational entity and any other functions that it may have, and demonstrate how business is managed to minimize any identified risk to impartiality. The demonstration shall cover all sources of conflict of interest, whether they arise from within the applicant operational entity or from the activities of related bodies;
 - Demonstrate that it, together with its senior management and staff, is not involved in any commercial, financial or other processes which might influence its judgement or endanger trust in its independence of judgement and integrity in relation to its activities, and that it complies with any rules applicable in this respect;
- (b) Have adequate arrangements to safeguard confidentiality of the information obtained from CDM project participants in accordance with provisions contained in the present annex.

The Board has published in its 7th meeting a document entitled “Procedures for accrediting operational entities by the Executive Board of the CDM” which is available at [CDM: Designated Operational Entities \(DOE\)](#) and the Executive Board has published a handbook on how DOE’s can access accreditation, which details all the material needed for a company seeking to register as a DOE. This is a step by step guide which includes all useful information for aspirant DOE’s. Further specific information on the overall procedures are available in appendix L ([D:\APPENDIX L \(Procedure for accrediting operational entities\).pdf](#)) of this chapter. This gives a detailed analysis of the process that aspirant DOE’s need follow and the costs associated with accreditation. The final decision on costs has not been published by the Board. A graphic representation of the process sourced from the above website also exists, and is included as appendix M flow chart 1, 2 and 3 ([D:\APPENDIX M \(flow chart 1\).jpg](#); [D:\APPENDIX M \(flow chart 2\).jpg](#); [D:\APPENDIX M \(flow chart 3\).jpg](#)) in this report. The sectoral scopes which the DOE seeks to become involved in is listed within the handbook and the DOE may seek to become involved in one or more of sectors listed or propose new areas which may not be currently listed.

The skills needed for DOE’s to be accredited are technical assessment of the projects’ GHG emission claims as per specific and then to perform monitoring functions on active projects. South African companies would need these skills which would include the ability to assess GHG emissions projections and also to perform tests involved in monitoring actual emissions emanating from the CDM project. These are fairly standard skills and exist in the South African environment. The area of support that would benefit SA firms would be to enable

DOE's to meet the non-technical standards set out above. These are fairly costly since accreditation is for the account of the DOE and relate to expenses of hosting Accreditation Team members of the UN. South Africa could provide a mechanism via its various incentive programmes detailed in chapter 2 to offset these costs. International experience shows in chapter 3 that India had a number of applicants seeking to be accredited as DOE's. This later lead to a withdrawal of all applicants once the high liability that DOE's would carry was known. A further area of work relates to the high liabilities that such firms would be exposed to if the Board decides that their validation or verification activities have been incorrect and CER's have been incorrectly issued. This was cited as the most daunting aspect of DOE liability, and a means of limiting this risk would be to consider supporting DOE's seeking professional indemnity insurance. Insurance or assets to cover this eventuality is also a standard required in the M&P of COP.

The high costs involved in flying out CDM-AT members on business class to South Africa, their subsistence costs, as well as high DOE application costs are an obstacle for local firms to consider becoming DOE's. The accreditation process is driven by the CDM-AP which is based in Germany. A mechanism to lower these costs would be to consider local accreditation via institutions approved by the South African National Accreditation System (SANAS). According to discussions with the CEO⁵⁹ and a senior Executive the accreditation process currently being utilized for DOE assessment can be considerably lower cost if national bodies were recognized to accredit institutions to carry out local DOE accreditation. The UN has utilized the expertise of the domestic South African national body in order to set up its accreditation process. SANAS have agreed that they will make representations once more to the UNFCCC secretariat for national accreditation bodies to be allowed to accredit DOE's. This will have a major impact on cost structures for CDM projects in South Africa as well as the ability of SA based firms to consider applying as DOE's. The current 4 entities that have been accredited have South African representation, however the procedures for DOE accreditation currently does not allow blanket accreditation of a firms offices, but rather only specifically accredited branches of firms. Hence even if the SA based offices contemplated DOE accreditation they would have to make applications for the local office to be accredited by the CDM-AP.

⁵⁹ Interview with Mike Peet and Sean MacCurtain, CEO and Executive of SANAS respectively, June 2004

Three options for South Africa to pursue in order to facilitate local accreditation of DOE's would entail :

- Pursuing this issue via the chair of the accreditation panel, who is South Africa's nominee to the Executive Board, in order that the UN devolves accreditation responsibilities to local agencies
- Highlight the high costs and obstacles involved for developing country based DOE accreditation at the COP/MOP in order to force a rethink by the Executive Board on the mechanism to accredit applicant entities.
- Another measure would be to involve the International Laboratory Accreditation Cooperation (ILAC) to take the issue up with the UNFCCC secretariat with a view to allowing local accreditation of aspirant DOE's.

The Services SETA is also a mechanism for allowing local DOE's to subsidize training needs. Currently the SETA indicates⁶⁰ that it can fund training schemes directed at the sector to set standards such as those proposed for DOE's, and these would need to be conceptualized and sent for approval to the Services SETA Board.

Chapter 2 indicated the incentives in South Africa, including funds such as the Competitiveness Fund and the Sector Partnership Fund that can be accessed to offset accreditation costs either for individual firms or a cluster of firms. This could include many of the requirements such as organizational reporting structures, accounting systems, setting up systems for auditing of anthropogenic emissions and possibly also marketing the firm/s as a DOE to prospective CDM participants.

A further area that **the dti** or other institutions can assist in would be to unpack the potential size of the CDM market and hence demonstrate the potential for local DOE's in the world market. Current project registration with the Executive Board would indicate the current size of the market while CDM Watch's database of global projects with PDD's and baseline methodologies is an indication of the potential projects that could come on stream. Currently none of the major developing countries analysed have a programme to foster DOE's in their economy, although this was initially a stated aim in India. In Brazil the two projects seeking approval from the DNA have foreign DOE's, and this is not being pursued by the Brazilian

⁶⁰ Services SETA Financial Manager, R. Pattel, 20 January 2004. What SETA can offer CDM firms

Government. A factor that assists SA is that many major business consulting and auditing firms have local offices and this could be a way in which those local individuals and firms with the requisite technical skills required for accreditation can partner to achieve accreditation. The registered project activity for CDM in South Africa is the 4th largest in the world as shown earlier in chapter 3 of the report in terms of CER's projected and this will increase as the country sets up its formal mechanisms to attract investment and bolster its approval processes. This increase in local activity will demand DOE's that can provide services at cost effective rates, and the absence of local DOE's in Africa and Latin America will also drive demand for low cost SA services. While 4 DOE's have been accredited by the CDM Accreditation panel as yet, a comparison of costs is not available publicly and thus not possible, but based on service pricing of engineers, technicians, and laboratory costs SA firms should be able to compete on lowering costs for a very price sensitive CDM sector. These costs are unknown at the moment given the limited number and the lack of market information of registered projects.

4.5. OPTIONS OUTSIDE OF THE KYOTO PROTOCOL

The Kyoto Protocol, as of 15 April 2004, has been ratified by member states representing 44.2% of GHG emissions. Article 25 of the Protocol states that Entry into Force requires that at least 55% of GHG emissions from Annex 1 member states be covered before the Protocol is enforceable. This means that unless major Annex 1 polluters such as Russia or the USA ratify the Protocol, it may never enter into force. This is currently the status quo and investment in GHG mitigation projects have continued on the basis that the Protocol will eventually enter into force, and possible emission reduction credits generated will eventually gain status as CDM projects.

If the Protocol is indefinitely unenforceable due to the threshold level of 55% of Annex 1 global emissions not being achieved, then an alternative scenario may prevail that will motivate GHG mitigation. This may result in a voluntary agreement amongst polluters who respond to societal pressures from their own constituencies. This scenario would be similar to the current efforts around GHG mitigation which have occurred in spite of the unenforceability of the Protocol. The legal drivers in such a scenario may be a limited, voluntary commitment from likeminded States and it may have similar features as the current Protocol.

On 01.01.2005, the EU Emission Trading Scheme (EU ETS) will enter into force and make it possible to trade emission permits, independently of the Kyoto Protocol entering into force or not.

The current scenario provides pointers as to how progress has been made in establishing a parallel market for GHG mitigating projects and allowing for a trade in emission reduction which may not be subject to the jurisdiction of the Protocol. This is currently the legal status of many projects being implemented as CDM or Joint Implementation (JI) projects. The current European Emissions Trading Scheme is a case in point and this allows credits to be traded on a market that establishes value for emission reduction in the European JI context. It is a possibility that due to domestic legislation in EU and other like minded countries such as Canada, Japan, and other European countries, GHG mitigation will be driven by this legislation and hence a continuation of projects plus some provision such as CDM may continue if the Protocol never enters into force. It is also possible that the US or Russia could negotiate its accession to the Protocol on the basis that developing countries also bear some responsibility for GHG mitigation and undertake emission reduction obligations. This scenario could change the dynamics of GHG mitigation and diminish or abolish the rationale for CDM type investments. These are speculative assumptions and could be unfounded if elections change US attitudes to Kyoto, in which case the dynamics could favour the current Protocol. The Chicago Climate Exchange was launched on October, 1, 2003, and started trading on October 10, 2003. This has occurred in spite of the US not having ratified Kyoto. In the global arena the International Emissions Trading Association exists to facilitate the trade in carbon credits. These institutions exist in the in an era of no Entry into Force of Kyoto and one would assume that the current status or a change where Kyoto is never accepted will mean that current schemes could continue on the basis that many countries and multilateral institutions have made an irreversible decision on climate change mitigation.

4.6 AREAS TARGETED FOR CDM INVESTMENT IN SOUTH AFRICA

International experience has demonstrated the areas where CDM activity has focused on, and this has been detailed earlier in the report in chapter 2⁶¹. Many of these areas will also be the sectors that will be most relevant for South Africa. There are however niches that are more conducive to the South African situation for CDM activity. The table below, incorporating the project activity from CDM Watch and local policy priorities and sectors of strength, seeks to

⁶¹ CDM Watch, website at www.cdmwatch.org listing all CDM projects having a PDD and baseline methodology.

contextualize the sectors/area at the international level versus the local level which will prove the most beneficial for South Africa.

Table 7: Summary table

SECTOR/PROJECT TYPE	INTERNATIONAL ACTIVITY	SA POTENTIAL
Energy efficiency – lighting, industrial processes	Proposed PDD and Baselines in 6 countries, Bolivia, Chile, China, Costa Rica, India, Zambia	Not yet registered but a major focus of ESKOM lighting efficient projects, and has potential in industrial sectors
Mono culture plantations (sinks)	Current activity limited only to Brazil	This may have potential in SA due to large mono culture plantations for paper sector & community plantations in KZN and Eastern Cape
Fuel switching – to natural gas, solar.	3 CDM projects in Brazil, and 1 in Chile and India,	SA is opening access to natural gas (SASOL Pipeline), bio diesel, and solar energy as sources of energy
Gas capture & removal	3 projects in Brazil, 1 each in Chile, Costa Rica, Malaysia, South Africa, Vietnam	Current SA PDD's are in the capture of landfill gas, and this is an area considered lucrative due to “low hanging fruit” tag, but also SA's advanced waste management system
Renewable – wind, hydro, wave energy	Projects in Brazil, Chile, Colombia, Costa Rica, El Salvador, India, Indonesia, Jamaica, Malaysia, & Thailand	Currently one project in SA focusing on wind energy & policy support for renewables in White Paper suggests this could be a growth area.
Hydro-schemes	Prevalent in Chile, Colombia, Costa Rica, Guatemala, Mexico, Panama.	In SA this is an option for small scale hydro as provided for in the renewable energy white paper, but would be confined to specific remote areas or regional neighbours
Agriculture	None registered for PDD or baseline purposes	Areas of manure management and gas extraction have potential due to move towards feedlots, advanced commercial sector, & part of strategic plan.
Industrial/automotive/engineering	None registered for PDD or baseline purposes	Biofuel plants, vegetable material for high value chemicals, biochemicals from crops, coal ash in industrial processes, composites, & business process reengineering

Project potential exists in the following areas in South Africa:

1. Converting paraffin stoves to gas
2. Solar home systems
3. Using natural, LP, CNG gas for residential and industrial energy use
4. Improving the efficiency of wood burning stoves
5. Wind generation of energy via windmills and turbines
6. Small/mini hydro schemes
7. Use of biomass for heat generation, using also organic waste as energy generators
8. Producing bio-fuels from seed and other crops
9. Wave power generation and ocean currents to drive turbines
10. Use energy efficient engines and fuel switching in taxi recapitalization
11. Manure handling lagoons in feedlots in rural areas to generate methane gas
12. Forestation options involving rural communities
13. Using organic waste for energy in paper and pulp sector
14. Technology application in catalytic converters for reduced vehicle emissions
15. Use less energy intensive materials and processes in equipment manufacture.
16. Methane removal prior to coal mining
17. Improved coal washing technologies to reduce GHG emissions
18. Improved coal discard usage due to technology developments

The above international areas of interest and local areas of policy coherence for South Africa give an indication of the focus for a South African investment targeting strategy. The implication for investment promotion and facilitation agencies such as TISA and TEO, are that specific promotion measures can be targeted at those investors most predisposed to concentrate in these sectors. The other implication is that these sectors or projects could be given more priority in terms of incentive assistance. The specific areas of assistance are detailed in Chapter 2. The international benchmarking exercise indicates that many of the international projects are funded and initiated by donor support programmes such as those of Denmark, the Netherlands, and the UK. The implications for investment promotion agencies are that these avenues would yield the most benefit for a South African investment attraction exercise. The dimension that South Africa would need to consider would be the domestic investment interest and capacity for unilateral CDM projects as evidenced in Chapter 2 of the report.

4.7. CONCLUDING REMARKS ON CHAPTER 4

The CDM process is highly regulated by the UNFCCC, the Kyoto Protocol, and the institutions this has given rise to, such as the Executive Board and its scientific and accreditation panels. This results in businesses having to understand the complexities of the UN system and a currently evolving set of rules and regulations relating to CDM. The COP has created a set of procedures that will enable project participants and other parties to understand the mechanisms in which these rules operate. Many of these rules add to the cost of projects in CDM and are out of the control of the businesses wishing to participate in CDM project activity. At this point, the market is still developing pricing mechanisms for various costs involved in CDM projects and this will help South African businesses evaluate how it can contain costs and also price services for CDM projects.

The process does offer business and investment opportunities and these needs to be understood in the above context as well as the ability of the CDM process to assist in economic growth, employment, and revenue. Many of these areas will need Governments and the UN Special Funds on Climate Change to ameliorate these costs. An understanding of the processes and procedures as laid out by the UN is required to maximize these benefits.

South Africa stands to be a beneficiary of this CDM process both in terms of investment and business generated for local DOE's if it can apply its resources in an intelligent manner to enable these projects and businesses to thrive in the CDM environment. The country also needs to set up a DNA that can immediately start approving and facilitating investment activity and interfacing with governments of Annex 1 Parties interested in investment facilitation. There exists international experience on the sector most sought after by CDM project developers and this can be compared and utilized to assist South Africa in its own CDM targeting strategy.