DNA
DESIGNATED NATIONAL AUTHORITY



Guidance for Applicants of Clean Development Mechanism in South Africa

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

Designated National Authority
for
Clean Development Mechanism
in
South Africa

Vision

To lead in the development and promotion of Clean Development Mechanism

Mission

Effective and efficient regulation of Clean Development Mechanism activities in accordance with the objectives of United Nations Framework Convention on Climate Change and Kyoto Protocol.

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PART A

1. Introduction

This document was created by the South Africa Designated National Authority in order to introduce Clean Development Mechanism (CDM) to the general public and to give guidance to Project Proponents of Clean Development Mechanism under the Kyoto Protocol. It provides a brief background on Clean Development Mechanism and outlines the procedure for implementing CDM projects in South Africa.

2. Background: The Kyoto Protocol and the flexible mechanisms

Concerned with the implications of global climate change, the international community came together in 1988 and formed the Intergovernmental Panel on Climate Change (IPCC). In 1992, at the 'Earth Summit' held in Rio de Janeiro, they adopted the United Nations Framework Convention on Climate Change (UNFCCC). Five years later, the Parties to the UNFCCC agreed to binding emission reduction targets and what has become known as the Kyoto Protocol was adopted. In the Kyoto Protocol, Industrialized Countries and some Countries with economies in transition (the so-called Annex I Countries) committed themselves to reducing their greenhouse gas emissions in the period 2008-2012 by in total five percent below 1990 levels. The six greenhouse gases (GHGs) listed in Annex A of the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_20), as well as hydrofluorocarbons (HFC-23), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each of these GHGs has a different heat trapping property, with CO_2 trapping the least heat. The symbol most often used is tons of carbon dioxide equivalents (t/CO_2e). To compare them they are indexed according to their Global Warming Potential (GWP), see table 1 below.

Greenhouse gases	Chemical Formula	Anthropogenic Sources	Global Warming Potential
Carbon Dioxide	CO_2	Burning of fossil fuels (oil, coal, gas), forest clearing, cement production	1
Methane	CH_4	Landfills, production and distribution of natural gas & petroleum, fermentation from the digestive system of livestock, rice cultivation, burning of fossil fuels	21
Nitrous oxide	N_2O	Burning of fossil fuels, production of fertilizers, nylon production, manure	310
Chlorofluoro-carbons	CCI_2F_2	Production/disposal of air conditioners, aerosol cans	6200-7100

Greenhouse gases	Chemical Formula	Anthropogenic Sources	Global Warming Potential
Tetrafluoromethane	CF_4	Aluminium production, semiconductor industry	6500
Hydrochloro-fluorocarbons	$HCHCIF_2$	Refrigeration gases, aluminium smelting, semi-conductor manufacturing	1300-1400
Sulfur Hexaflouride	SF_6	Electrical transmissions & distribution systems, magnesium production	23900

Table 1: Common Metrics of GHGs as identified by the IPCC

The Kyoto Protocol comprises three innovative market mechanisms, the so-called flexible
Mechanisms:

- Emissions Trading (ET)
- Joint Implementation (JI)
- Clean Development Mechanism (CDM)

This agreement creates international emission certificates, and thus the international carbon market and South Africa as a developing country participates in CDM.

3. What is the Clean Development Mechanism (CDM)?

Clean Development Mechanism (CDM) is a flexible mechanism under the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) that provides a practical framework for participants to reduce or stabilize gases (greenhouse gases) that cause global warming and climate change. The mechanism itself was established under Article 12 of the Kyoto
Protocol and the Marrakesh Accords[1] established the rules and modalities of the CDM (including its operational procedure, eligibility criteria, roles and responsibilities of parties).

Clean Development Mechanism allows Countries with emission targets under the Kyoto Protocol (Annex I countries[2]) to engage in emission reduction projects in developing countries (the so-called non-Annex I Parties[3]) and use the emission reduction credits generated by these projects (the so-called Certified Emission Reductions-CERs) towards meeting their Kyoto target. Figure 1 illustrates the schematic operation of CDM

[1] http://unfccc.int/cop7/documents/accords
[2] http:unfccc.int/parties and observers /parties/annexi
[3] http://unfccc.int/parties and observers/parties/non annexi

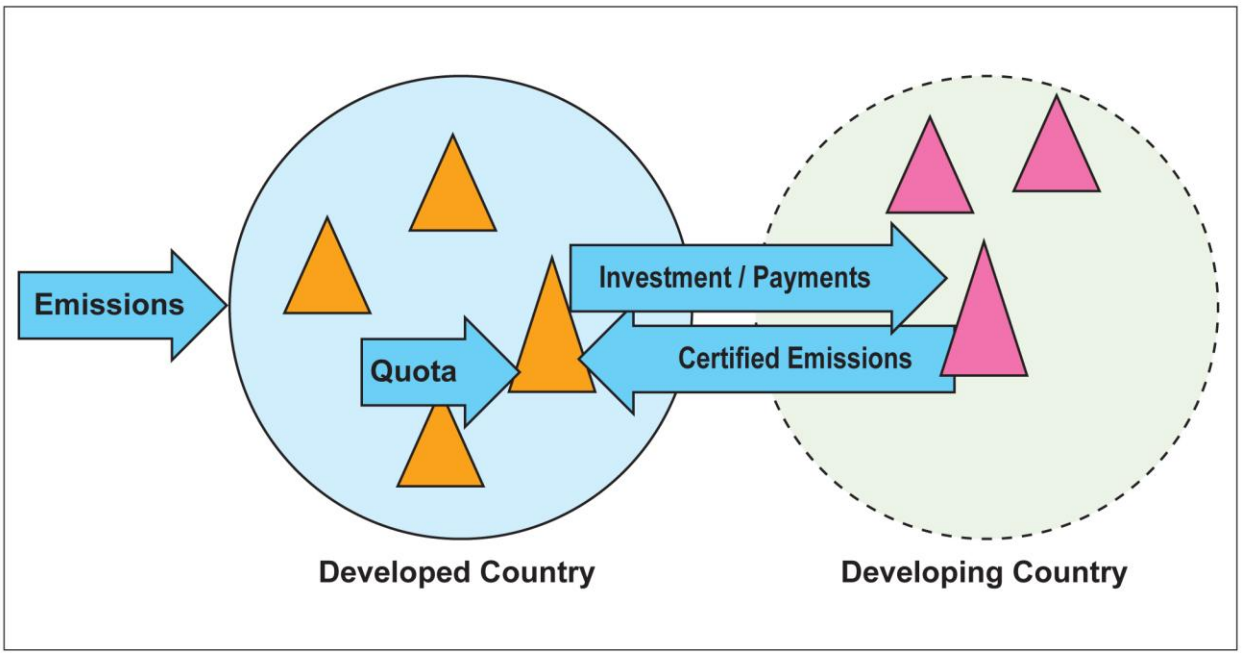

Figure 1: Schematic operation of CDM

The purpose of the CDM is twofold: It is suppose to assist an Annex I Party, the Industrialised Country in complying with its Kyoto targets, while contributing to technology transfer and sustainable development in the host Party, the Developing Country.

4. International Institutional Framework for CDM

4.1 The Conference of the Parties - (to the UNFCCC) serving as the Meeting of the Parties - (to the Kyoto Protocol) / COP/MOP

As the highest body of the Kyoto Protocol, the COP/MOP has the authority over the CDM. The Parties to the Kyoto Protocol meet annually at the COP/MOP to discuss issues of the further development and implementation of the Kyoto Protocol.

4.2 CDM Executive Board

The CDM Executive Board (EB) supervises the actual operation of the CDM, under the authority and guidance of COP/MOP. The most important responsibilities of the EB are:

- The approval of new baseline and monitoring methodologies;
- The approval and registration of CDM projects;
- The issuance of CERs;
- The development and maintenance of the CDM registry;
-

- The accreditation of Designated Operational Entities (DOEs);
- Making recommendations to the COP/MOP on further modalities and procedures for the CDM.

4.3 Designated Operational Entities (DOE)

A Designated Operational Entity (DOE) is an independent third party responsible for checking if the project and related documents meet the requirements for being registered as a CDM project (**validation**). Furthermore, DOEs verify the actual emission reductions of registered CDM projects (**verification**) and request the EB to issue CERs accordingly. The EB has to accredit DOEs separately for validation and verification as well as for different sectoral scopes. A list of all accredited DOEs is available on the UNFCCC website: www.unfcc.int.

4.4 Designated National Authorities (DNA)

The Kyoto Protocol requires all Parties (Annex I and non-Annex I) participating in the CDM to designate a national authority for the CDM, called Designated National Authority (DNA). Host country approval is a necessary condition for the registration of a CDM project and each DNA is only responsible for its country.

5. The CDM Project Cycle

All CDM projects have to pass through a project cycle which is illustrated in **Figure 2** below

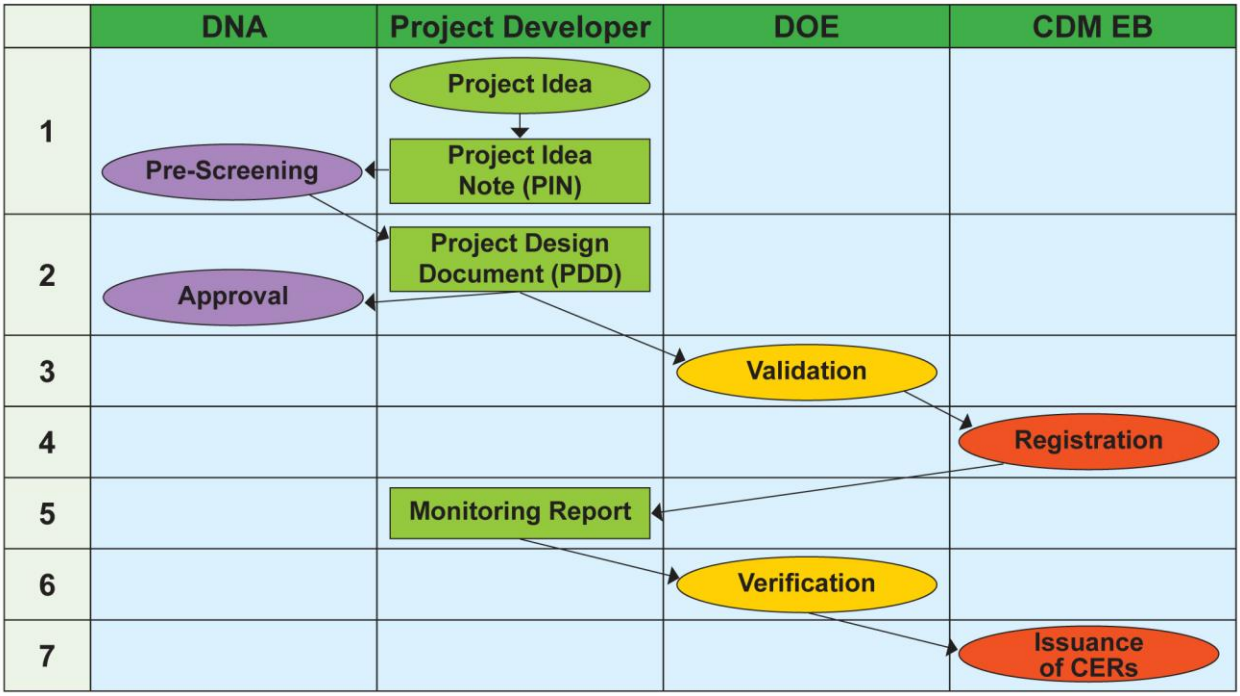

Figure 2: CDM Project Cycle

A project starts with a submission of a Project Idea Note (PIN) by the Project Proponent (s). A PIN is a document providing a brief overview of the project. It contains information on anticipated emission reductions, information regarding the additionality, the project contributions to sustainable development and preliminary overview of the financials of the project. A PIN is not an obligatory step of the CDM project cycle, it is however useful for the presentation of the project to the host DNA and potential investors.

The next step in the CDM project cycle is the development of the Project Design Document (PDD) which contains a detailed description of the proposed project, an approved baseline and monitoring methodology and their application to the project, the duration of the project and the crediting period selected, information on environmental impacts and stakeholder comments. The PDD is the key document for the validation, host country approval, registration and verification of the CDM project.

PART B

6. Possible CDM projects in South Africa

South Africa has a great potential for developing CDM projects given its greenhouse gas emissions level. Compared to other major developing countries, its emissions intensity is relatively high due to its reliance on coal. The energy sector is a key source of emissions; in 2000 it contributed 83% of GHG emissions, followed by industrial processes 14%, Agriculture, forestry and land use 5 %, and waste 2 % (DEA, 2009). The primary source of Greenhouse Gas (GHG) emissions is the production of CO_2 from energy production and use. Given that the energy sector contributes most to GHG emissions, the potential for CDM projects is large. This includes both supply-side and demand-side projects. For CDM projects, there are a number of opportunities which have good potential for emissions reduction, these include:

- Electricity generation from Renewable Energy sources (for example Solar, Wind , Hydro, Biomass);
- Fuel switching for thermal energy supplies, for example switching from coal and oil to natural gas; from coal based electricity to natural gas;
- Energy efficiency improvements in steam and thermal energy supply systems;
- Energy management and improving Energy Efficiency (EE) in the following areas:
  -Variable speed drive; electrical motors; lighting; and compressed air systems
- Manufacturing – industrial EE; structural changes to less energy & emissions-intensive; boiler conversion to gas;
- Residential, public & commercial buildings – fuel switch, solar water heating, energy management, EE building design (thermal-efficiency), EE appliances.

Other potential areas for projects include:

- Waste sector – composting; gas to energy generation;
- Mining –Methane reductions from coal mine; and improve Energy Efficiency (EE);
- Agriculture – afforestation & reforestation; fire controls; improved management of woodlands; biofuel production;
- Transport and automotive sectors – Improved public transport, urban planning & traffic management; vehicle fuel switch; vehicle efficiency, road to rail transport.

7. South Africa's CDM institutional arrangements

The South Africa's Designated National Authority (DNA) was established in December 2004 as an important step for the implementation of the provisions of the Kyoto Protocol and of the United Nations Framework Convention on Climate Change. It has been established in terms of a regulation under section 25 of National Environmental Management Act (NEMA). Cabinet approved the establishment of DNA at Department of Minerals and Energy (DME). As a result of the split of DME into two Departments (Mineral Resources and Energy) in 2009, the DNA now resides within the Department of Energy. The DNA is mainly responsible for the following functions:

Regulation function:

- Project evaluation and approval.

Promotion function:

- To promote and facilitate the development of CDM projects in South Africa,
- Secure an adequate share of CDM investment in South Africa.

Designated National Authority steering committee was established to oversee DNA's activities. It comprises of National Government Departments, these include the Department of: Energy(DoE) as a chair; International Relations and Co-operation (DIRCO); Environmental Affairs(DEA); Water Affairs(DWA); Trade and Industry(DTI); Science and Technology(DST); Transport(DoT); National Treasury(NT); Agriculture , Forestry and Fisheries(DAFF); Human Settlement(DHS) and Health (DoH).

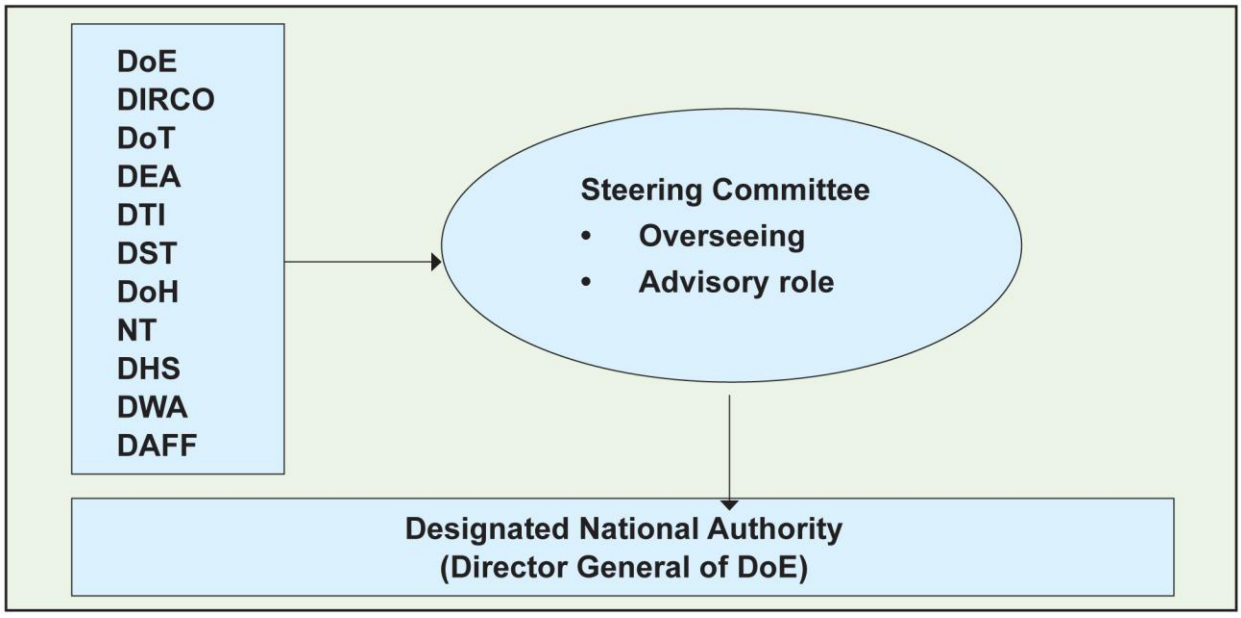

Figure 3: Illustration of the institutional arrangement for handling CDM in SA

8. Project Approval Procedure

Project approval by the Host Country is one of the pre-requisites of international registration of a potential CDM project with the CDM Executive Board. Assessment of projects for host country approval is the primary role of the Designated National Authority. Scope of this assessment is limited to assessing the voluntary participation of South Africa in CDM and the contribution of projects to the sustainable development of the Country. The project approval process followed by South Africa is illustrated in a diagram below (Figure 4).

Approval procedure of the South Africa DNA

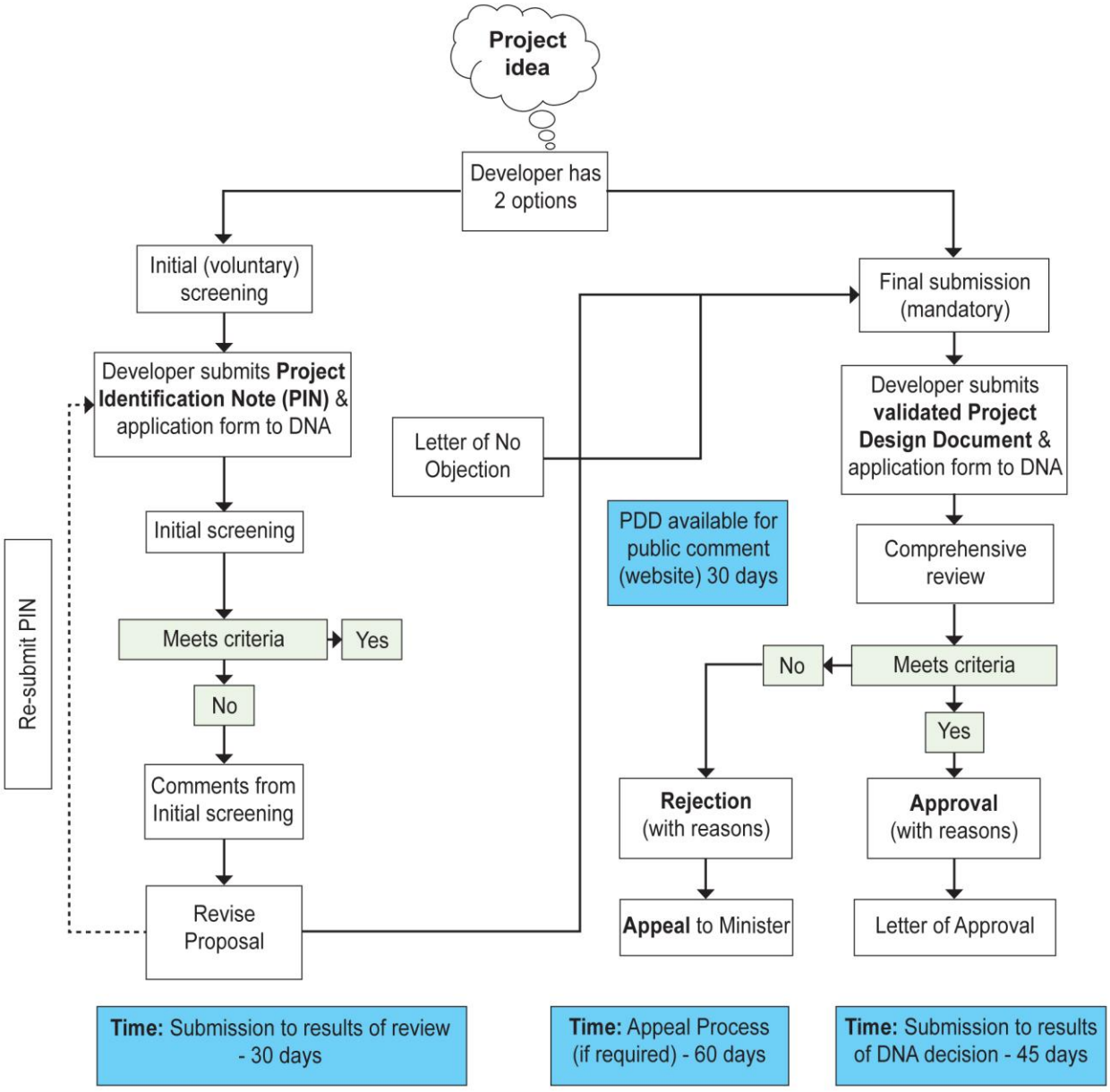

Figure 4: SA CDM Approval Procedure

1. Voluntary screening: via the submission of a Project Identification Note Application form to the DNA. This stage is voluntary but provides the DNA with an opportunity to carry out an initial screening of the project and provide feedback to the Project Proponent on the likely performance against sustainable development approval criteria.

Step 1

Project Proponent submits a Project Identification Note application form to the DNA. The Project Proponent can request a letter of no objection from the DNA, as an indication of support of a project concept which is mainly linked to the sustainable development contribution of the proposed project.

Step 2

The DNA secretariat, conducts an initial evaluation of the likely sustainable development impacts of the project against a set of sustainable development criteria explained in more detailed on the next section.

Step 3

The DNA informs Project Proponent of the results of initial screening within 30 working days of submission of the PIN. If initial screening is favourable, the project developer will receive a Letter of No Objection from the DNA.

If requested, the letter of No-Objection will include a summary of the result of the initial screening of the performance of the project against Sustainable Development criteria. The letter itself is a statement from the DNA on the basis of the information received, the project under preparation does not show any violations with the project approval criteria. The provision by DNA of this letter of No Objection shall in no way compromise the opinion, independence or transparency of the DNA when subjecting the project to the later formal evaluation process required for the granting of formal approval.

2. Mandatory submissions: All projects will require the submission of more detailed description of the project via a Project Design Document (PDD).

Step 1

Project Proponent submits the project details to the DNA using the South Africa Project Design Document (PDD) form, UNFCCC PDD Form, and for the Programme of

Activities (POA), the Project Proponent must submit the South African PDD form, Programme of Activity –Design Document and CDM Project Activity –Design Document. UNFCCC forms are available on the UN website: www.unfccc.int and the South African forms are available on www.energy.gov.za. These application forms must be accompanied by draft signed validation report (if the draft validation is not signed then there should be a letter from the Designated Operational Entity confirming that it is responsible for the Validation report submitted to DNA) together with other relevant documents that are required by law for project implementation for example Record of Decision (ROD) for an Environmental Impact assessment if the project activity is a scheduled activity, water license , electricity license if required by any national law. Please note that the assessment will not commence if any of the required documents is outstanding. See the UNFCCC website [4]for more details of the validation process.

Step 2

DNA posts the submitted PDD on its website www.energy.gov.za for public consultation for a period of 30 days. The PDD will also be made available to any interested Parties. ***Please note that:** Comments received during this process are considered before the DNA and the Steering committee can make a decision. In instances where there is an objection, the DNA will inform the relevant Project Proponent and if there is a need DNA will request the DOE responsible for the validation to perform a due diligence process relating to the matter.

Step 3

DNA evaluates the project on the basis of the information received and included in the PDD and base on the comments relating to sustainable development contribution received during the consultation period, it may ask for supplementary information where necessary.

Step 4

DNA sends its recommendations, PDD and comments received during the public consultation period to DNA steering committee members for consideration. The committee then submits its comments and recommendation back to DNA.

Step 5

Based on comments from the steering committee and the public, the DNA makes its final recommendation to the Director General on the approval of the project. If the project is approved, the Project Proponent will be informed via “a letter of Approval”. This will be prepared to be signed by the Director General of the Department of Energy.

[4] www.unfccc.int

Time frames and Appeals

Initial screening: ***The DNA will provide the*** Project Proponent ***submitting the PIN with the results of the initial screening within 30 days working day***

Final Approval: ***In total, the period between submission of the PDD and receipt of a decision from the DNA should not exceed 45 working days*****.**

Appeal: Project Proponent will also have the right to appeal against the final decision taken by DNA. They may appeal the decision with the Minister of Energy. The Minister will verify the decision taken by the DNA and determine whether it has been produced in accordance with the approval procedure. The Minister will notify the Project Proponent within 30 days of her/ his decision. The project participants have a right to appeal the determination of the Minister before the Administrative courts of South Africa.

9. Sustainable Development Criteria

Sustainable Development is defined in the National Environmental Management (NEMA) Act 107 of 1998 as "integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generation.

In accordance with NEMA definition of sustainable development, three core criteria will be used to assess the contribution of the proposed project to sustainable development in South Africa .These are supported by additional indicators to allow the DNA to effectively regulate clean development mechanism projects activity in South Africa. The table 2 below highlights Sustainable Development projects indicators.

	Criteria	Indicator
Environment	Impact on local environment quality	• Impacts of the project on air quality • Impact of the project on water quality • Impact of the project on the generation or disposal of solid waste • Any other positive or negative environmental impacts of the project (such as impact on noise, safety, visual impacts, or traffic)
	Change is usage of natural resources	• Impact of the project on community access to natural resources • Impacts of the project on the sustainability of use of water, minerals or other non renewable natural resources • Impact of the project on the efficiency of resources
	Impacts on biodiversity and ecosystems	• Changes in local or regional bio-diversity

	Criteria	Indicator
Economic	Economic impacts	• Impacts of the project on foreign exchange requirements • Impacts of the project on existing economic activity in the area. • Impact of the project on the cost of energy • Impact of the project on foreign direct investments
	Appropriate technology transfer	• Positive or negative implications for the transfer of technology to South Africa arising from the project • Impacts of the project on local skills development • Demonstration and replication potential of the project.
Social	Alignment with National, provincial and local priorities	• How the project is aligned with national provincial, local government objectives (access to basic services) • Impact of the project on the relocation of communities if applicable • Contribution of the project to any specific sectoral specific objectives
	Social equity and poverty alleviation	• Impact of the project on employment levels? (Specific number of jobs created / lost, duration of employment, distribution of employment opportunities, type of employment). • Impact of the project on community social structures and heritage. • Contribution of the project to the development of previously underdeveloped areas.
General	General Project acceptability	Are the distributions of project benefits reasonable and fair?

Table 2: SA Sustainable Development Criteria

10. Other general information

- **Bundling versus Programme of Activities (PoA)**

Projects may be bundled and submitted to the UNFCCC (as well as validated, registered, monitored, verified and certified) as one single CDM project. For details see the document on General Principles for bundling[5].

CDM Project Activities (CPAs) under a Programme of Activities (PoA) can be registered as a single CDM project. The EB provided guidance on the definition of a Programme of Activities[6] according to which a PoA is a "voluntary coordinated action by a private or public entity which coordinates and implements any policy/measure or stated goal

[5] http://cdm.unfccc.int/EB/021/eb21repan21.pdf

[6] http://cdm.unfccc.int/EB/028/eb28-repan15.pdf

leading to emission reductions or enhanced removals of greenhouse gases." POA must be coordinated by a Coordinating or Managing Entity. Amongst other things, the Managing Entity should define the boundary of the PoA in terms of geographical area, describe a policy/measure or stated goal that the PoA seeks to promote and confirm that the proposed PoA is a voluntary action and facilitate all stakeholder relation matter related to the POA.

- **Ownership of CERs**

The POA should be managed by a coordinating entity/managing entity and should make sure that the issues of rightful owner of the CERs are clearly defined (in the contract). The DNA does not take any responsibility for determining the rightful owner of the CERs, thus Project Participant are advised to finalise all contractual obligations before a project is submitted to DNA for approval .

- **CDM rule in relation to REFIT**

The EB has classified the national, sectoral policies and regulations under four types of classification for the purpose of determining the baseline scenario. Renewable Energy Feed-In-Tariff (REFIT) is a host country policy that the EB classified as E- policy and all E- policy promulgated after 11 November 2001 need not to be taken into account when formulating a "baseline scenario" (Refer EB 16 report). Thus, regardless of the REFIT incentive, if well argued in terms of additionality issues i.e. barrier analysis, Renewable Energy projects would qualify under CDM.

Useful websites

http://www.energy.gov.za
http://www.unfccc.int
http://www.cdmrulebook.org
http://www.cdmbazaar.net
http://www.pointcarbon.com

Glossary of Acronyms

CDM:	Clean Development Mechanism
CDM EB:	Clean Development Mechanism Executive Board
CERs:	Certified Emissions Reductions
CPA:	Clean Development Project activity
COP:	Conference of Parties
COP/MOP:	Conference of Parties serving as Meeting of Parties to the Kyoto Protocol
DAFF:	Department of Agriculture, Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEAT:	Department of Environmental Affairs and Tourism
DHS:	Department of Human Settlements
DIRCO:	Department of International Relations and Cooperation
DNA:	Designated National Authority
DNT:	Department of National Treasury
DoE:	Department of Energy
DOE:	Designated Operational Entity
DoH:	Department of Health
DST:	Department of Science and Technology
DoT:	Department of Transport
DTI:	Department of Trade and Industry
DWA:	Department of Water Affairs
MOP:	Meeting of Parties
PDD:	Project Design Document
PIN:	Project Identification Note
POA:	Programme of Activity
REFIT:	Renewable Energy Feed-In-Tariff
UNFCCC:	United Nations Framework Convention on Climate Change

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