GIVING EFFECT TO THE KYOTO MECHANISMS: IMPLICATIONS FOR SOUTH AFRICAN POLICY AND LEGISLATION

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I hereby declare that I have read and understood the regulations governing the submission of LLM dissertations, including those relating to length and plagiarism as contained in the rules of the University, and that this dissertation conforms to those regulations.
CONTENTS

CHAPTER ONE: Impacts of Climate Change and the development of the international regulatory regime

Introduction.................................................................................................................................................. 1

The Science and Effects of Climate Change...................................................................................... 3
  Impacts of Climate Change in South Africa....................................................................................... 5

History of the UNFCCC and the Kyoto Protocol.......................................................... 7

CHAPTER TWO: Kyoto Mechanisms: The CDM and Emissions Trading

Kyoto Flexibility Mechanisms........................................................................................................... 11

Clean Development Mechanism...................................................................................................... 13
  CDM Cycle........................................................................................................................................ 15
  CDM Projects................................................................................................................................... 19

Emissions Trading.............................................................................................................................. 23
  Emissions Trading Rules and Guidelines under the Marrakech Accords 24
  Emissions Trading Schemes................................................................................................. 25

CHAPTER THREE: South African Policy and Legislation

Introduction.................................................................................................................................................. 33

A National Climate Change Response Strategy for South Africa.............................................. 33

Initial National Communications Report under the UNFCCC............................................... 42

Environmental Impact Legislation................................................................................................. 45
  National Environmental management Act 107 of 1998......................................................... 46
  EIA Regulations under the Environmental Conservation Act 73 of 1989 48
  Proposed EIA Regulations under NEMA: 25 June 2004..................................................... 50

The National Environmental Management Air Quality Act 39 of 2004.................... 56

Designated National Authority Regulations drafted in terms of NEMA.................... 64

Other Legislation............................................................................................................................ 66
CHAPTER FOUR: Recommendations for an improved legal framework for South Africa

Recommendations........................................................................................................ 69
  Climate Change Policy.......................................................................................... 69
  Environmental Impact Legislation........................................................................ 71
  Air Quality Legislation....................................................................................... 73
  DNA Regulations and other legislation............................................................... 76

Conclusion............................................................................................................. 77

LIST OF ACRONYMS.............................................................................................. 79

BIBLIOGRAPHY.................................................................................................... 81
CHAPTER ONE

Impacts of Climate Change and the development of the international regulatory regime

Introduction

Climate change will prove to be the single most important human issue in the decades to come. It penetrates every aspect of human existence and as such requires global co-operation to achieve any sustainable outcome. While climate change is primarily considered to be an environmental issue, it becomes clear that since the route of the problem is economic activity, it is inevitably linked with the balance of power and wealth between the first and the third world. Greenhouse gas emissions are embedded in our way of life, from our energy consumption patterns to the basic production of food\(^1\). In the absence of policies specifically designed to lower emissions, greenhouse gas levels are expected to rise significantly in the 21\(^{st}\) century\(^2\). While climate change presents a number of threats the international regime created to combat its impacts, especially the so-called market mechanisms under the Kyoto Protocol, allow for numerous opportunities. Within a national context it is important to note that while every South African can claim that he or she has the right to an environment that is not harmful to their health or well-being, in terms of section 24 of The Constitution 108 of 1996, the fulfilment of this right in relation to the effects of climate change, are dependant on global participation. As will become clear below, the solution to climate change lies in a fundamental shift in human social and economic activity, with an emphasis on sustainable development\(^3\).

\(^1\) Hill 'The international climate change agreement: An evolution' (2001) 24(2) UNSW Law Journal 543
\(^2\) Wang & Wisser 'The implementation and compliance regimes under the climate change convention and its Kyoto protocol' (2002) 11(2) RECEIL 181
\(^3\) Wang & Wisser op cit 181
This paper will incorporate a brief discussion of the science behind and the impacts of climate change, both globally and those impacts specific to South Africa. A brief history of the international climate change regime will follow. The primary focus is an examination of two of the three flexibility mechanisms under the Kyoto protocol, namely the Clean Development Mechanism (CDM) and Emissions Trading and their rules and guidelines for implementation. Regard will be had to specific emissions trading schemes as models for a future South African trading scheme and specific CDM projects currently under development in South Africa will be overviewed. Chapter three serves to analyse current policies and legislation in South Africa to determine the country’s state of readiness to actively participate in the CDM and indirectly in emissions trading, so as to seize the numerous opportunities which are available to South Africa as a developing country. Finally some suggestions and recommendations are made as to the way forward, the positives and negatives of our current framework and the importance of capitalising on the significant advantages that effective participation in the CDM presents.

Much has been written on the topic of climate change. However the focus over recent years has been to analyse the adequacy of the regime and the flexibility mechanisms detailed in the Kyoto protocol. There has been extensive debate as to whether the targets in the protocol are achievable and the extent to which there will be any significant reduction without the participation of the world’s largest emitter, the United States. With the recent entry into force of the Kyoto protocol and the first commitment period fast approaching, there needs to be a shift in focus from academic debate to the reality of implementation. As such this dissertation adopts a more practical approach to the subject by determining the specific requirements for implementation of the CDM and emissions trading and the extent to which particular pieces of legislation in South Africa have incorporated these requirements. The need to amend current and draft new legislation to accommodate these new concepts is evaluated. As a party to the protocol and a developing nation, South Africa stands to benefit substantially
from funding and foreign investment from developed countries. However the full potential of the market mechanisms can only be realised if South Africa’s legal framework is appropriately constructed.

**The Science and Effects of Climate Change**

The earth’s atmosphere consists of naturally occurring greenhouse gases (GHG’s) including carbon dioxide, methane, nitrous oxide and CFC’s. Their presence exerts a warming influence on the earth. Scientific evidence suggests that continuous emission of a selected number of these greenhouse gases due to increased human activity will result in an enhanced greenhouse effect and ultimately global climate change. These changes will lead to potentially catastrophic effects on sea levels, forestation, agriculture, natural ecosystems biodiversity and population densities. High sea levels have contributed to erosion of sandy and gravel beaches, loss of coastal dunes and wetlands and drainage problems in low-lying coastal areas.

The major risk of climate change arises from carbon dioxide, which is inextricably linked, to energy consumption patterns (burning of fossil fuels) across the developed world. About three-quarters of the anthropogenic emissions of carbon dioxide into the atmosphere during the past twenty years have been from fossil fuel burning; the rest have been predominantly due to land-use changes. Each year, industry injects approximately six billion tons of carbon into the atmosphere from the burning of fossil fuels, as well as a substantial amount from deforestation, especially in developing countries such as Brazil. Reports from the Intergovernmental Panel on Climate Change (IPCC) indicate that if the concentration of greenhouse gases remains unchecked it will result in an

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4 Sands Principles of International Environmental Law 358  
5 Birnie & Boyle International Law and the Environment 501  
6 Grossman ‘Warming up to a not so radical idea: Tort based climate change litigation’ (2003) 28 Colombia Journal of Environmental Law 1 at 11  
7 Grossman op cit 3
average additional warming of the earth’s surface of up to 6 degrees, greater than anything experienced in the last 10 000 years. Reports predict that anthropogenic warming is likely to result in a 0.2 degree increase in temperature per decade over the next few decades, leading to decreased precipitation, water scarcity, food shortages and extreme weather conditions.

Although climate change will occur on a global level, its effects will likely vary greatly on the local scale. A small change in global climate may reflect enormous and varied changes in local weather patterns, for example, an increase in the frequency of extreme weather. The damage from increased rainstorms and snowstorms will be borne disproportionately by those communities with the misfortune to find themselves in the path of individual storms.

In the Third Assessment Report (TAR), the IPCC made several observations about climate change's present global effects. The global average surface temperature increased over the twentieth century by 0.6 <plus minus> 0.2° C. The IPCC indicated that globally, the 1990s were very likely the warmest decade and 1998 the warmest year, in the instrumental record (since 1861). Tide gauge data show that global average sea level rose between 0.1 and 0.2 meters during the twentieth century. The IPCC also concluded in the TAR that available collective observational evidence indicates with high confidence that regional changes in climate, particularly increases in temperature, have already affected a diverse set of physical and biological systems in many parts of the world. Examples of observed changes include; shrinkage of glaciers, thawing of permafrost, later freezing and earlier break-up of ice.
**Impacts of Climate Change in South Africa**

South Africa is host to 10% of the world’s plant species, approximately half of which only occur in the country. Plant biodiversity and dispersion may be threatened with extinction as a result of many areas of South Africa becoming uninhabitable due to decreased rainfall\(^\text{15}\). This is especially true of the Succulent Karoo and Fynbos biomes, which are considered to be significant biodiversity hotspots\(^\text{16}\). Changes in species composition could lead to major vegetation structural changes in some biomes, such as the grassland, which is threatened with increased invasion by savannah, tree species\(^\text{17}\). Higher temperatures will effect rainfall patterns with some areas experiencing decreased rainfall and greater variability. This could significantly effect industrial, domestic and agricultural uses of water and place strain on an increasingly limited resource\(^\text{18}\). Increased temperatures will most likely have a detrimental effect on human health. The prevalence of diseases such as malaria will increase and spread to areas, which were previously free of such incidents\(^\text{19}\). An increased prevalence in illness will result in an increase in the costs of health care and place a greater burden on social welfare as loss of income increases\(^\text{20}\). Heat stress and lack of access to other resources could affect those already infected with HIV\(^\text{21}\). South Africa’s fishing industry may be affected with possible changes in ocean temperatures and currents\(^\text{22}\).

For Southern Africa, sub-continental warming is predicted to be greatest in the northern regions. Temperature increases in the range of between 1\(^\circ\)C and 3\(^\circ\)C can be expected by the mid 21\(^{st}\) century, with the highest rises in the most arid

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\(^{15}\) www.nbi.co.za  
\(^{16}\) www.nbi.co.za  
\(^{17}\) www.nbi.co.za  
\(^{18}\) www.weather.co.za  
\(^{19}\) www.weather.co.za  
\(^{20}\) Ziervogel ‘Impacts and adaptation to climate change in South Africa’ UCT Summer School Jan 2005, Department of Environmental and Geographical Science p 2  
\(^{21}\) Ziervogel op cit p 2
parts of the country\textsuperscript{23}. Of greater consequence for South Africa, as a semi-arid country, is the prediction that a broad reduction of rainfall in the range 5\% to 10\% can be expected in the summer rainfall region. This will be accompanied by an increasing incidence of both droughts and floods, with prolonged dry spells being followed by intense storms\textsuperscript{24}.

Further, the changes in sea temperature may increase the intensity and frequency of upwelling events. This would cause alterations of near-shore currents, which can be expected to have the most significant impact on rocky shore ecosystems in South Africa\textsuperscript{25}. In addition, studies have indicated that there would be an increase in the occurrences of the harmful ‘red tide’ events on the west coast which cause mass mortalities of fish, shellfish, marine mammals, seabirds and other animals, and can result in illness and death in persons who eat contaminated seafood\textsuperscript{26}. Rural livelihoods which are highly dependant on climate variability and impacted by changes in rainfall and temperature, stand to experience significant impacts relating to crop production, livestock grazing and water resources\textsuperscript{27}. This will indirectly impact on seasonal work, household resources, the affordability of education and health\textsuperscript{28}. It is therefore clear that the effects of climate change will have the most severe social consequences for the poorer sectors of South Africa’s population. This therefore requires any strategic planning to focus on these social inequalities and poverty alleviation.

The major dilemma in attempting to regulate this problem is that it involves an adjustment in the use of energy by industrialised nations, which is simultaneously fundamental to the aspirations of developing nations\textsuperscript{29}. Vital questions of economic equity are therefore raised and the current climate change regime

\textsuperscript{22} www.weathersa.co.za
\textsuperscript{23} National Climate Change Response Strategy p 2
\textsuperscript{24} National Climate Change Response Strategy p 2
\textsuperscript{25} National Climate Change Response Strategy p 5
\textsuperscript{26} National Climate Change Response Strategy p 6
\textsuperscript{27} Ziervogel op cit 2
\textsuperscript{28} Ziervogel op cit 2
\textsuperscript{29} Birnie & Boyle op cit 503
represents an excellent example of the attempts to balance the economic concerns of developing nations with the controls of developed states. When the effects of climate change are examined it reveals one of the greatest ironies within the debate. It is those countries, namely developing nations in Africa, Asia and South America, minimally responsible for increased GHG levels, which will experience the negative consequences of climate change. In addition they, unlike developed nations are not prepared or financially able to cope with the approaching reality.

To solve a problem of such scale, rooted as it is in a century of human activity, the solution must run as broad and as deep as the problem. It must represent the relationship between humans and nature on all levels.

**History of the UNFCCC and the Kyoto protocol**

The IPCC was established in 1988 to provide scientific and technical advice on climate change. In 1990 the IPCC released its First Assessment Report stating that climate change was a real threat and called for a global treaty. Consequently negotiations in relation to the UNFCCC were initiated in 1990 by the UN General Assembly and concluded in May 1992 at the Rio Conference with the adoption of the UNFCCC. Although intended to have wide participation the UNFCCC represented deep divides between the parties concerning the measures needed and the allocation of responsibility. Not only was it necessary to acknowledge the difference between developed and developing nations but within these groups there was no common position. The interest of islands states that would be dramatically affected by rising sea levels were starkly juxtaposed to the economic interests of the OPEC countries whose income would be seriously affected if the

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30 Birnie & Boyle op cit 504
31 Rinkema ‘Environmental agreements, non-state actors and the Kyoto protocol: A third way for international climate action?’ (2003) 24 U. Pa Int Econ L 729
32 Birnie & Boyle op cit 523
consumption of fossil fuels was reduced\textsuperscript{33}. Despite these difficulties the Convention was the first international environmental agreement to incorporate almost the entire global community during its negotiation, with 143 states participating in the final session\textsuperscript{34}. Despite uncertainty in the science of climate change, 155 nations signed the UNFCCC at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil\textsuperscript{35}.

The UNFCCC entered into force on 21 March 1994 only two years after its adoption. Article 23 required 50 ratifications for the convention to enter into force and to date there has been 189 ratifications including South Africa, making it a truly global convention. The objective of the convention is not to reduce the emissions of GHG’s but to stabilise them at a level, which would prevent dangerous anthropogenic interference with the climate system. Surprisingly article 2 is worded in such a way that the parties expect that some degree of climate change will take place, which they are prepared to tolerate provided it takes place slowly enough to allow natural adaptation\textsuperscript{36}.

The guiding principles of the convention stress the importance of international co-operation in establishing an international economic system primarily aimed at supporting sustainable economic growth in developing countries. Article 3 includes other important international environmental principles such as inter-generational equity, sustainable development, common but differentiated responsibility and the precautionary principle. The principle of common but differentiate responsibility is entrenched in the UNFCCC and underlies the various mechanisms and varied commitments of the parties both in the Convention itself and the Kyoto protocol. While it is made clear that developed countries are expected to take the lead in combating climate change, there are

\textsuperscript{33} Birnie & Boyle op cit 523
\textsuperscript{34} Sands op cit 359
\textsuperscript{35} Murkowski ‘The Kyoto protocol is not the answer to climate change’ (2000) 37 Harv J on Legis 345 at 352
\textsuperscript{36} Birnie & Boyle op cit 524
those that consider it to be a serious flaw that there is no specific declaration that developing countries should follow suit\textsuperscript{37}.

A key aspect of the treaty is its division of nations into "Annex I" (forty-one industrialised countries and economies in transition, such as the former Soviet Union and Eastern European states) and "Annex II" (twenty-four wealthy members of the Organisation of Economic Co-operation and Development). The remaining countries of the world are described as "non-Annex I" countries. This division served as the basis for the later Kyoto Protocol rules\textsuperscript{38}.

A new process was needed to undertake action after 2000 and to strengthen the commitments of industrialised countries through the adoption of a protocol. The First COP further noted that the new process would not introduce any new commitments for developing state parties but reaffirm existing commitments in Article 4.1 and continue to advance the implementation of these commitments in order to achieve sustainable development\textsuperscript{39}. This process resulted in the adoption of the Kyoto protocol at the third conference of the parties in 1997. This protocol set specific targets and timetables for the reduction of greenhouse gases and provides the mechanisms for the implementation of the objects of the UNFCCC.

The Kyoto Protocol was adopted in Kyoto, Japan, in December 1997. The agreement consists of binding commitments by Annex B (or all UNFCCC Annex I parties) nations to reduce GHG emissions by fixed amounts from 1990 levels between 2008-2012\textsuperscript{40}. These targets varied by country. Most industrialised nations would be required to reduce emissions by 2008-2012 to levels that are 6% to 8% below 1990 emissions levels\textsuperscript{41}. Compliance with these targets would

\textsuperscript{37} Hill op cit 544
\textsuperscript{38} Rinkema op cit 736
\textsuperscript{39} Nanda ‘The Kyoto protocol on climate change and the challenges to its implementation: A commentary’ (1999) 10 Colorado Journal of International Environmental Law & Policy 319 at 326
\textsuperscript{40} Rinkema op cit 736
\textsuperscript{41} Murkowski op cit 354
result in a global reduction in emissions of 5% from 1990 levels. The six GHG’s which are regulated by the protocol are listed in Annex A.

The pre-requisites for entry into force included ratification by fifty-five countries and Annex I parties accounting for at least 55% of Annex I’s 1990 emissions\textsuperscript{42}. Although the protocol has had well over 55 ratifications, it had until recently not fulfilled the second requirement as two of the world’s largest emitters, the US and Russia had not ratified. For the Protocol to come into force either one of these countries needed to ratify. As the US has expressed a clear intention not to ratify, the fate of the Protocol rested with Russia. After a protracted period of political grandstanding, Russia ratified the protocol at the end of 2004. Seven years after the adoption of the protocol, it finally came into force on 19 February 2005.

The following chapter examines two of the three Kyoto flexibility mechanisms in more detail, namely emissions trading and the Clean Development Mechanism (CDM). Some local CDM projects are discussed and some international emissions trading schemes as potential models for South Africa are overviewed.

\textsuperscript{42} Rinkema op cit 737
CHAPTER TWO

Kyoto Mechanisms: The CDM and Emissions Trading

Kyoto Flexibility Mechanisms

An important aspect of climate change is its link to development and is often seen as a development rather than an environmental issue. Patterns of energy consumption, land use and demographic growth are important drivers of both climate change and development\(^1\). As such any approach to climate change must consider the aspirations of the developing world and their efforts to achieve sustainable development, and simultaneously address the concerns of industrialised nations and the issues related to the cost of mitigation\(^2\). While the targets stipulated in Annex B of the Kyoto Protocol appear modest, if they are complied with, it will mark an historic reversal in emissions patterns since the beginning of the industrial revolution\(^3\). Emissions have continued to rise in most industrialised countries since 1990 and achieving the Protocol’s targets is therefore more onerous than it appears. In some instances countries would have to reduce their emissions up to 20% below 1990 levels when compared with predicted emissions in 2012\(^4\).

The Kyoto Protocol allows for three distinct flexibility mechanisms in an attempt to address the above concerns. The fundamental characteristic of all three mechanisms is that they are based on cooperative means to facilitate the Annex I countries in meeting their commitments in a more cost-effective way\(^5\). Although the cost of mitigating emissions varies from region to region, the effect on the atmosphere is the same wherever the action occurs. The first of these flexibility
mechanisms is joint implementation. Under this mechanism, two Annex 1 parties may jointly fulfil their commitments by engaging in projects aimed at reducing emissions. These projects involve one Annex 1 party transferring or acquiring emissions reduction units (ERUs) generated through project activity in the partner country. The second flexibility mechanism, emissions trading between Annex 1 nations, is closely related to the projects provided for under joint implementation. An emissions trading system will hopefully create market incentives for parties to reduce emissions below commitment levels, reduce compliance costs, and create incentives for new technology development. The Protocol sets a cap, or "assigned amount," for each party, that dictates their emission reduction requirements. As such Annex 1 parties that reduce their CO₂ or CO₂ equivalent emissions below their commitments under the Protocol can sell that difference to another Annex 1 party. Lastly, and most importantly for South Africa the Kyoto Protocol allows for a Clean Development Mechanism (CDM). The CDM allows for non-Annex 1 parties to create certified emission reductions (CERs) from projects that reduce greenhouse gas emissions. These CERs can be used to offset emissions in Annex 1 nations in order to assist Annex 1 nations to meet their commitments under the Protocol.

“It is believed that for the developing country to gain the maximum out of these mechanisms they have to be strongly proactive. CDM, which is essentially a coming together of Parties (could be private or government) of Annex I and non-Annex I countries, and their setting up of a project in a host developing country presents an alternative window through which developing countries can seek the much needed additional investment (to some, transfer of resources), and simultaneously address the issue of global environmental concern.”

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7 Jinnah op cit 715
8 Jinnah op cit 715
9 Jinnah op cit 716
10 Strivastava & Pathak op cit 88
Each mechanism generates its own credits which are either banked or sold by participating countries. Joint implementation gives rise to ERU's (emissions reduction units). The CDM generates CER's (certified emissions reductions) and emissions trading produces AAU's (assigned amount units) which countries may trade. ERU's and CER's may also be traded via emissions trading. These units are tracked and recorded in national registries, which are established and maintained by Annex 1 countries. All these units are equal to one metric ton of carbon dioxide equivalent and will each have their own unique serial number. CER's therefore have the quality of fungibility and are therefore potentially a particularly valuable commodity. Future prices for tradable greenhouse emissions certificates including CER's have been predicted between three and seventy-four US $, however these figures have recently stabilised in the region of 10 to 15 Euros.

**Clean Development Mechanism**

While fulfilling its role as a market mechanism to combat climate change the CDM is expected to generate investment in developing countries, especially from the private sector by encouraging the transfer of environmentally friendly technologies and promoting sustainable development goals. The CDM is seen to hold the promise of wealth and technology transfer and is one vehicle for implementing this agenda. Southern developing countries view this as a form of compensation for the disproportionate share of the atmosphere's assimilative

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11 UNFCCC Guide op cit 28
12 UNFCCC Guide op cit 28
13 Gilder ‘Clean development mechanism greenhouse gas emissions mitigation projects: International and national legal frameworks, project-drivers and implications for impact assessment’ Imbewu Enviro-legal specialists 2004 1 at 2
14 Gilder op cit 2
15 UNFCCC Guide 30
capacity\textsuperscript{17}. Additional outcomes include GHG emissions reduction in non-Annex I countries, the accumulation by an Annex 1 country of an agreed portion of CER’s generated by a particular project, which it may offset against its emission reduction commitment and an accumulation of CER’s to non-annex 1 countries which they may sell on the international market or bank for later sale\textsuperscript{18}. It is significant to note that the financial and technological commitments of Annex 2 countries under the UNFCCC remain separate and additional to any such assistance under the CDM. This makes the CDM ideally suited to fulfil one of Africa’s and South Africa’s primary needs, the creation of regional infrastructure to deliver environmentally sound energy, transportation and technical and organisational expertise\textsuperscript{19}.

The Clean Development Mechanism allows Annex I nations to earn credits by assisting non-Annex I nations to reduce their emissions. According to Article 12 of the Protocol, the purpose of the CDM is to help non-Annex I parties to achieve sustainable development, while assisting Annex I countries in meeting the quantified emissions reductions commitments imposed by the Protocol\textsuperscript{20}. Like Joint Implementation, CDM requires approval by each of the parties to a proposed project, by each party’s Designate National Authority (DNA)\textsuperscript{21}. Both Annex 1 and non-Annex 1 countries are required to set up a DNA which is required to approve projects according to criteria laid down by the Conference of the Parties (COP) or host country\textsuperscript{22}. The Protocol envisaged a prompt start to the CDM permitting CER’s to accrue from the year 2000 onwards if the project meets the CDM requirements\textsuperscript{23}. The administrative body for the CDM is the CDM Executive Board, which was elected at COP 7 and is required to guide and

\textsuperscript{17} Nelson op cit 621
\textsuperscript{18} Gilder op cit 3
\textsuperscript{19} Nelson op cit 622
\textsuperscript{20} Richman ‘Emissions trading and the development critique: Exposing the threat to developing countries’ (2003) 36 New York University Journal of International Law and Policy 133 at 148
\textsuperscript{21} UNFCC Guide op cit 30
\textsuperscript{22} Chowdhury & Kumar ‘Legal implementation of the CDM in India: Challenges and opportunities’ Nr 1/2005 CDM Investment Newsletter 3 at 4
\textsuperscript{23} Strivastava & Pathak op cit 88
oversee all practical arrangements for this mechanism\textsuperscript{24}. Article 12 also establishes a rudimentary administrative structure for trading under CDM, and requires further elaboration on CDM procedures by Protocol signatories. A detailed blueprint for action including Modalities and Procedures for the CDM (UNFCCC Decision 17/CP7) was agreed upon at COP 7 in October/November 2001, known as the Marrakech Accords.

**CDM Cycle**

The minimum requirements for participation in the CDM are detailed in the Marrakech Accords\textsuperscript{25}:

- The project must assist the host country in achieving sustainable development
- All parties must participate voluntarily
- Projects must lead to real, measurable and long-term benefits in relation to emissions reductions
- The project must result in reductions that are additional to any reductions, which may have occurred in the absence of the certified project\textsuperscript{26}.

The requirement of additionally attempts to ensure that CDM investment would not ordinarily have occurred. A project is considered additional if anthropogenic emissions of GHG’s from sources are reduced below those that would have occurred in the absence of a registered CDM project\textsuperscript{27}.

Participants are required to formulate a project design document (PDD), including a description of the emissions baseline and the monitoring plan, an analysis of environmental impacts, comments received from local stakeholders (members of the public who will be, or are likely to be affected by the activity) and

\textsuperscript{24} UNFCC Guide op cit 30
\textsuperscript{25} Gilder op cit 5
\textsuperscript{26} UNFCC Guide op cit 30
\textsuperscript{27} Paragraph 43: CDM Modalities and Procedures: Marrakech Accords
a description of new and additional environmental benefits. Of particular importance is that where the environmental impacts are considered significant by the project participant or the host party, an environmental impact assessment must be undertaken in accordance with the procedures of the host party. A Designated Operational Entity will then review the PDD and after providing an opportunity for public comment, decide whether to validate the project. Before submitting a validation report the DOE must have received confirmation from both parties DNA’s of their voluntary participation and confirmation from the host party that the project assists in achieving its sustainable development criteria. When a project is validated it is forwarded to the CDM Executive Board for formal registration. Unless a participating party or 3 Executive Board members request a review, registration becomes final after 8 weeks.

Once the project has commenced the parties are responsible for preparing a monitoring report including an estimation of the CER’s generated by the project. This is submitted to a DOE for verification. Verification is an ex post determination as to whether reductions of GHG emissions have occurred as a result of the project. After a detailed review of the project, which may involve an on-site inspection they produce a verification report, which will hopefully certify the emissions reductions as legitimate. Unless a participating party or 3 Executive Board members request a review within 15 days, the Board will issue the CER’s and distribute them to the parties in the proportions agreed upon. Implementation periods are for a single 10 year period or a 7 year period which

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28 Paragraph 37(b) of CDM Modalities and Procedures: Marrakech Accords
29 Gilder op cit 5
30 Paragraph 40(a) of CDM Modalities and Procedures: Marrakech Accords
31 Gilder op cit 5
32 Paragraph 41 of CDM Modalities and Procedures: Marrakech Accords
33 Halvorssen ‘Sustainable development and smart energy: The Kyoto protocol and developing countries- The clean development mechanism’ (2005) 16 Colorado Journal of International Environmental Law and Policy 353 at 372
34 Paragraph 62 CDM Modalities and Procedures: Marrakech Accords
35 Gilder op cit 5
may be renewed three times⁴⁶. These 6 stages; validation, registration, monitoring, verification, certification and issuance make up the CDM cycle.

The DOE is an organisation, which has to be accredited by the CDM Executive Board as complying with standardised requirements⁴⁷. These are independent entities which are then responsible for the verification and validation stages in the CDM cycle and on whom the CDM Board relies for accurate and independent evaluations to make their decisions. Project sponsors need to establish a baseline to serve as a foundation for calculating emissions reductions⁴⁸. This may prove to be a difficult process if the developing country has a limited institutional capacity to measure current emissions, gauge future emissions and develop a future coherent and credible energy policy⁴⁹. To avoid these barriers South Africa must enact legislation and draft policies, which take account of these issues and attempt to put these institutional structures in place. The extent to which the country has achieved this will be discussed in chapter three.

A CDM project is ordinarily bilateral requiring the participation of an Annex 1 partner. However the potential now exists for a non-Annex 1 country or a private entity to develop a unilateral CDM project which does not require investment from an Annex 1 partner⁴⁰. Domestic approval from the non-Annex 1 country would be required and any CER’s generated by such a project could be sold or banked for later sale on the international trading market. Retention of credits is generally done in the expectation that prices will rise, as the reality of a carbon-confined future becomes apparent⁴¹. This places developing countries such as South Africa in a powerful position, as they may generate an unlimited number of CER’s up until 2012, without the confines of emission commitments and

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⁴⁶ Paragraph 49 CDM Modalities and Procedures: Marrakech Accords
⁴⁷ Paragraph 20 CDM Modalities and Procedures: Marrakech Accords
⁴⁸ Nelson op cit 635
⁴⁹ Nelson op cit 635
⁵⁰ Gilder op cit 3
⁵¹ Gilder op cit 3
accumulate a potentially significant source of capital, the demand for which will continue to increase as Annex 1 countries struggle to meet their targets.

One of the innovations of the CDM is that apart from government it may involve the participation of private entities. However one of the potential disadvantages is that private corporations prefer to invest in low risk economic environments and where the realisation of profit will be the greatest, which will most certainly include larger developing countries with established private investment companies and include some former colonies. While the CDM specifies the need to create an equitable geographic distribution, it does not contain actual distribution requirements. It is believed that the lack of clear guidance on this issue may have negative effects especially on African nations with the exception of South Africa. The requirement of additionally poses a similar threat to poorer countries that are most in need of development and most in danger of developing, using the cheapest and most pollution intensive means. Private entities will be inclined to bypass these countries for those that provide high opportunity and low risk, in other words fast and cheap emissions reduction credits. In reality this will materialise in CDM projects being clustered in countries like China, India and South Africa, that have already developed along a traditional fossil fuel pathway and have a significant emissions problem, which can be easily alleviated with technology that is conveniently available to the developer. Countries whose GHG emissions are low due to recent development will not benefit from the opportunity for innovation and are effectively excluded from the process. Since South Africa is generally considered to be a more advanced, politically and economically stable developing country, private CDM Annex 1 partners will inevitably perceive the country to be a more attractive investment option. While the investment climate may place South Africa in a strategic position for active participation in the CDM

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42 Halvorssen op cit 366
43 Halvorssen op cit 366
44 Nelson op cit 633
45 Nelson op cit 633
at the expense of other African nations, the country would in addition need to demonstrate its state of readiness with regard to infrastructure and adequate legal frameworks to implement the CDM, thus taking advantage of its preferred position. Paradoxically the CDM as a market mechanism with the aim of generating low cost emissions credits, may limit the progression beyond fossil fuel technology, which has been the primary cause of climate change. This becomes evident when the nature of this lock-in effect is examined. The cheaper emissions credits are simple technologies such as coal washing, which aim to clean up fossil fuel emissions systems, CER’s generated by coal washing cost three dollars per ton, while CER’s generated by investing in zero carbon energy systems cost twelve to fifteen dollars per ton. South Africa is at particular risk of attracting such cheap fossil fuel clean up projects due to its heavy reliance on coal for the generation of electricity. While in the short term this will lower GHG emissions, the country may be excluded from participating in innovative projects, which focus on cleaner fuels and renewable energy options. In order to manage this risk South Africa has to be more selective in assessing potential CDM projects. Long term sustainable development goals which are a vital pre-requisite for any CDM project should dictate that the country prefers non fossil fuel based projects.

**CDM Projects**

The CDM Executive Board registered the first CDM project on 18 November 2004, known as the Brazil NovaGerar Landfill Gas to Energy Project. The project involves using a gas collection system and generators to combust methane from landfills to produce electricity for the grid. The project is expected to lead to a reduction of 14.072 million tons of carbon dioxide equivalent over the

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46 Nelson op cit 633
47 Nelson op cit 645
48 Nelson op cit 645
49 Halvorssen op cit 371
The official UNFCCC website provides details of CDM project activities in various stages of the CDM cycle i.e. validation requests for registration and projects that have been officially registered. An examination of the lists of project activities reveals that South Africa does not have any projects, which have entered the CDM cycle. Projects open for comment at the validation stage include a proliferation of project activities in India and the Philippines. Those projects, which have requested registration, similarly include projects based in India, some of which have no Annex 1 partner, indicative of a unilateral CDM project. Chile and Brazil similarly feature projects with Japan, Canada and the UK being the most predominant partners. Amongst projects which have already been registered by the CDM Board are those in Honduras, Bhutan and Bolivia, with the Netherlands and Japan as the most frequently cited Annex 1 partners. The ability of countries such as Honduras and Bhutan to be one of the first nations to register CDM projects should raise serious questions as to why South Africa does not feature at any stage of the CDM cycle. As a developing country with enormous potential for CDM activity, it has failed to take advantage of the early commencement of this mechanism. While other developing countries with limited infrastructure and resources have blazed a trail, South Africa has failed to prioritise its participation in the CDM. The source of this delay will be discussed in chapter three below.

However there are a number of South African projects, which are in the project design phase. Examples include the Sasol natural gas conversion project, Kuyasa energy efficient home project, the Bellville landfill gas to electricity project and the Durban landfill gas project. These projects involve fuel switching, energy efficiency and gas capture. The Durban landfill gas project will now be discussed in further detail. The project involves the collection of methane from 3 existing landfill sires in the municipality of Durban. The recovered gas will then be

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50 Halvorssen op cit 371
51 www.cdm.unfccc.int/Projects/Validation
52 www.cdm.unfccc.int/Projects/request
53 www.cdm.unfccc.int/Projects/registered
utilised to generate electricity, which will be fed into the municipal grid. The participants are Durban Solid Waste and it is a World Bank Prototype Carbon Fund project. The GHG’s targeted are carbon dioxide and methane and the project is expected to generate reductions of almost three million tons of carbon dioxide equivalent over a 7-year period. The public comment stage closed in March 2003 and there has been strong opposition to the project from local residents and NGO’s. It would appear that the primary complaint with regard to the project is that it did not meet the validation requirements of the CDM relating to stakeholder input. The process of making the PDD available for a 30 day comment period on the PCF website was considered to be discriminatory as most residents residing in the vicinity of the landfill sites did not have access to the internet. A local resident in the area had to rely on an organisation called Groundwork to personally deliver a copy of the PDD to her which occurred halfway through the comment period. This situation has created the impression that local residents who are opponents of the project have been excluded from the consultative process mandated under the CDM. In 1996 a new permit was granted for the landfill despite assurances that it would be closed. This action resulted in protest marches from local residents and a petition with 6000 signatures. There was in addition a court application requesting the closure of the site. It seems the central issue is that the CDM project will prolong the life of the landfill when it should have been closed some years ago. There has been no meaningful communication with residents to explain how the project will be implemented or to adequately address their concerns. There is in addition

54 www.cdmwatch.org/country
55 www.cdmwatch.org/project-details
56 www.cdmwatch.org/project-details
57 Comments on the proposed CDM Project “Durban landfill gas to electricity” www.cdmwatch.org/project-details
58 Comments on the proposed CDM Project “Durban landfill gas to electricity” www.cdmwatch.org/project-details
59 Comments on the proposed CDM Project “Durban landfill gas to electricity” www.cdmwatch.org/project-details
60 Comments on the proposed CDM Project “Durban landfill gas to electricity” www.cdmwatch.org/project-details
concern about the potential environmental impacts despite a statement in the PDD that there will be significant pollution reduction\textsuperscript{61}.

These issues are clearly one explanation for the delay in validating South African CDM projects. The publishing of the PDD on the PCF website is certainly unsatisfactory and cannot be considered to be adequate notification in the context of the CDM requirements. There needs to be a more tangible method of distributing the PDD which may include making the document available for inspection at various strategic points, such as libraries and municipal offices within the community which is most affected by the project activity. In order to avoid the problems outlined above, specific guidelines or regulations should be published for all project developers, detailing the specific processes for adequate publication and comment, which are uniquely tailored for South Africa and which may then be considered to be adequate compliance with the CDM requirements.

The Kuyasa low cost urban housing CDM project, in Khayalisha is an interesting example of a small-scale project, which has direct application for individuals in their everyday lives and has obvious sustainable development appeal. The project involves the installation of solar water heaters, ceilings, ceiling insulation and compact fluorescent light bulbs in existing RDP houses\textsuperscript{62}. The project is expected to result in significant carbon dioxide reductions over a 21-year period. The project will lower costs of providing energy services to these households and is expected to have health benefits due to less dust and reduce respiratory complaints as the need for paraffin stoves and other heat sources becomes less, due to improvements in ambient air temperature\textsuperscript{63}. This project illustrates how simple changes can have significant consequences and make substantial inroads into the governments' poverty and health objectives with the aid of foreign or private investment.

\textsuperscript{61} Comments on the proposed CDM Project “Durban landfill gas to electricity”
www.cdmwatch.org/project-details
\textsuperscript{62} www.southsouthnorth.org/country-home.asp?country-id=5
\textsuperscript{63} www.southsouthnorth.org/country-home.asp?country-id=5
CER’s generated by the CDM will compete with other Kyoto mechanisms and it remains to be seen whether this mechanism will be integrated into future climate change action beyond 2012\(^{64}\). If for example non-Annex 1 countries accept binding targets, will they still be eligible for CDM projects? It is expected that adjustments will be made to the CDM with the development of new mechanisms to allow for alternate methods of co-operation between Annex 1 and non-Annex 1 countries that build on the CDM experience\(^{65}\). The experience of the CDM during the first commitment period will determine its future beyond 2012. It therefore is the responsibility of non-Annex 1 countries to actively participate and contribute to the functioning of the mechanism, to ensure its continued use.

**Emissions Trading**

Interest in the market mechanisms of the Kyoto Protocol increased sharply following the fourth UNFCCC Conference of the Parties, held in November 1998, in Buenos Aires, Argentina. One factor contributing to the increased interest was a growing awareness among nations that emissions trading could play a vital role in achieving reductions at lower cost by providing incentives for competitors to develop innovative, cost-effective emissions reduction technologies\(^{66}\) and positioning themselves as market leaders. Another factor is the announcement by non-Annex 1 nations, such as Argentina, that they plan to adopt voluntarily commitments to limit greenhouse gas emissions and is therefore interested in participating in emissions trading. Other non-Annex 1 nations have a similar interest in the potential of emissions trading to provide a new source of capital for cleaner, more environmentally sustainable development\(^{67}\). There is in addition an interest in the development of domestic programs that allocate transactable

\(^{64}\) Halvorssen op cit 374
\(^{65}\) Halvorssen op cit 374 - 375
\(^{67}\) Petsonk op cit 190
emissions credits to companies and communities that move early to reduce emissions. With the recent entry into force of the Kyoto Protocol there are a number of countries, which will have difficulty meeting their emissions reduction targets on a domestic level and will need to resort to offsets and emissions, trading to become compliant. Both the protocol and the EU trading scheme which will be discussed below, recognise offset credits (CER’s) from the CDM and the mechanism is therefore likely to become a crucial element for both trading schemes during the first commitment period. These two mechanisms are clearly interdependent and although non-Annex 1 countries are not able to directly participate in emissions trading as yet, their participation in the CDM process generates tradable credits which they may bank or sell. In addition those non-Annex 1 countries who choose to develop their own domestic trading schemes may in the future be able to form their own international trading scheme or become participants in Kyoto sanctioned programmes.

**Emissions Trading Rules and Guidelines under the Marrakech Accords**

Through the vehicle of emissions trading Annex 1 countries are able to acquire assigned amount units (AAU’s) from other Annex 1 countries that find it relatively easier to meet their emissions targets. This permits parties to utilise lower cost opportunities irrespective of where they may exist to minimise the overall cost of climate change. Annex 1 countries with commitments in terms of Annex B may acquire or transfer AAU’s, CER’s (from CDM projects), ERU’s (from joint implementation), and RMU’s (from sink activities) provided there has been compliance with a number of eligibility requirements, which include, the establishment of an assigned amount, the establishment of a national system to estimate emissions from sources and sinks and the establishment of a national

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68 Petsomk 190-191
69 Wilder & Willis ‘Current legal and risk issues in CDM projects’ No 1/2005 CDM Investment Newsletter 12
70 Wilder & Willis op cit 12
71 UNFCCC Guide op cit 31
Each Annex 1 country must establish and maintain a national registry which contains accounts for the holdings of all the various credits by the party including all legal entities authorised by the party to hold such credits. There are similar accounts for setting units aside at the end of the commitment period to comply with emissions targets (retirement) and removing units (cancellation). The transfer or acquisition of credits between national registries is the responsibility of the relevant parties. However each Annex 1 party is required to maintain in its national registry, a commitment period reserve of no less than 90% of the assigned amount. Should it become clear that a party has fallen below its commitment period reserve the secretariat will notify the party concerned who is required to restore the reserve within 30 days of such notification. The most efficient method of acquiring additional credits in such a short time period would be to buy credits from those institutions that have accumulated additional credits or to buy CER’s from non-Annex 1 countries. Once a party has calculated its assigned amount in terms of the Modalities for the accounting of assigned amounts under the Marrakech Accords, it is recorded in a database for the compilation and accounting of emissions and assigned amounts. At the end of the commitment period based on acquisitions and transfer of credits, additions and subtractions are made from the assigned amount. Should a party have accumulated credits in its national registry which exceed the assigned amount such credits may be carried over to the next commitment period.

Emissions Trading Schemes

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72 Paragraph 2 Modalities, Rules and Guidelines for Emissions Trading: Marrakech Accords
73 UNFCCC Guide op cit 31
74 UNFCCC Guide op cit 31
75 Paragraph 6 Modalities, Rules and Guidelines for Emissions Trading: Marrakech Accords
76 Paragraph 9 Modalities, Rules and Guidelines for Emissions Trading: Marrakech Accords
77 Paragraph 9 Modalities for the accounting of assigned amounts: Marrakech Accords
78 Paragraph 11 & 12 Modalities for the accounting of assigned amounts: Marrakech Accords
79 Paragraph 15 Modalities for the accounting of assigned amounts: Marrakech Accords
While the United States political leadership has largely rejected formal participation in the regime created by the Kyoto Protocol, US states, local leaders and other nations have taken the lead in response. A critical element of both government and private sector response strategy is the development of emissions trading schemes. Corporates issue targets for each company. Achievement is reached by making changes to materials or processes, improving efficacy and reducing emissions. Companies are enabled to reach their targets by buying and selling credits. Those companies who are better equipped to reduce GHG emissions below their target can sell their extra credits to companies who exceed their targets. Significantly many companies have concluded that focusing on emissions reduction makes good business sense, as investment in waste reduction and energy efficiency lowers costs. This positions business for future opportunities and simultaneously minimises the threat of climate change.

Massachusetts and New Hampshire were the first US states to require power plants to reduce carbon dioxide emissions. New Hampshire stipulated that its three fossil fuel plants reduce nitrous oxide by 20% and carbon dioxide by 3% from 1990 levels by 2007. The plants were permitted to purchase pollution credits from out of state sources, however there were incentives to purchase from neighbouring states. Portland’s goal is to reduce GHG emissions by 10% from 1990 levels by 2012. Legislation requiring emissions reduction simultaneously created the Climate Trust, an NGO that collects payments from plants and invests in GHG projects that avoid or reduce carbon dioxide emissions. One such project includes a five year plan to assist owners of

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81 Bryner op cit 268
82 Bryner op cit 269
83 Bryner op cit 269
84 Bryner op cit 276
85 Bryner op cit 276
86 Bryner op cit 278
apartments and commercial premises to improve energy efficiency. This is a typical example of how a climate change mechanism can be utilised to promote sustainable development in South Africa.

The EU’s Kyoto emissions reduction commitments have been binding on the EU since 2002 due to a law passed by the European parliament. The EU has taken advantage of a scheme under the Kyoto Protocol known as a ‘bubble’ to redistribute their 8% target. In consequence thereof they have adopted an emissions trading directive permitting the trading of GHG emissions amongst EU countries known as the European Union Emissions Trading Scheme (EU ETS). The first phase of this scheme will operate from 2005 to 2007 while the second period will co-incide with Kyoto’s first commitment period (2008-2012). The scheme requires specified institutions to possess a permit or licence to emit carbon dioxide and caps power and energy intensive emissions across Europe.

The permit is a written authorisation provided by the competent authority which allows an institution to emit GHG’s and obliges them to comply with certain monitoring, reporting and verification requirements. Permits unlike allowances may not be traded. Each institution is allocated an EU allowance, which it may use to comply with their allowance or trade with those operators who are unable to meet their allowances. In the event of an individual institution exceeding its allowance, they will have to take abatement measures or acquire additional allowances from other operators. There is no limit on the amount of carbon dioxide an operator may emit provided there are sufficient allowances to offset against its emissions. The EU has entered into a burden sharing agreement in which the collective Kyoto emissions reduction commitments are apportioned...
across the EU\textsuperscript{94}. The EU ETS was designed to meet this collective obligation but remains a separate entity from Kyoto and is not dependent on Kyoto for its operation\textsuperscript{95}. However in July 2003 a further directive was passed amending the Emissions Trading Directive, linking the EU ETS to Kyoto’s flexibility mechanisms. The Linking Directive as it is commonly known was adopted to allow for additional flexibility in the event that domestic abatement measures were insufficient to comply with the burden-sharing obligation under Kyoto\textsuperscript{96}. The directive, which must be incorporated into national legislation by November 2005, applies to EU combustion plants with emissions caps under the EU ETS which will be able to use the mechanisms to fulfil their obligations\textsuperscript{97}. The amendment permits the use of CER’s in the EU ETS thus providing a further incentive for the implementation of CDM projects\textsuperscript{98}.

Canada has committed to reducing GHG emissions by 6% from 1990 levels. It has established a pilot project permitting companies to buy and sell credits. Provided all documentation is approved these reductions will be recognised in a future mandatory GHG reduction project\textsuperscript{99}. The province of Alberta has developed an innovative plan, which can easily be implemented in South Africa at no cost to local industry. Employees, who work a few days a week on their home computers instead of commuting 40km to work everyday, save 8.4kg of carbon dioxide each day. Credits are awarded to companies whose employees telecommute\textsuperscript{100}. The Dutch government announced its intention to purchase 250 million tons of credits in the next few years. To this end it is has signed a forty million-dollar contract with the World Bank to develop clean energy projects in developing countries in exchange for 10 million tons of carbon dioxide equivalent.

\begin{itemize}
\item \textsuperscript{94} Gilder op cit 4
\item \textsuperscript{95} Gilder op cit 4
\item \textsuperscript{96} Langrock T & Stark W ‘Linking CDM And JL with EU Emission Allowance Trading’ 2004 Environment & Energy
\item \textsuperscript{97} Imbewu Enviro-legal specialists Monthly Climate Change Update Nov 2004 4
\item \textsuperscript{98} Gilder op cit 4
\item \textsuperscript{99} Bryner op cit 279
\item \textsuperscript{100} Bryner op cit 279
\end{itemize}
In April 2002 the British government launched the world’s first national carbon trading programme with the aim of reducing emissions by 12.5% by 2008. Initially 36 companies joined in exchange for financial support from the government. Bids were awarded to companies who committed to making the largest reductions. In addition the government introduced a carbon tax referred to as a climate levy, for companies that produced GHG’s. However those that achieved their targets were excluded from 80% thereof. Some larger companies have developed micro trading systems to cap and reduce emissions. They typically allow trading across divisions and even externally to allow managers the flexibility. In 1990 the US amended its Clean Air Act to create what is generally considered to be a highly successful sulphur dioxide cap and trade system to combat acid rain. The experience of this programme suggests that the following factors are important when developing a trading scheme:

- Accurate emissions inventories to determine allocation of allowances,
- the selection of a baseline that fairly reflects economic ups and downs, problems with maintenance and performance of pollution control equipment, and other factors;
- sufficient resources for effective monitoring and enforcement,
- continuous accurate emissions monitoring.

Although South Africa is not able to directly participate in emissions trading, there is no barrier to the government developing a domestic trading scheme. Since other non-Annex 1 countries have expressed a similar interest, South Africa may in the future be able to enter the international trading market. Once a reliable and efficient domestic scheme has been institutionalised, the country should be able to penetrate other established schemes such as the EU ETS. The schemes described above should be viewed as models for any future schemes, which South Africa seeks to devise, to ensure international uniformity. Should South
Africa choose to develop a domestic trading scheme for all emissions including GHG’s, the appropriate infrastructure will need to be established to accommodate the above factors. As with CDM, an emissions trading scheme will require independent verification of annual emissions. Clearly the greater the confidence in the monitoring and tracking of emissions, the greater the value of the credits in the market place. For non-Annex 1 countries like South Africa to become attractive investment partners in CDM projects which ultimately generate credits which are tradable amongst Annex 1 countries, it would need to demonstrate that such credits would be verified without question. This would depend on the country’s ability to have effective systems in place.

The mechanism of emissions trading as a tool to reduce GHG’s, is not without controversy. The potential exists that without careful design and monitoring, reductions may occur on paper and not in reality. It is in addition possible that emissions trading may cause the public and business to believe that they do not need to make the difficult choices and lifestyle changes, necessary to effectively combat this global issue. The constant debate surrounding this issue may divert attention away from the need to invest in energy efficiency and cheaper fuels, which have clear benefits. However the creation of a carbon trading scheme has proved to be one of the most cost effective methods of reducing GHG emissions, and is ultimately necessary to sustain political support for climate change co-operation. There are those that believe it has provided an opportunity for innovation. Some companies will have the foresight to develop technologies, which reduce their emissions below their target, allowing them to sell their credits to other pollution sources. This mechanism as with CDM is a consummate example of an environmental solution, which makes economic sense. A global system takes this concept much further by encouraging assisted

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105 Bryner op cit 290-291
106 Bryner op cit 295
107 Bryner op cit 269
108 Bryner op cit 269
109 Bryner op cit 270
110 Richman op cit 143
and sustainable development, in that developed nations are motivated to transfer technology and expertise to developing countries in exchange for emissions credits. The three market mechanisms have essentially created a third world poverty relief framework, which benefits first world nations.

Once a trading system is fully functional, developing nations will likely have numerous very valuable emission credits. This could potentially constitute a massive wealth transfer to the developing world\(^\text{111}\). With the prospect of unilateral CDM projects the accumulation of CER’s by non-Annex 1 nations could be utilised to bargain to reduce their foreign debt or promote internal development, often considered to be a significant barrier to upgrading internal infrastructure and improving domestic economic conditions\(^\text{112}\). The Kyoto Protocol, however, does not provide the exclusive venue for trading as is evident from the creation of the EU ETS described above. Signatory nations could trade outside the bounds of the Protocol, although they would likely not receive credits towards their Kyoto obligations\(^\text{113}\). Nations that did not ratify the Kyoto Protocol would have the option of forming their own climate change treaty and trade emissions amongst themselves to meet their carbon reduction goals\(^\text{114}\). This allows for the possibility of developing an African Union trading system in the future and continues to make a country such as South Africa attractive to other trading schemes such as the EU who have incorporated Kyoto’s CDM mechanism in their trading programmes. South Africa therefore has enormous potential to become a major role player in multiple trading markets outside of Kyoto. South Africa’s suitability as a trading partner or CDM partner will ultimately depend on having the appropriate policies and legislation in place and its performance as a CDM partner under Kyoto will be material.

\(^{111}\) Richman op cit 173
\(^{112}\) Richman op cit 173
\(^{113}\) Richman op cit 148
\(^{114}\) Richman op cit 148
The next chapter focuses on analysing some pivotal policies and legislation, some of which are still under development, to determine their compatibility with the implementation of the CDM and emissions trading in South Africa.
CHAPTER THREE

South African Policy and Legislation

Introduction

Ratification of the Kyoto Protocol is only the first step in enabling the CDM in a country. Existing law, regulations and guidelines will have to be reviewed and where necessary, amended and new laws drafted\textsuperscript{1}. In some cases there may be institutions in place which are capable of coping with the CDM requirements but in many instances new institutions would have to be created and integration of these functions and systems are vital\textsuperscript{2}. Early experience in the CDM market indicates that CDM developer’s look at the following factors:

- Host country political and sovereign risks,
- General project risks including \textit{vis major}, project under performance due to too few CER’s being generated and financial under performance,
- Market risks for CER prices which includes determining the risk if replacement CER’s need to be purchased to rectify a shortfall,
- Disputes over legal title to the CER’s and community or NGO opposition to projects\textsuperscript{3}.

When reviewing legislation and drafting new laws government must accord these factors serious consideration to make South Africa a more appealing option as a host party.

A National Climate Change Response Strategy for South Africa

This strategy was launched on 7 October 2004 and is based on the following principles:

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\textsuperscript{1} Editor’s Note ‘CDM Investment Newsletter’ p 2
\textsuperscript{2} Editor’s Note ‘CDM Investment Newsletter’ p 2
\textsuperscript{3} Wilder & Willis ‘Current legal and risk issues in CDM projects’ CDM Investment Newsletter 12 at 13
• growing South Africa’s economy and its competitiveness
• focus on areas that promote sustainable development,
• need to use locally available resources for example coal,
• recognises that South Africa’s emissions will continue to increase as development progresses and
• Recognises the importance of adapting to climate change⁴.

As a developing country, South Africa’s primary obligations under the UNFCCC are to provide the prescribed data in the emission inventory and submit periodic national communications to the UNFCCC secretariat. It is stated that climate change response measures must be consistent with the national development needs and government priorities⁵. This is a clear recognition of the importance of harmonising climate policies and laws with the country’s sustainable development goals.

“South Africa needs to vigorously pursue the opportunities latent in the requirements that developed countries assist developing countries in their climate change response actions. This should be used as a vehicle to maximise the development benefits for South Africa, and the Southern African region as a whole, and to put in place suitable adaptation measures, ensuring a minimum of disruption while maximising the return on any internal resources that are used⁶”.

This is an important acknowledgement that South Africa needs to take advantage of all possible opportunities. While there are a number of requirements in the convention relating to funding and technology transfer, the most obvious and immediate method of achieving some of these goals is through the CDM.

The strategy emphasises that non-Annex I countries are not required, in terms of the Kyoto Protocol, to adopt emission reductions, either of a voluntary or binding

⁴ ‘Monthly Climate Change Update’ October 2004 Imbewu Enviro-legal Specialists 2
⁵ A National Climate Change Response Strategy for South Africa, September 2004 p 4
nature. Despite this there is recognition that, climate change mitigation policies may promote sustainable development if they are designed to be consistent with broader societal objectives\textsuperscript{7}. It is believed some mitigation actions may afford extensive benefits in areas beyond climate change such as health, employment opportunities and reducing negative environmental impacts. Concern is however expressed that the costs incurred by such actions may be excessive and render the actions unattractive\textsuperscript{8}. One of the major issues is that emission constraints in Annex I countries can be expected to have significant impacts on non-Annex I coal exporting countries like South Africa\textsuperscript{9}. It is important for South Africa to acknowledge that while it has no binding targets under the Kyoto protocol, it has a responsibility to make efforts where it can to prepare for the real possibility that targets will be imposed in the future. Although South Africa is a non-Annex 1 country, it is significantly more industrialised than most. It is the largest emitter in Africa and one of the largest per capita emitters in the world. The risks as a fossil fuel based economy are high and while there are no obligations, we need to use the time to concentrate on fuel efficiency and developing cleaner technologies. The most beneficial method of achieving this is through the CDM. South Africa would be guaranteed an unlimited source of investment and opportunity for capacity building, provided the relevant infrastructure is in place, to make the country attractive to Annex 1 partners or alternatively to encourage private corporations within South Africa to unilaterally invest in CDM projects, with the benefit of generating CER’s which may be banked or sold.

South Africa is recognised as one of the world’s top 15 most energy intensive economies, with a significant contribution to greenhouse emissions at a continental level\textsuperscript{10}. The strategy indicates that there could be benefits gained from adopting a future strategy that is designed to move the economy towards a cleaner development path. Further strategies to access investment through the

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\textsuperscript{6} Climate Change Response Strategy p 4
\textsuperscript{7} Climate Change Response Strategy p 6
\textsuperscript{8} Climate Change Response Strategy p 6
\textsuperscript{9} Climate Change Response Strategy p 7
Clean Development Mechanism (CDM), technology transfer and donor funding opportunities would need to be drafted\textsuperscript{11}. This statement is however made subject to the proviso that despite such action, emissions can still be expected to increase with economic development, albeit at a slower pace than would have occurred without intervention\textsuperscript{12}. If regard is had to the above, the CDM is clearly not given sufficient consideration as a development tool. There appears to be a resigned acceptance that emissions will increase regardless, and that the CDM together with any other funding opportunities only has a small part to play in restructuring South Africa’s economic landscape. The strategy only considers the possibility of drafting a future policy on the CDM, despite the fact that this mechanism has been operational since 2000.

Some important focus points have been highlighted in the strategy:

\begin{itemize}
\item Prepare and periodically update a national inventory of greenhouse gas emissions and sinks.
\item Formulate and implement national and, where appropriate, regional programmes to mitigate climate change and facilitate adequate adaptation to climate change.
\item Promote and co-operate in the development, application and diffusion of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases.
\item Promote sustainable management, and promote and co-operate in the conservation and enhancement of sinks and reservoirs of all greenhouse gases\textsuperscript{13}.
\end{itemize}

There is an acknowledgement that government awareness and capacity relating to issues of climate change is limited. However, it is suggested that business

\textsuperscript{10} Climate Change Response Strategy p 8
\textsuperscript{11} Climate Change Response Strategy p 9
\textsuperscript{12} Climate Change Response Strategy p 8 - 9
\textsuperscript{13} Climate Change Response Strategy p 9
could be harnessed in developing and implementing a national climate change programme\textsuperscript{14}. Importantly there is an acknowledgement that environmental performance in industry and in particular cleaner production technology creates competitiveness\textsuperscript{15}. There is however no clear policy on how government intends to encourage business and industry to focus on environmental actions or the importance of creating incentives for companies to prioritise environmentally sound technologies and emissions mitigation. However there is the recognition of the importance of a government/business partnership\textsuperscript{16} which although not mentioned in the strategy, should be centred on the CDM, since non-Annex 1 countries are able to initiate projects without an Annex 1 partner. Such a policy will encourage internal investment without the need for reliance on external participation.

The strategy then proceeds to briefly examine environmental legislation and the extent to which climate change is dealt with. The National Environmental Management Act 107 of 1998 (NEMA) is the overreaching piece of environmental legislation. However climate change is specifically referred to in the White Paper on Pollution and Waste Management of 2000 and in the White Paper on National Water Policy for South Africa 1997\textsuperscript{17}. It is in addition specifically mentioned in the National Water Resources Strategy. It is recognised that climate change is not mentioned in the recently passed Air Quality Act, but contains provisions for GHG emissions\textsuperscript{18}. There is no attempt in the strategy to make provision for specific legislation on climate change or the CDM. It is in fact specifically stated that it is not warranted by present circumstances. Existing legislation that embrace environmental issues can be amended to embrace climate change and new laws to provide for this where appropriate\textsuperscript{19}. The very nature of climate change is that it is all encompassing and affects a broad range

\begin{itemize}
\item \textsuperscript{14} Climate Change Response Strategy p 10
\item \textsuperscript{15} Climate Change Response Strategy p 10
\item \textsuperscript{16} Climate Change Response Strategy p 10
\item \textsuperscript{17} Climate Change response Strategy p 10
\item \textsuperscript{18} Climate Change response Strategy p 10
\item \textsuperscript{19} Climate Change Response Strategy p 30
\end{itemize}
of legislation. In light of this and to avoid a lengthy disorganised piecemeal approach of amending current legislation, it may be more prudent to draft one framework Act encompassing all issues relating to climate change. This would similarly streamline legislation to allow for easier access by foreign investment groups when they evaluate the viability of a project. What is of more concern is that the CDM has been a reality since 2000 at which point South Africa could have begun implementing projects. This flexibility mechanism has broad ranging implications for South Africa which has only recently started to set up its structures. The structures and procedures for CDM should similarly be encapsulated in climate change legislation rather than in the form of piecemeal regulations under various sections of legislation. As such accessibility is compromised. While the policy acknowledges that new laws should incorporate climate change issues\textsuperscript{20} this is not apparent from the recently adopted Air Quality Act which only tacitly relates to potential climate change issues despite the obvious need to have specific provisions. It is however stated that it is government’s intention that GHG emissions and inventories will be dealt with within the context of the Act\textsuperscript{21}. The legislation is however not specifically drafted for this purpose and will be discussed in more detail below.

Local government and major energy and chemical organisations have undertaken long-term air quality monitoring programmes. As such there is a need to establish a national air quality information system to create a database of air pollution data for air quality management and GHG inventory\textsuperscript{22}. The importance of such a database as it relates to the CDM is not specifically canvassed in the strategy. In order for a CDM project to generate verifiable CER’s the monitoring system and data capture must be beyond reproach and meet international standards. Annex 1 countries will only invest in CDM projects if they are satisfied that the CER’s generated will be verified. Policies relating to monitoring systems

\begin{itemize}
  \item \textsuperscript{20} Climate Change Response Strategy p 31
  \item \textsuperscript{21} Climate Change Response Strategy p 31
  \item \textsuperscript{22} Climate Change response Strategy p 11
\end{itemize}
should therefore create a national set of regulations regarding the basic requirements for GHG monitoring systems.

One of the interventions highlighted in the strategies is whether the relevant government directorates and sub-directorates have the capacity to carry out their assigned functions regarding climate change response and CDM implementation. There is an acknowledgement of the urgent need to establish procedures for the registration, co-ordination and reporting on CDM projects.

Discussions have been held between the Department of Environmental Affairs and Tourism (DEAT), the Department of Trade and Industry (DTI) and the Department of Minerals and Energy (DME). DEAT has commenced this process and drafted a set of regulations relating to the designated national authority. These will be examined in more detail below. The following mechanisms are proposed, and in the process of development or have been instituted:

a) A CDM secretariat is being set up within DME and it is envisaged that the Director General of DME will act, for legal purposes, as the Designated National Authority (DNA) in terms of the Kyoto Protocol, in which capacity he will have full signing authority and the associated accountability.

b) The DNA will be advised by a steering committee, chaired jointly by DME, DEAT and the DTI. It is, however, essential that other departments (for example the Department of Foreign Affairs) be permanently represented on the committee, as should other stakeholders, including civil society.

c) The CDM secretariat will introduce proposals to the steering committee who will make recommendations to the DNA. The DNA will issue letters of approval.

d) DTI would provide guidance on possible trade and investment implications of projects and will assist in the marketing of potential CDM projects in South Africa.

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23 Climate Change Response Strategy p 16
e) DTI will be instrumental in ensuring that, where possible, the CDM is used to support national trade and investment measures.

f) The CDM secretariat would provide a single point of entry for all information pertaining to the CDM, and would be able to advise on all aspects of the necessary South African and international processes and requirements.

g) The secretariat would be responsible for the registration of all projects, but not for actual project management, which would be the responsibility of the project developers.

h) The secretariat would serve as a focal point to the CDM Executive Board, as set up under the Kyoto Protocol, and deal with correspondence from this Board.

i) The secretariat would also provide input into the negotiating process on the CDM, through the NCCC.

j) The arrangements could be considered as interim with the possibility of them being reviewed in light of performance achieved status of the Kyoto Protocol negotiations and the future scale of the CDM market.24

The above mechanisms encapsulate the first tangible institutional framework for the CDM in South Africa. One important aspect, which will hopefully be maintained, is that there will be a CDM secretariat, which will position itself as the point of entry for access to information, both domestic and international. With the potential for a broad range of applicable legislation to a particular CDM project, project developers should be able to access one central body to determine what procedures need to be complied with and the necessary licences and authorisations that need to be obtained. This integrated approach does however rest on the premise that all spheres of government and all departments which deal with such projects are adequately informed about the CDM, and that appropriate legislation, regulations and guidelines are in place to accommodate such activities.

24 Climate Change Response Strategy p 16
There is an acknowledgement that the CDM will give rises to a range of commercial opportunities and is as such an important source of direct foreign investment. The list of projects include fuel switching from coal to gas, clean coal technologies, energy efficient housing, the use of renewable energy resources or the production of electricity from landfill gas, as well as numerous other applications\textsuperscript{25}.

While government states that there should be a greater focus on implementing projects that promote energy efficiency and cleaner technology\textsuperscript{26}, there is little detail as to how this should be done. This policy does however suggest, although not in the strongest terms, that government through the DTI and DME, should create conditions which are favourable to the development of renewable energy and energy efficiency, to attract local and foreign investment\textsuperscript{27}. What is clearly lacking is the determination to create incentives for such investment. For example tax benefits and subsidies for companies that invest/develop mitigation projects and technology or participate in the development and implementation of CDM projects.

South Africa as a developing country acknowledges that it will benefit from the financial opportunities made available through UNFCCC provisions. A strategy to access these funds is required by placing appropriate systems and institutions\textsuperscript{28}. It was noted in the strategy that there is stiff competition between developing countries to attract climate change related funds with China and Latin America likely to attract the largest portion thereof, especially CDM investment\textsuperscript{29}. Despite this realisation there is no indication how government intends to approach this challenge and appear to be an equally attractive host party. This is unfortunately a further example of government’s apparent resignation to its

\textsuperscript{25} Climate Change Response Strategy p 16-17
\textsuperscript{26} Climate Change Response Strategy p 25
\textsuperscript{27} Climate Change Response Strategy p 25
\textsuperscript{28} Climate Change Response Strategy p 33
\textsuperscript{29} Climate Change Response Strategy p 33
position in the international investment market. South Africa’s policies need to be proactive and take all the necessary steps to become as competitive as the other larger developing countries. It should further be noted that the possibility of utilising emissions trading as a mitigation strategy was not canvassed in this policy document and there was no appreciation of the potential benefits of using a domestic scheme to access international markets.

**Initial National Communications Report under the UNFCCC**

“The greenhouse gases addressed in the inventory are carbon dioxide, methane and nitrous oxide for the years 1990 and 1994. The total greenhouse gas emissions for 1990 were 347,346 Gg CO$_2$ equivalents and 379,842 Gg CO$_2$ equivalents for 1994. The total emissions for each sector, calculated as carbon dioxide equivalents show that the energy sector contributed 75% of the total emissions in 1990, and 78% in 1994; agriculture contributed 11.6% of the total emissions in 1990, and 9.3% in 1994; industrial processes contributed 8.9% in 1990, and 8.0% in 1994; and, waste contributed 4.4% in 1990, and 4.3% to the total emissions in 1994.”

The report acknowledges that carbon dioxide is certainly the most significant greenhouse gas for South Africa. It contributed more than 80% of the total of the three greenhouse gas emissions for both 1990 and 1994. The main source of carbon dioxide emissions was from the energy sector, which generated 89.7% of the total carbon dioxide emissions in 1990 and 91.1% of the total carbon dioxide emissions in 1994. The high level of emissions from the energy sector relates to the high-energy intensity of the South African economy, which is dependent on large-scale primary extraction and processing.

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29 Climate Change Response Strategy p 33  
30 National Communications Report p v  
31 National Communications Report p v  
32 National Communications Report p v
Some efforts are being made to access renewable energy in that a draft White Paper on Renewable Energy and Clean Energy Development has been formulated, which sets a target of 10 000 Giga Watt hours for renewable energy contribution to final energy consumption by 2012.\textsuperscript{33} This is in addition to the existing renewable energy contribution of 67 829 GWh/annum. In accordance with this commitment there are several initiatives to introduce natural gas into South Africa, which include an agreement between the Mozambican government and the chemicals group, Sasol, to pipe gas from the Pande and Temane gas fields to the Sasol Secunda plant by the year 2004\textsuperscript{34}.

“Coal currently provides over 90\% of the energy for electricity generation and is expected to dominate power generation until the year 2040. South Africa has about 60 billion tonnes of coal reserves, which is sufficient to meet this demand. The tonnages of coal mined are expected to increase to 281 million of tonnes per annum by 2004 up to the year 2030\textsuperscript{35}.”

An evaluation of commercial per capita electricity consumption in Africa reveals that the continent has the lowest rate and it continues to fall. This is due to the fact that access by individual households is extremely low due to limited infrastructure and rampant poverty\textsuperscript{36}. Power outages are frequent and sub Saharan’s power generation capacity is one twentieth that of Europe\textsuperscript{37}. The regional model for a working energy grid is South Africa although it is heavily reliant on coal burning power plants\textsuperscript{38}. This illustrates how uniquely positioned South Africa is when compared to the rest of the continent. While it experiences similar challenges including poverty alleviation and the need to increase access to basic resources such as electricity, there is at least a functional electricity grid

\textsuperscript{33} National Communications Report p xii
\textsuperscript{34} National Communications Report p xii
\textsuperscript{35} National Communications Report p xii
\textsuperscript{36} Nelson ‘An African dimension to the clean development mechanism: Finding a path to sustainable development in the energy sector’ (2004) 32 Denver Journal of International Law and Policy 615 at 625
\textsuperscript{37} Nelson op cit 626
\textsuperscript{38} Nelson op cit 626
in place. The major disadvantage is that the country is almost entirely reliant on coal for electricity generation purposes, accounting for the substantial contribution by the energy sector to GHG emissions. As such South Africa should therefore focus on utilising the CDM to transform the energy sector by promoting renewable energy projects and cleaner production methods.

The report states that as a developing country, South Africa is not obliged to reduce the emissions of greenhouse gases. Due to national priorities, such as poverty alleviation, providing basic facilities and health issues, as well as financial and technological limitations, the approach to specific greenhouse gas mitigation measures is currently (2000) only at an exploratory phase. Mention is made in the report of the financial opportunities presented by the UNFCCC in respect of adaptation and in particular the potential investment offered through the Clean Development Mechanism. South Africa could have been an active participant in CDM from 2000 but has only recently started to set up the necessary structures. While poverty alleviation and health issues should be prioritised there seems to be a failure to link climate change issues with these consequences. If South Africa does not begin integrating climate change issues with every aspect of daily life, health, resources and poverty alleviation, it will not be manageable. The opportunity exists through CDM and emissions trading whether locally or internationally to use funding and Annex 1 country assistance to address all those issues which government seeks to prioritise over climate change mitigation strategies.

It is clear from the report that South Africa is highly dependant on fossil fuels and has an energy intensive economy. As such it is recognised that there needs to be a focus on renewable energy and cleaner energy production. South Africa’s emissions between 1990 and 1994 increased and there is no question that as a developing country these emissions will continue to do so. However future

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39 National Communications Report p xv
40 National Communications Report p xviii
targets beyond 2012 are most likely a reality for significantly industrialised nations such as China, South Africa, Brazil and India. South Africa has to therefore construct an energy programme, which focuses on mitigation and alternative cleaner technology. While various programmes have been mentioned the report does not mention the CDM as a vital component of any energy strategy. There does not appear to be a commitment to utilise this mechanism to its fullest potential. As Annex 1 countries implement their mitigation strategies the demand for coal exports will decrease. Electricity generation programmes under the CDM provide an important opportunity to focus on clean electricity production such as wind, solar and hydro power. These projects together with energy efficiency should be preferred over landfill gas projects, as the waste sector comprises a small percentage of GHG emissions.

**Environmental Impact Legislation**

The Minister of Environmental Affairs and Tourism delivered a speech during the National Assembly debate on Budget Vote 28, on 21 June 2004, in which he refereed to the importance of streamlining the EIA process. As such he highlighted the recent amendment to the National Environmental Management Act 107 of 1998 (NEMA), approved by Parliament and a new set of EIA regulations which were to be published for comment, to allow for the smooth roll-out of a more flexible and streamlined EIA process. It was stated that the aim of these regulations was to speed up decision-making, so as to reduce the time it takes to process an EIA by 20% over the next three years. The regulations will also target the implementation of service fees for EIA's from 2005, and will amend the list of activities that require authorisation, which is intended to direct resources towards major impact studies. At the time of making the speech the Minister anticipated a reduction of as much as 30% in the number of

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41. Minister’s budget speech 21 June 2004 p 2
42. Minister’s budget speech 21 June 2004 p 2
43. Minister’s budget speech 21 June 2004 p 2
authorisations that will be required, without compromising the role that the EIA process plays in environmental management.\textsuperscript{44}

\textbf{National Environmental Management Act 107 of 1998}

Section 24 of this act deals in broad terms with the requirements for an environmental impact assessment (EIA). This section together with 21 and 22 of the Environmental Conservation Act 73 of 1989 (ECA) and its regulations represented a complex set of rules for EIA. As stated by the Minister, in order to streamline this area of law, section 24 has been amended by the National Environmental Management Second Amendment Act of 2004 and a set of new EIA regulations authorised by the section have been drafted. This amended section 24 is now the primary authority on EIA procedure and requirements, repealing the provisions of ECA relating thereto. While the original Section 24 adopted a general all encompassing requirement of “significant impact on the environment”, the amendment adopts a similar structure to ECA of listing activities which require an EIA.

This approach has of courses its advantages within the context of a CDM project, in that it would be immediately obvious whether a specific project required an EIA. This would entail checking a list to determine whether a proposed activity is mentioned. Were an investor faced with the prospect of determining “significance” under the previous section, it might have resulted in some confusion and delay. However, the disadvantage is that with the listing method, some activities may be overlooked which do have a detrimental affect on the environment. Section 24 (2) authorises the Minister and every minister of the Executive Committee (MEC) to identify activities and/or geographical areas in which specified activities require an environmental authorisation (EA) from the competent authority, before commencement of such activities. This potentially allows for ten different lists, depending on whether a project was national or

\textsuperscript{44} Minister’s budget speech p 2
provincial, and more importantly for the CDM whether it had international application. In addition Section 24 (5) provides that the Minister and every MEC may make regulations with regard to procedure and structures as they relate to the granting of an EA. This provision as with Section 24 (2) allows for 10 different sets of regulations for compliance with this provision. Time periods and efficiency in processing EA applications may therefore vary significantly from national to provincial departments, and between provinces. It may therefore have been more prudent, in a quest for streamlining to have provided for one set of national regulations with which all provincial departments must comply and ensure that the appropriate institutional structures are in place. In the context of an Annex 1 CDM partner, this may result in forum shopping for a province whose regulations were less onerous or whose deliberation process was swifter. The same argument would apply to a unilateral CDM project. However, this may be alleviated by Section 24 (9) which states that only the Minister may make regulations in terms of Section 24 (5) where the activity will affect compliance with obligations resting on the Republic under customary international law, or convention. This section may be interpreted to include CDM projects. While the CDM as a flexibility mechanism is not an obligation on South Africa under the Kyoto Protocol, and is merely an optional vehicle to be utilised by Annex 1 countries or unilaterally by non-Annex 1 countries, its source and procedure have been generated by convention. It could therefore be interpreted as falling within this section. To create clarity in this regard, it is hoped that any national regulations in terms of section 24 would specifically mention CDM related activities as falling within the Minister’s exclusive domain. Section 24D requires both the Minister and MECs’ to publish their list of activities in terms of section 24 (2) and identify who the competent authority is for each activity. This section will provide clarity and ensure that the application for an environmental authorisation is forwarded to the correct authority to avoid delay. Another important feature of this amendment is section 24H, which requires environmental assessment practitioners to be registered with an approved authority. This will standardise the
level of expertise and ensure that all such practitioners have a basic level of training.

EIA Regulations under the Environmental Conservation Act 73 of 1989

An important aspect relating to the implementation of a CDM project is the need to limit the costs. One of the most effective ways of achieving this is to limit the time period for obtaining regulatory approval such as the EIA process. A recent survey by the International Emissions Trading Scheme found that regulatory hurdles were having a negative effect on CDM project implementation to the extent that it has become a barrier to participation\textsuperscript{45}. One of the major questions is whether a CDM project requires an EIA in terms of the host country’s regulations as this can be a costly endeavour with the potential for delay due to appeals and reviews\textsuperscript{46}. Below is an examination of the current regulations and the new draft legislation on EIA and the extent to which it accommodates CDM implementation.

As detailed in Chapter 2 if the impact of the CDM activity is considered significant by the host party an EIA will need to be undertaken in terms of the host party’s legal framework. The DOE would in this instance assess the degree of compliance with domestic EIA legislation and whether this fulfils the CDM EIA requirements\textsuperscript{47}. Clearly the granting of an EIA authorisation would in most circumstances serve to be sufficient compliance with the CDM requirement\textsuperscript{48}.

In terms of section 21 of the Environmental Conservation Act 73 of 1989 the Minister may identify activities which in his opinion may have a substantial detrimental affect on the environment. This is a substantially higher test than in terms of section 24 of NEMA, prior to its amendment, and follows a listing

\textsuperscript{45} Gilder ‘The clean development mechanism and environmental impact assessment’ No 1/2005 CDM Investment Newsletter 8
\textsuperscript{46} Gilder op cit 8
\textsuperscript{47} Gilder op cit 8
\textsuperscript{48} Gilder op cit 8
approach. In terms of Section 22 (2) before such an activity can commence an EIA authorisation must be granted. Government Notice R 1182\textsuperscript{49} has listed a number of activities, which require an EIA authorisation before commencing such an activity. If a CDM project falls within one of these listed activities an EIA will be required\textsuperscript{50}. Given the proliferation of CDM landfill gas projects both in South Africa and elsewhere, such an activity will certainly require an EIA authorisation as it falls within certain listed activities. For example schedule 1 item 8 (the disposal of waste as defined in sc. 20 of ECA, excluding domestic waste, but including the establishment, expansion, upgrading or closure of facilities) and item 9 (scheduled processes listed in the Second schedule to the Atmospheric Pollution Prevention Act 45 of 1965). Such a project could potentially fall within a number of the categories listed. It however only needs to encompass one of the listed activities for an EIA to be required\textsuperscript{51}. This is evident where initially a project such as a commercial generation of electricity for public consumption whose output is less than 10 megawatts, would not require an authorisation in terms of item 1a, it may however involve a scheduled process under item 9, which would trigger an EIA\textsuperscript{52}.

Unfortunately South Africa’s EIA legislation is currently in a state of flux as the dual approach under NEMA and ECA is streamlined into a single process under section 24 of NEMA as amended including the set of draft regulations published for comment. As such any Annex 1 partner in a CDM project who investigates costs and procedures will have to evaluate both sets of laws and constantly update their information to ensure that the most recent regulation is applicable. This transition period will most likely lead to some CDM projects having complied with the current regulations under ECA, while more recent projects which have yet to begin the validation process will most likely proceed under the new draft regulations, which is discussed below. Considering the importance of an EIA

\textsuperscript{48} Gilder op cit 9
\textsuperscript{49} Government Gazette No. 18261, Pretoria, 5 September 1997
\textsuperscript{50} Gilder op cit 9
\textsuperscript{51} Gilder op cit 11
process in any environmental project it would clearly have been preferable for
government to have finalised the new EIA legislation and regulations some years
ago, to avoid the current transitional arrangement at such a critical stage when
Kyoto has come into force.

Proposed EIA Regulations under NEMA: 25 June 2004

These regulations were drafted in terms of section 24(5) of NEMA as amended
and applies to all listed activities in terms of section 24 (2) a, b and d of the Act.
The National Minister has drafted these regulations and it is therefore assumed
that they apply to the entire country. However, every MEC has the option of
drafting a similar set of regulations if he or she chooses to do so. These are
proposed regulations under section 24(5) of NEMA as amended and repeal the
regulations promulgated under ECA, which remain in force until the
commencement date of these regulations. These regulations are distinguishable
from the current regulations under ECA, in that they do not require an EIA for all
activities and has divided them into two groups, those in terms of schedule 1, 3 &
4 require an initial assessment while activities listed in Schedule 2 require an
EIA\textsuperscript{53}. In the context of a CDM project those projects that do not result in a
significant environmental impact will only require an initial assessment, which is
less costly, and can be completed and submitted in a shorter period of time. This
procedure will certainly benefit small-scale CDM projects where costs need to be
kept to a minimum. If an EIA is required, the applicant must first submit a plan of
study for the EIA\textsuperscript{54}. This is an additional step before the actual assessment is
conducted. While it may lengthen the procedure and increase the costs it would
appear in the long term to assist the applicant. The plan of study allows the
relevant competent authority to evaluate whether all aspects of the EIA will be
canvassed. It avoids the potential situation where an applicant completes an
entire EIA, only to be repeated on the instructions of the competent authority in

\textsuperscript{52} Gilder op cit 11
\textsuperscript{53} Regulation 5(1) & (2)
\textsuperscript{54} Regulation 8
the event that certain areas were not covered. Once a plan of study has been approved, there is little danger that an EIA will be rejected due to procedural errors.

Once an application has been submitted, the competent authority must acknowledge receipt thereof within ten days\textsuperscript{55}. However if an application does not contain all the requisite information as per the regulations or other guidelines the application will be referred back. The application when re-submitted will be treated as an entirely new application and another fee will have to be paid\textsuperscript{56}. There appears to be no obligation to indicate what the non-compliance was and could potentially lead to an undesirable situation where multiple applications may be submitted before it is eventually accepted. This is especially likely when one could be faced with multiple sets of regulations each with its own schedules and additional guidelines from each competent authority.

One of the important minimum requirements for a CDM project in terms of the Marrakech Accords is that there is proper consultation with all local stakeholders. This is comprehensively included in the EIA process, which should be sufficient compliance with this requirement. For example Regulation 7 (1) which concerns initial assessments states that an applicant must appoint an environmental assessment practitioner who in addition to compiling an initial assessment (IA) must conduct a public participation process. For those activities, which require an IA the application process, is fairly consolidated. Once an IA has been submitted the competent authority may decide within 30 days either that the IA is sufficient to make a decision or that further investigation is required\textsuperscript{57}. If the IA is suitable the competent authority may then decide to grant or refuse an environmental authorisation\textsuperscript{58}. In ideal circumstances an environmental authorisation can therefore be obtained in terms of Regulation 7 within a minimum of 40 days

\footnotesize{\textsuperscript{55} Regulation 6(1)  
\textsuperscript{56} Regulation 6(2) & (3)  
\textsuperscript{57} Regulation 7(6)  
\textsuperscript{58} Regulation 7(7)}
which is a relatively short period of time, which is in line with the stated aims of the Minister. However the EIA procedure is more complex and consequently a more costly and time-consuming exercise. Regulation 8 (1) and (3) require an environmental assessment practitioner to compile a plan of study for the EIA. Once received the competent authority may within 30 days accept the plan and instruct the practitioner to submit an issues report before completing an EIA report, or accept the plan and instruct the practitioner to proceed with the EIA, or request the plan be amended. After an issues report is submitted the competent authority may within a further period of 30 days accept the report, request certain amendments or reject it for non-compliance\(^{59}\). Regulation 9 (2) allows a competent authority to request a draft EIA report before the submission of a final one. This appears to defeat the purpose of submitting a plan of study and is an unnecessary procedure, which undermines the goal of a concise and streamlined EIA process. On receipt of an EIA report, the competent authority may within 45 days either accept the report, request additional amendments or reject it for non-compliance\(^{60}\). The competent authority has the option of appointing a specialist to review the report and compile his or her own report\(^{61}\). Within 60 days of receipt of the accepted EIA or the specialist reviewer’s report, the competent authority may grant or reject an environmental authorisation\(^{62}\). If an applicant submits an application for EIA and there are no delays, rejections or amendments, this process will take a minimum of 175 days (6 months) excluding the time periods in between for compilation of the EIA and issues report by the applicant. It is therefore apparent that the EIA process will be significantly more costly and time-consuming than an initial assessment. As such it is important that much thought is given to the listing of activities in these two categories. Major CDM projects need to be thoroughly scrutinised for their environmental impact but a balance needs to be struck between environmental protection and

\(^{59}\) Regulation 8(5)  
\(^{60}\) Regulation 9(4)  
\(^{61}\) Regulation 9(6)  
\(^{62}\) Regulation 9(7)
excessive administrative delays, especially if South Africa intends to position itself as an attractive CDM host party.

Some of the factors, which may be considered when evaluating an application for environmental authorisation, include environmental policies, economic and social issues that contribute to sustainable development\(^{63}\). These factors are especially relevant to CDM projects, which have to be confirmed as achieving a host country’s sustainable development goals by the DNA. An environmental authorisation must specify certain conditions including those relating to ongoing monitoring and management of the activities through its life cycle\(^{64}\). These conditions will hopefully be consistent with international requirements in the context of CDM projects. An initial assessment must contain a description of all legislation, policies and guidelines relevant to the application\(^{65}\). A CDM project can potentially be relevant to a broad range of legislation both international and domestic, some of which may not be immediately apparent to an applicant. It is the competent authority itself which should have a comprehensive list of relevant legislation and policies when evaluating an application, as they would be in a better position to compile such a list. Internal guidelines or the regulations themselves should require a competent authority to compile a list of relevant legislation and policies for each listed activity and there should be a separate list for CDM projects which should be readily available to the public.

There are quite strict compliance and enforcement procedures, which refer to section 28 of NEMA but most notably can result in the competent authority withdrawing an environmental authorisation for non-compliance with its conditions\(^{66}\). CDM project participation will therefore in addition to compliance with international requirements constantly ensure compliance with local provisions, which can potentially range across a number of applicable pieces of

\(^{63}\) Regulation 10(2)
\(^{64}\) Regulation 12(1)d
\(^{65}\) Regulation 15l
\(^{66}\) Regulation 24(2)
legislation. For example, compliance with environmental authorisation conditions and any other licensing authority such as the Air Quality Act’s, atmospheric emissions license conditions discussed below. The possibility of combining all reporting and monitoring requirements for various spheres of government for the CDM should be investigated. This would allow for one comprehensive report to be circulated to all departments, streamlining the process. A competent authority may request an environmental audit if there is a reasonable belief that there has been non-compliance with the conditions of an environmental authorisation. This provision ensures a specific standard of compliance in CDM projects and in turn reinforces the credibility of emissions monitoring and the ultimate value of CER’s in the carbon market. A number of authorities may have this power under other laws, for example under the National Environmental Air Quality Act of 2004, which will ensure a broad network of compliance regulations.

Schedule 1 lists the types of areas in which activities listed in Schedule 4 must have an environmental authorisation. Areas are specified in general terms, for example those protected for the purpose of biodiversity, conservation of water resources or cultural heritage. The specific areas under each category are not listed and it is presumably left to the applicant to obtain this information which will hopefully be published as part of a competent authority’s guidelines. Schedule 4 then lists activities, which are predominantly concerned with infrastructure and those which may occur in the recreational context of a protected area. Examples include marinas, the launching of water craft, lodges, hotels, camping and picnic areas. This Schedule only requires an initial assessment. In light of this item 7 is of concern. It concerns the development or redevelopment of areas for residential, commercial and amongst others ‘industrial’ use. There is no definition of industrial use and could potentially cover a broad range of significantly damaging activities, which most certainly would require an EIA rather than an initial assessment and which in most circumstances should not be conducted in these sensitive areas. In addition the legislation is ambiguously drafted since it states

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67 Regulation 25
no Schedule 4 activities can be conducted in Schedule 1 geographical areas without an environmental authorisation. It follows however, that any other non-listed activity can commence without any reference to these regulations, provided it is not listed in other schedules. It would seem that the only activities, which should be authorised in Schedule 1 areas, are those, that do not pose a significant environmental impact. There is thus a potential loophole which developers may exploit.

Schedule 2 lists substantially more environmentally detrimental industrial and infrastructural related processes than activities in other Schedules. Some of these would certainly be applicable to potential CDM projects. For example, the generation of electricity (Item 1a), the extraction or processing of natural gas (item 1d) and the final disposal of waste in excess of 100 sq metres (Item 1r). Schedule 5 refers to listed processes which will be specified under the Air Quality Act. Until such a listing has occurred all scheduled processes under the current Atmospheric Pollution Prevention Act 45 of 1965 (APPA), not specified in Schedules 2 & 3 are subject to an initial assessment. Many CDM projects will fall into this category, some of which may require an EIA rather than an initial assessment so as to adequately fulfil the EIA requirements in the Marrakech Accords. In light of the need for an environmental component for a CDM related activity these activities should be listed as a specific category of activities under both Schedule 2, 3 and 5 to ensure that there is no question of the necessity for an initial assessment or an EIA.

These regulations have attempted to consolidate the EIA process by primarily determining categories of activities, which will be subjected to 2 different procedures, either an EIA or an initial assessment. The EIA process as opposed to initial assessment, remains a complex and lengthy procedure. There are detailed requirements for each stage and potential for a number of additional reports, such as an issues report and a specialist report. Many CDM activities will be included in Schedule 2 and therefore require an EIA. There are therefore
serious questions as to whether the process is sufficiently compact and accessible to appeal to foreign investment partners. There is nothing to suggest that these regulations were drafted with the aims of the CDM in mind or the need to correlate domestic requirements and obligations with international CDM provisions. These regulations are a further example of a failure by government to appropriately incorporate climate changes issues into new legislation, despite its statement to the contrary in the Climate Change Response Strategy discussed above. Since these regulations are only in draft form, it is suggested that further drafts specifically mention CDM related activities.

The National Environmental Management Air Quality Act 34 of 2004

“I wish today to repeat the warning to some industries in South Africa especially to some of our refineries, it is past time to clean up your act. If your equipment and plants are outdated, if your technology is unsafe, recapitalise and replace now before it is too late. Don’t wait for accidents or incidents because with our new Air Quality legislation you will be held accountable. Our department, together with its provincial and local partners, is gearing up for implementation. In this implementation, the technical aspects of air quality governance will be backed-up by, what the Deputy Minister refers to as, the Green Scorpions officials at all spheres of government trained as dedicated environmental management inspectors.”

This speech by the Minister for Environmental Affairs and Tourism is framed in strong terms and illustrates the department’s strong resolve to focus on air quality management and the need for industry to take active steps to transform their production methods and upgrade equipment so as to be able to comply with this new legislation. There is clearly an intention to have a much greater level of control, which is evident from the creation of a network of enforcement

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officers referred to in the Act as air quality control officers. Unfortunately the speech is silent on the role this piece of legislation is to play in the context of Kyoto’s flexibility mechanisms especially the CDM and emissions trading. There is a failure on the Minister’s part to recognise the critical role of air quality legislation, in that many CDM projects will fall within the confines of the Act and the need to use the mechanisms in the Act to fulfil the obligatory reporting requirements under the UNFCCC. Below is an evaluation of the legislation to determine to what extent its provisions encompass some of the issues which arise with regard to the implementation of both the CDM and emissions trading in South Africa.

The preamble of this Act recognises the detrimental effect of greenhouse gases on the environment both locally and on a global scale and the importance of utilising cleaner technologies and cleaner production methods to address air quality issues. It therefore needs to be examined whether the Act merely mentions these issues so as to be all encompassing or whether there are specific mechanisms and structures in the Act which underpin the obligations which South Africa have under the Kyoto Protocol. Specifically whether this legislation as the primary source of air quality management caters for the requirements of the CDM and future emissions trading.

The object of the Act as listed in Section 2 does not include that the purpose of the Act is to give effect to international agreements, specifically with regard to the obligations and potential participation under the UNFCCC and Kyoto. While one of the objects is to secure ecologically sustainable development there is no recognition that this could primarily be achieved through the Kyoto Protocol via the CDM. Section 7 obligates the Minister to divise a national framework to give effect to the objects of the Act. Included in the framework should be mechanisms, systems and procedures for compliance with South Africa’s obligations under international agreements. This clearly encompasses a broad range of international conventions to which South Africa is a member,

69 Speech in Parliament on 7 Sep 2004 op cit 7
of which the Kyoto Protocol would merely be one such agreement. This section therefore vests significant legislative power in the hands of the Minister over potentially complex structures and procedures when one has regard to both CDM and emissions trading. Despite the fact that CDM project registration commenced in 2000 there is no obligation on the Minister to prioritise the obligations under the UNFCCC and Kyoto, especially since these agreements are directly related to how South Africa needs to structure its air quality management systems, in order to become global participants. The framework must in addition incorporate national norms and standards for point and non-point sources, monitoring and information management. As such it is hoped that when these norms and standards are drafted, there will be an emphasis on bringing them into line with international standards to make South Africa more attractive as a CDM partner. It is vitally important that monitoring systems and information management of GHG emissions are accurate and transparent as this will assure Annex 1 countries that any results and assessments for CDM projects can safely be relied upon.

Section 9(1)A states that the Minister must identify substances which pose a threat to health, well-being and the environment. The Minister must then set emission standards for these substances, both point and ambient air quality standards. Since South Africa as a non-Annex 1 country does not have specific GHG emissions targets under Kyoto, there would be no obligation to identify any of the GHG’s as substances which should be regulated unless they pose immediate health threats, such as nitrous oxide. However an interpretation of the section would clearly incorporate all six of the GHG’s mentioned in Kyoto as their contribution to climate change poses a clear threat both to individual health and well-being and to the environment in the long term. Since South Africa is one of the largest non-Annex 1 emitters of GHG’s it is hoped that there will be some regulation of GHG emissions so as to encourage industry to slowly begin making the relevant technology and production changes, which may become obligatory post 2012. In terms of section 12 the Minister must determine how the measurement of ambient air
quality standards and source emissions should be carried out together with the format and to whom they should be reported. In order to establish baselines for GHG emissions for CDM projects it is assumed that much reliance will be placed on our national monitoring and reporting system under this Act. It is therefore important that the measurement methodologies utilised and the compilation of this data is in compliance with international standards, specifically those set out for the CDM in the Marrakech Accords.

Any national or provincial authority, which is required to compile an implementation plan in terms of NEMA, must incorporate an air quality management plan. Such plan must seek to implement South Africa’s obligations in terms of international agreements\(^\text{70}\). This section would provide an ideal opportunity to incorporate CDM projects and possibly a domestic emission-trading scheme as positive incentives to assist industry with emissions reduction efforts. It would however have been preferable to have made specific reference to the Kyoto requirements and the flexibility mechanisms, since for any air quality management plan to be truly comprehensive it needs to contain procedures and measures for the implementation of especially the CDM. This mechanism seeks to assist in the achievement of sustainable development and will serve to accelerate technology transfer and the development of cleaner production methods. This will inevitably indirectly benefit general air pollution control beyond the regulation of GHG’s.

The Minister must and any MEC may publish a list of activities, which result in atmospheric emissions, which have or may have a significant detrimental effect on the environment. In addition such notice must set emissions standards for substances emitted as a result of a listed activity\(^\text{71}\). A listed activity may not commence without an atmospheric emissions licence\(^\text{72}\). These listed activities should include all major GHG emitters which will by implication result in an

\(^{70}\) Section 16(1)A vii
\(^{71}\) Section 21(1)A and sc. 21(3)
\(^{72}\) Section 22
important measure of control of GHG emissions with specific targets being set in the notice for specific activities. Owing to the highly regulatory nature of any CDM project all CDM projects should be included as listed activities and should be specifically categorised as such. This will require operators and project participants to apply for an atmospheric emissions licence and be subjected to an important level of compliance. Since the licence requires the holder thereof to separately monitor GHG emissions and will prescribe reporting requirements\textsuperscript{73}, this will assist in CDM project compliance with regard to the monitoring phase of the project and assist South Africa in the long term to compile accurate GHG inventories as required under the UNFCCC. Licence reporting requirements should therefore comply with the CDM Modalities and procedures. Should South Africa investigate implementing a domestic emissions trading scheme it would be necessary that each participating entity keeps a separate record of its GHG emissions. The licensing procedures would therefore aid in developing the infrastructure for such a scheme.

Section 26 appears to create an extra level of protection with regard to atmospheric pollution, especially with regard to GHG emissions although not specifically mentioned. It allows the Minister to declare certain fuels, which are used in combustion processes and pose a threat to health or the environment as controlled fuels. The Minister may then establish standards relating to the manufacture, use and sale of these fuels\textsuperscript{74}. It is hoped that such declarations will include all major fossil fuels resulting in a national regulation of the fossil fuel industry, contributing significantly to a GHG mitigation strategy. Any CDM project, which utilises substances, declared as controlled fuels whether in the ordinary course of business or as part of a cleaner production project, will be subject to regulation under this section.

As part of the procedures for the submission of an application for an atmospheric emissions licence, the applicant must comply with the provisions

\textsuperscript{73} Section 43(1)L
\textsuperscript{74} Section 26 & 27
of section 24 of NEMA and section 22 of ECA relating to the completion of an EIA\textsuperscript{75}. The Act will presumably be amended to refer to the new EIA regulations in terms of section 24 of NEMA as amended. As such the competent authority will have to grant an environmental authorisation, which will form part of the documentation submitted to the relevant authority for an atmospheric emissions licence. It follows however that an applicant will only need to obtain an EA if the listed activities in terms of this Act correspond with the listed activities in terms of the EIA regulations. It would appear based on the draft of Schedule 5 that all listed activities in terms of this Act would require an EA. Since all CDM projects are aimed at the mitigation of GHG’s, the primary consequence will be atmospheric emissions and will therefore most likely be listed in terms of this Act, provided the activity is perceived to pose a significant detrimental effect to the environment. However the test for listing an activity is quite high and it remains to be seen how the relevant authorities interpret it. Some GHG’s such as carbon dioxide are not immediately harmful and have only become significant as it relates to climate change. In terms of the large-scale consequences for South Africa and our international commitment to the climate change regime the section should be interpreted as widely as possible. Of concern are the different tests mentioned in this Act and that mentioned in the amended section 24 of NEMA, which does not specifically state the criteria for listing an activity. It is only mentioned in sc 24(4) as part of the minimum requirements for an application for an EA that there must be an investigation of the environment likely to be significantly affected by the proposed activity. This is clearly a lower threshold than what is stated in the Air Quality Act, which requires a significant detrimental effect. Since the EIA regulations have tended to simply adopt the entire list of activities as according to the relevant air pollution legislation, the possibility exists that there will be some activities which are not considered detrimental under AQA but which may be considered significant in terms of the NEMA amendment test and therefore not require an EA or licence. Should a CDM project fall within this category there may be a

\textsuperscript{75} Section 38(2)
failure to perform a comprehensive EIA other than what is required in general terms under the Marrakech Accords. A further area of concern is that in determining the list of activities, the Air Quality Act sets a fairly high threshold as mentioned above, which implies that only the more substantially damaging activities will be included. Schedule 5 of the draft EIA regulations discussed above, currently only proposes an initial assessment be performed for these activities, which in light of the stated threshold of this Act is insufficient. Such listed activities should necessitate an EIA. Since many CDM projects are likely to be included in Schedule 5, an EIA would be the more appropriate procedure to fulfil the international CDM requirements.

One of the more innovative sections of the Act states that an air quality officer can request a holder of a licence to designate an emissions control officer. Such an officer must have the appropriate qualifications and is required to assist in the development of cleaner production technologies and report any non-compliance with licence conditions and requirements\textsuperscript{76}. In the context of a CDM project such a person within an entity could be a valuable liaison with government. Existing corporations undertaking a listed activity who may wish to involve themselves either in a unilateral or bilateral CDM project as a tool to developing cleaner technology and production methods, will need an emissions control officer who is comprehensively informed of the requirements for CDM and the various steps which need to be taken. As such in addition to basic knowledge with regard to air quality as required by the Act, each officer should be required to have intimate knowledge of the CDM process and requirements as these projects become a more viable option for corporations to achieve their goals.

Schedule 2 details provisional emissions standards. It is significant to note that nitrous oxide is the only GHG listed. While South Africa is not subject to GHG targets under Kyoto the potential for such limitations beyond 2012 is becoming increasingly probable. It would therefore be prudent to incorporate manageable

\textsuperscript{76} Section 48
GHG emissions standards as a process of preparing for future targets. This will avoid the possibility of industry suddenly being faced with significant capital expenditure to become compliant with emissions targets.

There is an entire Chapter in the Act devoted to the Republic’s international obligations with respect to trans-boundary air pollution, empowering the Minister to make regulations and take various steps. At present the single most important air pollution issue globally is climate change and consequently the mitigation and stabilisation of GHG emissions. Despite this, there is no complementary Chapter in the Act which concerns the Republic’s obligations under the UNFCCC and Kyoto. These conventions are never mentioned by name in the Act and section 53 only makes passing reference to certain issues, which may be widely interpreted to incorporate climate change. The section permits the Minister but does not oblige him to make regulations concerning any obligations the Republic may have with regard to international agreements, trading schemes and create incentives to change behaviour towards air pollution, to mention a few. As the Act’s primary purpose is to set emissions standards for ambient air and source emissions, the most effective way to encourage industry to comply with this Act would have been to actively utilise the flexibility mechanisms in the Kyoto Protocol on a domestic scale. South Africa is one of the few developing countries who has the potential to develop a domestic emissions trading scheme to assist corporations in complying with emissions standards including GHG’s. Specific reference to the procedures and requirements for CDM and a domestic trading scheme would have served the purpose of indicating South Africa’s intent to combat climate change and actively encourage local industry to participate in CDM projects, therefore achieving the sustainable development goals of the Act.

As according to the UNFCCC the compilation and submission of National Communications by non-Annex 1 countries is dependent on the receipt of

77 Chapter 6
funding. No date has been set for the submission of a second communication, however it is hoped that the Minister will recognise the opportunity that access to such funding presents. In order to compile such a report, much of the framework and infrastructure put in place by this Act will need to be utilised. Access to funding for the compilation of the report may therefore serve a twofold purpose of improving the effectiveness of the systems put in place in terms of the Act. The ability to create a comprehensive ambient air quality and source monitoring network will be a significant financial burden, which could be alleviated by channelling funding from the convention.

**Designated National Authority Regulations drafted in terms of NEMA**

The DEAT Minister published regulations in terms of Section 25 (3) of NEMA for the establishment of a DNA for the CDM in December 2004. Comments on these regulations were to be made on or before 11 February 2005. The regulations established the DNA and located responsibility therefore in the office of the Director General of the Department of Minerals and Energy. The reason for locating the DNA in the DME as opposed to DEAT would appear to be that most CDM projects will be located in the sector. It lists the DNA’s general duties, which include establishing approved procedures for CDM projects. A steering committee of the DNA is similarly established consisting of 8 members, one from each listed department including DEAT, DME and DWAF. The committee’s duties are to advise in relation to the DNA and are to have input in the development of procedures for CDM projects and make recommendations on project submissions. Of particular interest is that this body in addition serves as the review body to evaluate the performance of the DNA. Regulation 6 contains

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78 ‘A guide to the climate change convention and its Kyoto protocol’ Climate Change Secretariat, Bonn 2002 1 at 14
79 Regulation 1
80 Gilder ‘The South African Designated National Authority for the CDM’ No. //2005 CDM Investment Newsletter 7
81 Regulation 4
82 Regulation 5
in very broad terms without detailing any procedures, the minimum requirements for an approval procedure for CDM projects. This includes a process for submission of such projects, sustainable development criteria approved by the Minister of the DME and any other documents. This essentially leaves the creation of the entire approval process to the discretion of the DNA in consultation with the steering committee. Once the DNA has made a recommendation to the Director General he/she must consider issuing a letter of approval within ten days of receipt of the recommendation\textsuperscript{83}. This allows for a quick confirmation period. The Director General does however have unilateral authority to disregard the recommendation of the DNA and refuse to give a letter of approval. This may result in substantial delays and could essentially defeat the purpose of establishing a DNA to consider such applications on its merits. This process would in addition have had input from the steering committee and it is assumed that before a recommendation is made due consideration is applied. The possibility that one individual who may not have been involved in the approval process could overturn such a recommendation could potentially undermine the legitimacy of the DNA. These regulations are framed in broad terms, essentially establishing the various institutions necessary and providing them with the authority to create their procedures. This however means that South Africa has some way to go before a final and detailed CDM project submission and approval procedure exists. This will result in further delays before registration of CDM projects with the CDM Executive Board becomes a reality.

A point carbon survey of CDM host countries published in October 2004, positioned South Africa tenth on a list of eleven non-Annex 1 countries, despite acknowledging that South Africa has large potential for the implementation of CDM projects\textsuperscript{84}. One of the reasons for South Africa’s poor performance was its

\textsuperscript{83} Regulation 7(1)
\textsuperscript{84} Gilder ‘The South African Designated national Authority for the CDM’ No. //2005 CDM Investment Newsletter 7
failure to establish a DNA\textsuperscript{85}. India was considered to be the most attractive host country and the world leader in terms of the number of projects and the different project types\textsuperscript{86}. Other countries on the list above South Africa include Brazil, Chile, Peru, Indonesia and Morocco (ranked fifth) which is considered to be the most institutionally advanced African country, primarily due to judicious harnessing of donor funding\textsuperscript{87}. This survey places South Africa’s delay and indifference to the CDM in perspective. Since Kyoto came into force government needs to urgently prepare for the investment opportunities presented by the CDM. The delays in establishing the basic institutions such as a DNA have allowed other non-Annex 1 countries to control the CDM market. Based on policy documents such as the Climate Change Response Strategy and the National Communications report there does not appear to be an appropriate appreciation of the real and tangible benefits that the CDM offers. Climate change response needs to be approached from the perspective of utilising the market mechanisms to achieve the goals of mitigation and adaptation and to prepare for future binding targets, as opposed to viewing these issues as separate aspects of the climate change regime.

**Other Legislation**

Since the issue of climate change is so wide-ranging the work of the convention is interlinked with many other conventions and international organisations. For example a joint liaison group was established in 2001 between the secretariats of the UNFCCC, the convention on Biological Diversity and the UN Convention to Combat Desertification\textsuperscript{88}. This group shares information and identifies possible joint activities. As South Africa has ratified many of these conventions and enacted legislation in terms thereof, such as the Biodiversity Act, some of this

\textsuperscript{85} Gilder ‘The South African Designated national Authority for the CDM’ No. //2005 \textit{CDM Investment Newsletter 7}

\textsuperscript{86} ‘Monthly Climate Change Update’ October 2004 Imbewu Enviro-legal Specialists p 3

\textsuperscript{87} ‘Monthly Climate Change Update’ October 2004 Imbewu Enviro-legal Specialists p 3

\textsuperscript{88} UNFCCC Guise op cit 20
legislation may need to be reviewed to ensure that the approach adopted integrates climate change issues.

In the context of the CDM one aspect which raises a number of questions and the extent to which the current legal framework is satisfactory is the question of ownership of CER’s. Generally speaking ownership is contractually determined between project participants and therefore falls within the realm of private law. However there are those who are of the view that CER ownership should accrue to the State, since the rights are negotiated in terms of an international convention to which only sovereign states may be a party. Whichever view is taken while the CDM market is in its infancy and dominated by CER buyers, investors will look for countries that allow for easy access to finance, good infrastructure and other competitive market opportunities. The Marrakech Accords are silent on the issue of ownership of CERs. This uncertainty and the obvious risks involved with CDM investment requires government to clarify its policy on this issue, which it has thus far failed to do.

How a CER as an entity is treated similarly raises a number of issues. A CER unit is not an ordinary transactable commodity, as it owes its existence to an international regime. Thus the definition of a CER would affect its legal status; can they be considered to be a natural resource, goods, financial instruments, or an electronic right such as a share or debenture. These issues outlined above are simply some of the potential challenges which lie ahead in attempting to incorporate both the CDM and emissions trading mechanisms into domestic legislation and policy. It is clear that there are broad ranging implications for many other areas of law, which are not immediately apparent. Questions relating to whether a CER should be taxed and possible insurance implications still need

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89 Chowdhury & Kumar ‘Legal implementation of the CDM in India: Challenges and opportunities’ No. 1/2005 CDM Investment Newsletter 3 at 4
90 Chowdhury & Kumar op cit 4
91 Chowdhury & Kumar op cit 5
92 Chowdhury & Kumar op cit 5
93 Chowdhury & Kumar op cit 5
to be investigated and illustrates the importance of an integrated approach by all
government departments.

The final chapter summarises the principal conclusions reached in this chapter
and makes some recommendations as regards possible amendments to the
current legal framework and the development of new policy and legislation in the
future.

94 Chowdhury & Kumar op cit 5
CHAPTER FOUR
Recommendations for an improved legal framework for South Africa

Recommendations

It is suggested that the CDM will be an effective tool for augmenting developing countries' national capacity to mitigate climate change by facilitating their switch to clean technologies and energy efficiency. Assuming host nation systems and procedures are put into place, the CDM looks to be a promising tool for assisting industrialised countries in fulfilling their Kyoto targets, while simultaneously assisting developing countries achieve sustainable development. The CDM will provide developing countries with an opportunity to move toward a sustainable energy development path leapfrogging past the traditional fossil fuel track of industrialised countries, while providing public and private investors opportunities to develop profitable climate change mitigating technologies. The implications of the CDM are endless and the extent, to which South Africa and other developing countries seize the opportunity to capitalise on this market mechanism, will determine its success in the first commitment period. As stated above in previous chapters, infrastructure, capacity and incentives embodied in a comprehensive and accessible legal framework is the centrepiece of maximising the potential of both the CDM and emissions trading.

Climate Change policy

Policy as the precursor to legislation needs to establish a clear and unambiguous stance on both the CDM and emissions trading. When analysed both the Climate Change Response Strategy (CCRS) and the National Communications Report

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1 Halvorssen ‘Sustainable development and smart energy: The Kyoto protocol and developing countries – The Clean Development mechanism’ (2005) 16 Colorado Journal of International Environmental Law & Policy 353 at 374
2 Halvorssen op cit 375
3 Halvorssen op cit 375
(NCR) discussed in chapter three, lacked a sense of direction and preparation for the future inception of these mechanisms into South Africa's legal landscape. The major concern as regards the CCRS is that it is constructed in relatively broad terms and does not make many definitive statements with regard to the CDM and does not mention emissions trading at all. There are a number of positive signs, which include the fact that South Africa needs to pursue the financial opportunities, presented by the UNFCC, that mitigation policies may support sustainable development goals and broader social objectives such as health and employment and that there may be benefits in adopting policies which move the country along a cleaner development path. Similarly it is acknowledged that future policies on the investment opportunities presented by the CDM need to be drafted. Unfortunately many of these statements are made subject to various caveats which include the fact that South Africa has no binding targets, that the country will experience the negative effects of less coal imports from Annex 1 countries and that GHG emissions will continue to rise in the future.

Since the market mechanisms are the central elements of the climate change regime and the means by which emissions reductions are to be achieved, any policy on this issue would need in the case of South Africa, to strategically position the CDM and indirectly emissions trading as the centrepiece of such a policy. In light of this, it is of concern that the strategy specifically states that specific climate change legislation is not warranted and amendments to existing legislation is sufficient for current purposes. Since the protocol has come into force this year this policy needs to be reassessed. The CDM is now fully operational and has broad ranging implications for the future of the country. Its procedures and implementation are relatively complex and as such a piecemeal amendment approach may not be the appropriate way forward. While it is accepted that the implementation of both the CDM and a future domestic emissions trading scheme will have extensive consequences for a number of areas of law which could not be regulated in sufficient detail in a single Act, a framework piece of legislation similar to NEMA would significantly improve the status quo and serve to consolidate the implementation process. It is therefore
recommended that any future policies regarding climate change recognise the importance of the CDM as a development tool and make provision for specific institutional structures and legislative measures to adequately exploit the numerous advantages that this mechanism provides.

The NCR is a particularly important policy document as it is submitted to the UNFCCC secretariat. As such the policy statements contained therein are vitally important and are most likely used as a litmus test by other nations to determine South Africa’s stance and state of readiness with regard to the CDM. The report fails to make the material link between the CDM and the achievement of the government’s social objectives such as poverty alleviation, health and provision of basic resources. Instead these objectives are given priority over the development of specific GHG emissions reduction measures. As with the CCRS there is no emphasis on the CDM and emissions trading and no indication that these mechanisms are the focal point for a future energy policy. South Africa will be required in the near future to submit a second NCR. In addition to the relevant GHG emissions there needs to be a clear statement of intention that South Africa recognises the inherent advantages and opportunities of the CDM and the extent to which it has created the relevant structures to effectively participate. It is similarly important to detail the relationship between climate change and the effects it is likely to have on poorer communities and consequently the importance of utilising the CDM to fulfil the government’s sustainable development goals. In addition a statement that South Africa is committed to developing a cleaner energy policy with a focus on energy efficient technologies and cleaner production methods together with the potential for CDM projects in the country, will send a clear message that it is a willing host party for the implementation of the CDM.

*Environmental Impact legislation*
As canvassed previously in chapter three, an important international requirement in the CDM project cycle is the performance of an environmental impact assessment in the event that a particular project activity will have a significant impact on the environment. Since the procedure for any such assessment will be conducted in accordance with domestic requirements, it is essential that South Africa’s EIA legislation is appropriately structured to accommodate CDM activities. An analysis of the regime reveals that although the legislation and regulations are able to accommodate CDM projects in broad terms they were not drafted with this in mind and there is no specific reference to these types of projects. Since international investment partners will be required to comply with domestic EIA procedures they should have been drafted with this in mind, allowing for a clear and uncomplicated process. Since section 24 of NEMA as amended allows both the Minister and the MEC to compile lists of activities and regulations it creates an unnecessary amount of information to examine to determine which procedures are applicable to a particular CDM project. When regard is had to the draft regulations in terms of section 24 of NEMA, one of the positive aspects of this legislation is that a distinction is made in the listing of activities between those that require an EIA and those less consequential activities which only require an initial assessment. One of the primary concerns when evaluating the viability of any project is the cost. As such the EIA process should be constructed in a manner which ensures a streamlined, cost effective process while simultaneously maintaining the objective of environmental protection. The option of an initial assessment will hopefully encourage the implementation of small-scale CDM projects. Since the EIA procedure is significantly longer and consequently more costly, the listing of activities in the various schedules to determine which process needs to be followed must be carefully scrutinised with specific reference to CDM projects. It appears however as with other environmental legislation that these regulations were drafted without reference to the unique implications of CDM projects. While many such projects may be included in the listed categories, there is no mention of CDM related activities as a separate category. It is therefore recommended that a
detailed review of the schedules should be undertaken to determine the potential small-scale CDM projects, which would only require an initial assessment, and those, which would require a more comprehensive EIA process, so as to ensure that the appropriate procedure is applicable. In addition procedures such as monitoring requirements, compliance mechanisms, environmental audits and licensing which are provided for both in the EIA regime and other relevant legislation should be harmonised with international requirements. All the steps taken in terms of domestic legislation during a CDM project cycle are subject to independent evaluation either by the DOE or the CDM Executive Board. These procedures therefore need to be in accordance with international standards to avoid costly delays in the implementation of CDM projects and the final issuance of CERs.

**Air Quality legislation**

One of the critical pieces of legislation in relation to the CDM and emissions trading is the new Air Quality Act of 2004 (AQA). While this Act has created a number of improved structures and the potential for an extensive monitoring and compliance network, both the CDM and emissions trading have once again been ignored or relegated to the periphery. The shortcomings of the Act are immediately evident when regard is had to the fundamentals, such as the object of the Act in section 2. This does not include as one of its primary aims, the effective implementation of the country’s obligations under the UNFCCC and more specifically the utilisation of the Kyoto flexibility mechanisms to assist in air quality management and achieve sustainable development goals. One of the most important responsibilities of the Minister is to identify certain substances, which may be detrimental to health, and well being and determine source and ambient emissions standards for each substance. As discussed above in chapter three it is suggested that these include most if not all of the six GHG’s in Kyoto so as to encourage industry at an early stage to implement mitigation protocols in preparation for future obligatory targets beyond 2012. In addition monitoring and
reporting methodologies for these substances must co-incide with those detailed in the Marrakech Accords in relation to the CDM to allow for effective project management and baseline readings of GHG emissions. While provinces are required to compile an air quality management plan there is no provision for the inclusion of a regulatory framework to encourage the implementation of the CDM or a possible emissions trading scheme. All provincial environmental departments should therefore consider such options. An important aspect of the Act is the listing of activities, which have or may have a significant detrimental effect on the environment. Specific emissions standards are to be determined for these activities and an atmospheric emissions licence is required for all such activities, which provides for separate GHG monitoring and reporting. This will allow for effective control of any CDM project provided it falls within one of the listed activities. Since this is the only context in which GHG emissions will be specifically monitored the list should separately specify CDM projects as a separate category. This will in addition address the issue of conflicting standards for the listing of activities between section 24 of NEMA as amended and the Air Quality Act outlined in chapter three. While AQA requires there to be a significant detrimental effect, NEMA refers to the likelihood that the environment may be significantly effected. As such some activities which may not be listed under AQA will therefore not be subject to an EIA due its exclusion from schedule 5 of the draft regulations, despite the possibility that it may be considered significant in terms of NEMA. The stricter requirements for listed activities under AQA lays the foundation for future domestic emissions trading programs.

Emissions’ trading has special implications for developing countries that most economists and policymakers have failed to address, in that it may assist developing nations by creating an extremely valuable commodity ie. the right to emit carbon dioxide, which developing nations would possess in large quantities. A domestic GHG regulatory program that relies on market-based incentives would be an effective tool to address climate change issues at a

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4 Richman 173 - 174
domestic level and may actually provide a successful compromise between industrial and environmental concerns\textsuperscript{5}. The appearance that major non-Annex 1 emitters are taking positive steps to mitigate emissions will hopefully encourage the co-operation of those who have to date failed to ratify the protocol such as the United States and Australia. A carbon trading program can provide valuable experience, illustrating how market based systems can work to find the most cost effective way to reduce emissions\textsuperscript{6}. Voluntary trading schemes can make significant inroads in guiding policy makers in designing future regulatory programs. Companies that have taken the next step and established voluntary schemes have determined that it provides an additional incentive to invest in improved efficiency and waste reduction and in many instances emissions reduction has been achieved while simultaneously reducing costs\textsuperscript{7}. In order to achieve the emissions reductions necessary to reduce the threat of climate change to a manageable level, mandatory programs are inevitable. However voluntary programs assist in generating support for the establishment of a regulatory scheme\textsuperscript{8}. Section 53 of AQA empowers the Minister to draft regulations on a number of issues including trading schemes. This is the only context in which emissions trading is alluded to and there is no attempt to utilise this mechanism as an assistive device for industry to comply with national and provincial standards. While the hard-line approach of the Minister was made clear in his speech quoted in chapter three, the Act does not provide for incentives to encourage industry to comply with these stricter requirements. A domestic emissions trading program structured in a similar way to the UK where the decision to participate is voluntary, coupled with innovative initiatives to credit companies who promote programs which allow for employees to work from home as in Canada, will go a long way to gradually changing attitudes to mitigation strategies and assist industry to prepare for future mandatory obligations.

\textsuperscript{5} Diluigi \textit{Kyoto’s so-called fatal flaws: A potential springboard for domestic greenhouse gas regulation} (2002) 32 Golden Gate University law Review 693 at 746
\textsuperscript{6} Bryner \textit{‘Carbon markets: Reducing greenhouse gas emissions through emissions trading’} (2004) 17 Tulane Environmental Law Journal 267 at 299
\textsuperscript{7} Bryner op cit 299
\textsuperscript{8} Bryner op cit 299
DNA Regulations and other legislation

South Africa has finally established a DNA in terms of recently drafted regulations discussed above in chapter three. The details and final procedures for the submission and evaluation of CDM projects are not finalised and it is hoped that this is prioritised to illustrate South Africa's commitment to the CDM and to improve its standing as an attractive host party. One of the most important aspects of the DNA's duties, is to finalise a list of sustainable development criteria for the evaluation of each CDM project. Considering the substantial reliance on fossil fuels and the risks of the lock-in effect outlined in chapter two, these criteria need to favour those projects which are non fossil fuel based and focus on renewable and cleaner energy options. In light of the complaints relating to the publication of PDDs outlined in relation to the Durban landfill gas project the DNA should consider compiling a set of guidelines with specific provisions for appropriate publication so as to avoid delays in the CDM cycle. In addition over the next few years DEAT will need to evaluate other legislation to determine whether there are any climate change issues which need to be addressed to accommodate the implementation of the CDM and possibly emissions trading. Much of the legislation drafted in terms of other conventions should be reviewed to ensure that there is no conflict with climate change issues. The CDM and emissions trading give rise to a number of new economic concepts and other institutional structures. Other government departments will therefore need to draft policy documents and amend legislation to incorporate all the potential consequences. Emissions credits for example are an entirely new concept, which raise questions of ownership and have various tax implications. Tax regulations, some private law concepts and trade regulations therefore require scrutiny. It is recommended each affected department formulate a working group to supervise this process.
Conclusion

Although for many years the future of the Kyoto Protocol was uncertain, significant investment in the CDM has already occurred since Marrakech. Since its entry into force however and the reality of the first commitment obligations becomes apparent, investment levels will need to rapidly increase in the next few years in order for many Annex 1 countries to have any chance of achieving their targets\(^9\). Given that it takes several years from the conception of a CDM project until it starts to generate emissions reductions, a flurry of activity is expected in the period 2005 to 2008\(^10\). It is therefore critical that South Africa despite its prior delay takes full advantage of the next 3 years in preparation for the first commitment period. The Kyoto protocol was not intended to be the final solution to climate change. It envisages a long-term process of five-year periods, with negotiations for targets in the next commitment period expected to begin in 2005\(^11\). The structure of the future regime and the determination of obligations for non-Annex 1 countries will most likely be determined by the performance and commitment of non-Annex 1 countries from 2008.

The international community is aware now more than ever of the potential risks of doing nothing. As is clear from chapter two many governments are instituting domestic legal regimes to encourage and in some cases mandate emissions reductions\(^12\). Significantly an increasing number of multinational corporations have committed to the reduction of GHG’s, having recognised the benefits of the market mechanisms associated with Kyoto\(^13\). If the CDM functions as is anticipated global reductions can be achieved with lower compliance costs, while developing countries are able to attract new investment and environmentally

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\(^9\) Wilder & Willis ‘Current legal and risk issues in CDM projects’ 1/2005 CDM Investment Newsletter 12 at 14
\(^10\) Wilder & Willis op cit 14
\(^11\) UNFCCC Guide 38
\(^12\) Freeland ‘The Kyoto protocol: An agreement without a future?’ (2001) UNSW Law Journal 532 at 541
\(^13\) Freeland op cit 541
sound technologies\textsuperscript{14}. This should place them in the unique position of being able to leapfrog the greenhouse gas intensive experience of industrialised countries leading to long term environmental sustainability\textsuperscript{15}.

Dealing with the threat of global climate change may be the most complicated scientific, technological, environmental, economic, and political challenge in history. Making informed policy choices to combat this threat will take substantial effort and co-operation, both domestically and internationally, from all sectors of society\textsuperscript{16}.

\textsuperscript{14} Wilder & Curnow ‘The Clean development mechanism’ (2001) \textit{UNSW law Journal} 577 at 582
\textsuperscript{15} Wilder & Curnow op cit 582
\textsuperscript{16} Murkowski op cit 367
# LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQA</td>
<td>National Environmental Management Air Quality Act 39 of 2004</td>
</tr>
<tr>
<td>CCRS</td>
<td>Climate Change Response Strategy</td>
</tr>
<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
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<tr>
<td>CER</td>
<td>Certified Emissions Reduction</td>
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<tr>
<td>COP</td>
<td>Conference of the Parties</td>
</tr>
<tr>
<td>DEAT</td>
<td>Department of Environmental Affairs and Tourism</td>
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<tr>
<td>DME</td>
<td>Department of Minerals and Energy</td>
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<tr>
<td>DNA</td>
<td>Designated National Authority</td>
</tr>
<tr>
<td>DOE</td>
<td>Designated Operational Entity</td>
</tr>
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<td>DTI</td>
<td>Department of Trade and Industry</td>
</tr>
<tr>
<td>DWAF</td>
<td>Department of Water Affairs and Forestry</td>
</tr>
<tr>
<td>ECA</td>
<td>Environmental Conservation Act 73 of 1989</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Authorisation</td>
</tr>
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<td>EU ETS</td>
<td>European Union Emissions Trading Scheme</td>
</tr>
<tr>
<td>GHG</td>
<td>Greenhouse gas</td>
</tr>
<tr>
<td>IA</td>
<td>Initial Assessment</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>MEC</td>
<td>Minister of the Executive Committee</td>
</tr>
<tr>
<td>NCR</td>
<td>National Communications Report</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environmental Management Act 107 of 1998</td>
</tr>
<tr>
<td>PDD</td>
<td>Project Design Document</td>
</tr>
</tbody>
</table>
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