

# **Integrating climate concerns into South African environmental legislation pertaining to environmental impact assessments**

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## **DECLARATION**

**I, the undersigned, hereby declare that the work contained in this thesis/dissertation/mini-dissertation is my own original work and that I have not submitted it previously in its entirety or in part to any other university.**

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## **ABSTRACT**

Along with a globally acclaimed Constitution, South Africa can pride itself as having some of the best environmental laws as to date. Since Environmental Impact Assessments became mandatory for projects where a negative effect on the environment might transpire, South Africa has diligently been performing its international duty by encouraging a comprehensive Environmental Impact system.

However, the global threat of climate change lurks around every corner, with South Africa being no exception. It is therefore important for scientists and legislative authorities alike to understand and consider the true impact climate change may have on our near future.

Numerous challenges are now faced by this ever increasing risk. It is consequently important to explore how climate change might be incorporated within the framework of environmental impact assessments. The aim of environmental impact assessments is primarily to protect environment and society alike. Climate change considerations might therefore be incorporated into all decision making whereupon climate change vulnerable areas will substantially be influenced.

It is argued that although previous attempts were made to remedy the problem, no substantial solution has been reached to date. Consequently, the Netherlands, as one of the few countries currently incorporating climate change considerations into their environmental impact assessments, be used as reference as to how this can be applied within the framework of South Africa.

## **KEYWORDS**

Environmental Impact Assessment; Climate Change; Socio Economic Development; Sustainable Development; Environmental Management Framework; Kyoto Protocol; Integrated Environmental Management; National Environmental Management Act 107 of 1998

## LIST OF ABBREVIATIONS

|        |                                                       |
|--------|-------------------------------------------------------|
| EA     | Environmental Assessment                              |
| EAP    | Environmental Assessment Practitioner                 |
| ECA    | Environmental Conservation Act 73 of 1989             |
| EIA    | Environmental Impact Assessment                       |
| EIR    | Environmental Impact Report                           |
| EIS    | Environmental Impact Statement                        |
| EMA    | Environmental Management Act 01 May 2004              |
| EMF    | Environmental Management Framework                    |
| EMP    | Environmental Management Plan                         |
| GHG    | Greenhouse Gases                                      |
| IPCC   | Intergovernmental Panel on Climate Change             |
| NCEA   | Netherlands Commission for Environmental Assessment   |
| NEMA   | National Environmental Management Act 107 of 1998     |
| PBL    | Netherlands Environmental Assessment Agency           |
| PPM    | Parts per Million                                     |
| SEA    | Strategic Environmental Assessment                    |
| UNFCCC | United Nations Framework Convention on Climate Change |

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## **Chapter 1: Introduction**

### **1.1 Background and Context**

The aim of this study is to analyse the relevance of incorporating climate change into environmental impact assessments (hereafter referred to as EIA's). The research question pertains to the manner in which climate change can be incorporated into South African law and policy with specific reference to EIA's. Climate change is a major challenge to sustainable development in the 21st century.<sup>1</sup> This is clearly observed from recent past changes that befell the stability of global climate changes and extreme weather events, which destabilized development and led to an overall alteration in food security and poverty, while further prolonging the effect of nourishing an undesirable effect on overall global development.<sup>2</sup> Economic sectors primarily dependent on climate conditions, whether directly or indirectly, are progressively more exposed to the effects of climate change.<sup>3</sup> This is now a daily occurrence observed particularly in sectors like fisheries and agriculture. As a result, there's an increasing anxiety about the rising threats to current consumption patterns and income of individuals and households earning their income from these sectors.<sup>4</sup>

Despite this, regulators and planners are still not adequately addressing the impacts of climate change in future plans. One solution to this problem might be to incorporate climate change considerations into EIA's. In South Africa, The National Environmental Management Act<sup>5</sup> (hereafter referred to as NEMA) has been the legislative basis for EIA's since 3 July 2006. NEMA deals with the procedural and substantive requirements for EIA's in South Africa in accordance with the NEMA EIA Regulations (first published in GN R385, 386 and 387 in GG 28753, of 21 April 2006). In terms of section 24(1) of NEMA, it is stated that the potential consequences for impacts on the environment of listed activities or specified activities, must be investigated, considered and assessed. The findings should be reported to the competent authority or the Minister of Minerals and Energy, as the

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<sup>1</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change (2007)

<sup>2</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change (2007)

<sup>3</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1050

<sup>4</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change (2007)

<sup>5</sup> 107 of 1998

case may be, except those circumstances not requiring such authorization.<sup>6</sup> Section 24F(1) of NEMA states that “*no person may commence a listed activity unless the competent authority has granted environmental authorization for that activity.*”

An attempt was made in previous draft amendments of the NEMA EIA Regulations to specifically address climate change in the EIA process. It provided that when considering an application for environmental authorization, “*the competent authority must take into account any implications of climate change to the implementation of the activity.*”<sup>7</sup>

However, such a provision was unfortunately deleted in the latest NEMA EIA Draft Regulations. The current NEMA EIA Regulations (published in GN R982, 983, 984 and 985 in GG 38282 of 04 December 2014), which regulates the procedure and criteria of Integrated Environmental Management,<sup>8</sup> does not specifically provide for the assessment processes of climate change issues concerning EIA’s in South Africa.<sup>9</sup> In the opinion of the author, there is a strong argument to be made that, where relevant, climate change considerations should be included during the EIA process, as climate change is a serious threat to environmental, social and economic development.

In the Netherlands, the enabling legal framework for EIA’s consists broadly of Chapter 7 of the *Environmental Management Act*<sup>10</sup> and the Netherlands Commission for Environmental Assessment. The Netherlands Commission for Environmental Assessment is an independent expert body preparing voluntary and mandatory advisory reports for government on the quality and scope of environmental impact reports, which include climate change considerations.<sup>11</sup> The *Environmental Management Act* gives the Netherlands Commission for Environmental Assessment its authority and requires it as a compulsory entity when working with complex EIA’s in the Netherlands. Consequently, the Environmental Management Act together with the Netherlands Commission for Environmental Assessment establishes the basis

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<sup>6</sup> Gilder 2010 <http://www.25degrees.net/articles/climate-change>

<sup>7</sup> Parramon “The Legal Barriers to Climate Change Adaptation” 240

<sup>8</sup> GG 38282 of 04 December 2014

<sup>9</sup> Gilder 2010 <http://www.25degrees.net/articles/climate-change>

<sup>10</sup> 1 May 2004

<sup>11</sup> Netherlands Commission for Environmental Assessment 2014 <http://www.eia.nl/>

whereupon the EIA progress in the Netherlands functions. The Netherlands Commission for Environmental Assessment is therefore the body responsible for providing recommendations on how to integrate climate change considerations into their EIA procedures. Therefore, if a proposed project or plan is to be implemented, for e.g. the building of a soccer stadium, the Netherlands Commission for Environmental Assessment becomes legally required to ensure that proper climate change adaptation and/or mitigation measures are put in to place through the EIA process before commencement of the specific project or plan. As a result, promoting Dutch sustainable development.

### **1.2 The challenges faced by climate change**

The phenomenon of climate change used to be known to only a few scientists concerned with the effects of hundreds of years of pollution on long-term climate patterns.<sup>12</sup> In this current day and age, the idea of climate change is well known. Climate change refers to a substantial and permanent change in the geometric distribution of weather patterns over long periods of time.<sup>13</sup> Climate change thus involves a long-term alteration in weather conditions identified by changes in average temperatures, winds, precipitation etc.<sup>14</sup>

The earth's temperature is controlled by the balance between energy input from the sun and the loss of this energy back into space. This means that certain atmospheric gases are essential in providing this balance of temperature on earth, consequently acting like a blanket over the earth and containing heat.<sup>15</sup> These gases are known as greenhouse gases, and an excess of them can lead to the so-called greenhouse effect. Without these gases in the atmosphere, the average temperature of the earth's surface would be about -18°C.<sup>16</sup>

Naturally occurring greenhouse gases (hereafter referred to as GHGs) include water vapour (H<sub>2</sub>O), ozone (O<sub>3</sub>), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and methane

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<sup>12</sup> Maslin *Global warming a very short introduction* 4

<sup>13</sup> Government of Canada 2013 <http://goo.gl/AWpCBF>

<sup>14</sup> Government of Canada 2013 <http://goo.gl/AWpCBF>

<sup>15</sup> Maslin *Global warming a very short introduction* 4

<sup>16</sup> Cameron and Zaelke 1990 American University International Law Review 6

(CH<sub>4</sub>), which together create a natural blanket over the earth and therefore a greenhouse effect.<sup>17</sup> This greenhouse effect is not in itself harmful, but rather allows the earth to stay warm enough for all life forms to survive in it. The atmosphere of the Earth is composed of 78% nitrogen, 21% oxygen, and 1% other gases.<sup>18</sup> These other gases are what researchers are interested in, as they include the so-called GHG's

Strong scientific evidence shows that climate change is caused largely by human activities (anthropogenic pollution).<sup>19</sup> The central cause of climate change is the emission of CO<sub>2</sub>, which is produced in large quantities by human activities including the burning of fossil fuels such as coal, oil and natural gas, electricity consumption, transportation and deforestation.<sup>20</sup> The universal atmospheric concentration of CO<sub>2</sub> increased from about 280 ppm (parts per million  $2 \times 10^{-6}$ )<sup>21</sup> to 397 ppm during the period extending from the end of the pre-industrial era (roughly 1750) to 2005.<sup>22</sup> This increase exceeds the natural range as determined from ice cores (+ 180-300 ppm) over the last 650 000 years.<sup>23</sup> Whilst the difference may appear to be trivial, it is in fact a significant change in gas concentrations and is ultimately instigating climate change.<sup>24</sup>

In the fourth assessment report of the Intergovernmental Panel on Climate Change (hereafter referred to as the IPCC), published in 2007, the prediction is made that without instantaneous action to diminish GHG emissions, the temperature of the globe will rise by an additional 1.1 to 6.4 degrees Celsius during this century.<sup>25</sup> Even an increase in the lower part of this range would mean that temperatures have increased by above 2 degrees Celsius since pre-industrial times, the threshold

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<sup>17</sup> Maslin *Global warming a very short introduction* 4

<sup>18</sup> Maslin *Global warming a very short introduction* 6

<sup>19</sup> The National Academies of Science, Engineering, Medicine 2012 <http://goo.gl/pxKpG1>

<sup>20</sup> Grabianowski and Strickland 2011 <http://goo.gl/wNrQCr>

<sup>21</sup> Notation often used to describe dilute solutions in chemistry

<sup>22</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1051

<sup>23</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1051

<sup>24</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1051

<sup>25</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1050

beyond which irretrievable and perhaps disastrous changes become probable.<sup>26</sup> This prediction was again confirmed in the fifth assessment report of the IPCC, published in 2014, wherein it was stated that the global average temperature is likely to exceed 2 degrees Celsius by the end of the 21<sup>st</sup> century.<sup>27</sup> Furthermore, with so much anthropogenic emission already taking place, some of the impacts of climate change are unavoidable. Even if global GHG levels were stabilised today, the warming of the earth would inevitably continue till the end of the century.<sup>28</sup>

Factors like rising sea levels, heat waves, desertification, floods etc. all contribute to damaging the environment. Unless incisive action is taken to cease the escalation and then to diminish the levels of GHGs released by human endeavour, nations worldwide as well as their inhabitants will face substantial social and economic challenges. The widely cited *Stern Review on the Economics of Climate Change*, published by Nick Stern in 2006 at the request of the British Government, established that a failure to take steps against climate change “will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.”<sup>29</sup> In 2013 Nick Stern stated in an interview at the World Economic Forum, that he now believes he might have actually “underestimated” the projected effect of climate change.<sup>30</sup>

At the same time, the World Bank’s climate change document,<sup>31</sup> released in 2012, predicts that the world will face more frequent flooding and storm events, interference from extreme weather, more rigorous heat waves and droughts, thus resulting in a substantial loss of biodiversity and agricultural land.<sup>32</sup> The document also states that thawing permafrost, water shortages, extreme heat and rising sea levels will put essential infrastructure under immense pressure. The effects of climate change are often most felt in degraded and fragile districts in the

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<sup>26</sup> King and Rumsey “Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities” 1050

<sup>27</sup> Intergovernmental Panel on Climate Change Fifth Assessment Report: Climate Change (2014)

<sup>28</sup> King and Rumsey “Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities” 1050

<sup>29</sup> Stern *The Economics of Climate Change* vi

<sup>30</sup> Natural Capital Partners 2014 <http://goo.gl/bUxqFj>

<sup>31</sup> *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided*

<sup>32</sup> The World Bank 2012 <http://bit.ly/1kxiz6Z>

unindustrialized world, adding a supplementary level of complication to the challenge of sustainable development.<sup>33</sup> There will also be social concerns, including large-scale human migrations from areas affected by famine, drought and extreme heat tension in the urban regions of tropical and subtropical nations.<sup>34</sup>

### **1.3 International response to climate change**

In 1992, several countries joined the *United Nations Framework Convention on Climate Change* (hereafter referred to as the UNFCCC), with the goal of reducing average global temperatures resulting from climate change, and to further better manage these impacts. By 1995, these countries had recognized that the provisions in the UNFCCC regarding emission reductions were insufficient. Negotiations were therefore launched to reinforce the international response to climate change, and two years later the Kyoto Protocol was adopted.<sup>35</sup>

The Kyoto Protocol binds developed countries to emission reduction targets.<sup>36</sup> Developing countries, on the other hand, have no binding targets under the treaty but are still committed to emission reduction. The Kyoto Protocol's first obligation period started in 2008 and ended in 2012, with the second obligation period beginning on 1 January 2013 and ending in 2020. The UNFCCC is regarded as one of the first major global climate change conventions. South Africa is a signatory to the UNFCCC.

### **1.4 Approaching climate change challenges: adaptation and mitigation**

When dealing with climate change challenges, specifically within the reference of EIA's, adaptation and mitigation are essential strategies. The strategies are directly applicable to how EIA's are implemented within South Africa. The reason being, adaptation refers to the capability of a system to adjust to climate change with the intention of reducing the world's vulnerability to anticipated and observed impacts of climate change. Action is therefore needed in order for development to adapt to

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<sup>33</sup> Natural Capital Partners 2014 <http://goo.gl/bUxqFj>

<sup>34</sup> Natural Capital Partners 2014 <http://goo.gl/bUxqFj>

<sup>35</sup> Anon 2014 [http://www.unfccc.int/essential\\_background/](http://www.unfccc.int/essential_background/)

<sup>36</sup> Anon 2014 [http://www.unfccc.int/essential\\_background/](http://www.unfccc.int/essential_background/)

current and future climate change challenges. Adaptation further occurs in ecological, physical and human systems and pertains mainly to the perception of risk, the reduction of risk, and exploring new opportunities to manage the changed environment.<sup>37</sup> The IPCC defines adaptation as the:

adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation.

Mitigation, on the other hand, refers to any action or strategy taken to remove GHG's released into the atmosphere, or to reduce their amount.<sup>38</sup> This again applies directly to the consequences which ought to be taken into account during the EIA process. Mitigation is thus an intervention tool to reduce the sources of emissions or enhance the sinks of GHG's.<sup>39</sup> The IPCC defines mitigation as: "An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases."<sup>40</sup>

Both the UNFCCC and the Kyoto Protocol place a high value on adaptation and mitigation. The UNFCCC notes that our climate system is a common resource whose permanency can easily be influenced by industrialized and other productions of CO<sub>2</sub> and GHG gases.<sup>41</sup> As a result, the UNFCCC places a great deal of emphasis on adaptation and mitigation by combining both these concepts with the essential goal of:<sup>42</sup>

The stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not

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<sup>37</sup> Intergovernmental Panel on Climate Change, 2012: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* ix

<sup>38</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1052

<sup>39</sup> Locatelli 2011 <http://goo.gl/yiv7Ej> 65

<sup>40</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report

<sup>41</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1052

<sup>42</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1052

threatened and to enable economic development to proceed in a sustainable manner.

### **1.5 The local effects of a global environmental challenge – the case of South Africa**

The climate effects anticipated for South Africa are generally parallel to those being experienced on a global level, namely general warming, changes in rainfall quantities and timing, increased climate irregularity, changes in seasons, higher sea-levels and a greater cumulative frequency and concentration of extreme weather happenings.<sup>43</sup>

South Africa is situated in the subtropical region of the Southern Hemisphere. It has a multifaceted climate, influenced by the Indian and Atlantic Oceans, diverse rainfall systems and the extensive variety of elevations typical of Southern Africa.<sup>44</sup> With its latitudinal position between 35° S and 22° S, South Africa's temperatures can range from below freezing in the winter to over 35°C in the summer.<sup>45</sup>

The average change in temperature between 1960 and 2003 was an increase of about 0.6°C at a rate of approximately 0.14°C per decade.<sup>46</sup> The biodiversity of South Africa is extremely vulnerable, especially in the succulent Karoo, grasslands, and fynbos areas, where high levels of extinction are predicted.<sup>47</sup> This is particularly alarming to South African economic growth, as the average surface temperature of the earth has risen by over 0.7°C since 1850.<sup>48</sup>

In essence, South Africa will mainly be affected in four geographical ways. An increase in rainfall is predicted on the eastern side of the country, with less rain predicted towards the western side of the country.<sup>49</sup> There will also be an increase in average temperature, implying that there will be more "hot" days in future, as well as

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<sup>43</sup> Department Of Water Affairs And Forestry unknown date <http://goo.gl/UkRRgS>

<sup>44</sup> Jones *et al* 2011 <http://goo.gl/3icV4U> 24-25

<sup>45</sup> Cameron and Zaelke 1990 *American University International Law Review* 2

<sup>46</sup> Jones *et al* 2011 <http://goo.gl/3icV4U> 24-25

<sup>47</sup> Jones *et al* 2011 <http://goo.gl/3icV4U> 24-25

<sup>48</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1050

<sup>49</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 10

an expansion of desertification, specifically in the Karoo area.<sup>50</sup> One of the biggest dangers threatening South Africa is this expanding of the Karoo area. This means that a greater part of South Africa will become desert-like, leading to greater losses of biodiversity and agricultural production. It is therefore important that climate change-related action be taken as soon as possible, before a dramatic predicted future becomes today's reality.

## **1.6 Research Structure**

In the dissertation, foreign law (Dutch) will be used to make certain specific recommendations to South African environmental law regarding the incorporation of climate change considerations in EIA's. A literature study will be done on essential aspects regarding EIA's and climate change pertaining to EIA's in South Africa. The similarities and differences between South Africa and the Netherlands regarding EIA's and climate change considerations will be explored and evaluated. In doing so, the following themes will be investigated. Chapter 2 deals with the concept of EIA's and its importance in modern society. The aim of this chapter is to describe the logic behind EIA's, as well as the functioning thereof in today's growing economy. Chapter 3 will thereafter describe how South African legislation and regulations deal with the incorporation of climate change considerations in EIA's. The South African EIA process will be explained and explored. Chapter 3 will include an overview of the legal standing of sustainable development in South African environmental law. Chapter 4 will then follow and will be based on the same framework as set out in chapter 3. The Dutch approach toward incorporating climate change considerations in EIA's will be explored and explained in this chapter. Finally, chapter 5 will take the context of chapters 3 and 4 into account in an attempt to provide a relevant conclusion and recommendations toward South African EIA development.

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<sup>50</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 10

## **Chapter 2: EIA's**

### **2.1 Introduction**

Chapter 1 briefly focused on the concept of global climate change as well as the possible impacts climate change are set to have on development in South Africa. One way of perhaps adapting or even mitigating such effects may be to integrate factors relating to climate change into EIAs. The aim of this chapter is to assess what is understood by the idea of an environmental impact assessment, both as an international concept and its specific meaning and place within South African legislation.

### **2.2 What is an EIA?**

The performance of an EIA is universally regarded as essentially an “information collecting” exercise which seeks to gather information regarding potential environmental impacts, e.g. aesthetic, social or biological,<sup>51</sup> by the developer and other bodies involved in a “development” or “project.” This in essence enables the local authority tasked with implementing the proposed development or plan, as well as the public, to recognise and understand the possible environmental effects of a development before determining whether or not to go ahead with it.<sup>52</sup> The fundamental aspect concerning EIA's is the emphasis placed on implementing the best available sources of impartial information to carry out a holistic and organised process which must be bias free and must further allow for the local authority as well as the whole community to accurately comprehend the impact of the suggested development.<sup>53</sup> EIA's lead to better standards of development and in some cases will even lead to the development's not occurring at all. EIA's consequently prevent projects and developments from occurring where unacceptable destruction will be caused to the environment. Where developments do go ahead, environmental assessments should help to propose proper mitigation measures.<sup>54</sup>

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<sup>51</sup> Turpie “Environmental and Resource Economics” 51

<sup>52</sup> Friends of the Earth 2005 <http://goo.gl/xSJmjF>

<sup>53</sup> Friends of the Earth 2005 <http://goo.gl/xSJmjF>

<sup>54</sup> Friends of the Earth 2005 <http://goo.gl/xSJmjF>

## 2.3 History of EIA

The USA was the first country to formally develop a legally binding EIA system in 1969 through the National Environmental Policy Act,<sup>55</sup> shortly after the influential 1962 publication entitled “*Silent Spring*”, written by Rachel Carson.<sup>56</sup> *Silent Spring* succeeded in evoking a fear between daily human consumption and usage of natural resources, against the availability thereof produced through natural processes.<sup>57</sup> The USA succeeded in facilitating a viable structure whereby environmental protection became the central part of departure for any new developments where environmental factors might be affected. This further resulted in the first global Strategic Environmental Assessment (hereinafter referred to as SEA) being formed.<sup>58</sup> The EIA structure was shortly followed by numerous countries, including Australia, New Zealand, Canada, France and Thailand.<sup>59</sup>

The EIA system was initially put into action for projects in Europe on 27 June 1985 by way of a European Council Directive, assessing the effects of specific private and public projects on the environment.<sup>60</sup> This directive has since been revised in 1997, 2003 and 2009.<sup>61</sup> The directive applies to an extensive range of defined private and public projects, which are defined as either Annex I or II projects.<sup>62</sup> Annex I projects refer to developments or projects where EIA's are mandatory to members.<sup>63</sup> An example would be the construction of long distance railways or an airport. Annex II projects on the other hand, is regarded as “discretionary” to member states.<sup>64</sup>

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<sup>55</sup> 1969

<sup>56</sup> PADC Environmental Impact Assessment and Planning Unit (eds) *Environmental Impact Assessment* 22

<sup>57</sup> PADC Environmental Impact Assessment and Planning Unit (eds) *Environmental Impact Assessment* 22

<sup>58</sup> Warburton C *Evaluating South African Environmental Impact Assessment (EIA) processes in the Context of the Gautrain Project* 21

<sup>59</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 18

<sup>60</sup> EIA Directive 85/337/EEC of 27 June 1985

<sup>61</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

<sup>62</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

<sup>63</sup> European Commission 2016 <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

<sup>64</sup> European Commission 2016 <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

Member states are given the discretion whether or not an EIA is required by conducting a screening process of the proposed project.<sup>65</sup>

In South Africa, the regulations pertaining to EIA's have gradually progressed since the 1970's in terms of their associated process and their listed activity system.<sup>66</sup> Originally used only as a non-mandatory tool, the formal EIA's process was initially enacted in Sections 21 and 22 of the Environmental Conservation Act<sup>67</sup> (hereafter referred to as ECA). Chapter 5 of the ECA dealt with "*activities which may have detrimental effects on the environment.*" This set the benchmark for the EIA system in South Africa. However, the ECA had some severe shortcoming as its EIA system lacked proper monitor and audit plans. It was further missing proper environmental management provisions and introduced a very limited and vague list of recognized activities requiring EIA's.<sup>68</sup>

In 1997, the EIA regulations were promulgated in terms of the ECA, (published in GN R1182 & 1183 in GG 18261 of 05 September 1997). The EIA regulations were then amended in 2002. Currently, NEMA deals with the procedural and substantive requirements for EIA's in South Africa in accordance with the NEMA EIA Regulations.

## **2.4 Basic workings of EIA**

Traditionally, EIA's were designed to go through numerous phases before a certain project can be completed. As with any project management structure, an EIA is subject to a life cycle, typically beginning with the scoping phase and ending with a formal environmental audit. The following is an explanation of the general concept proposed by the EIA process.

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<sup>65</sup> European Commission 2016 <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

<sup>66</sup> Van Wyk 2014 <http://goo.gl/vtQBsm>

<sup>67</sup> 73 of 1989

<sup>68</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 23

### 2.4.1 Screening

Screening is considered as the first phase of the EIA cycle and is done with the intention of determining whether a proposed project or plan should be subjected to the EIA process or not.<sup>69</sup> The screening phase consequently analyses the environmental status of a proposed project, in order to determine the degree of environmental damage the project may experience. Simultaneously, Aucamp disagrees that screening is the first stage, by stating that: "strictly speaking, screening is not a part of the EIA process as it is the process used to determine whether an EIA is needed."<sup>70</sup>

The criteria for projects requiring an EIA varies greatly between countries, and numerous factors are considered.<sup>71</sup> As briefly stated in chapter 1, the Netherlands places great priority on climate change sensitive projects, whereas South Africa is still lacking in this regard, as climate change is not a mandatory consideration during the EIA process. The Dutch currently places much more emphasis on climate change factors during the screening phase of proposed projects and as a result aim to ensure that proper adaptation and/or mitigation measures are put in place before commencing with any climate change related project or plans.

### 2.4.2 Scoping

The scoping phase involves a process of filtering substantial and significant environmental factors that a proposed project may encounter.<sup>72</sup> This is thus the basics whereupon the EIA process is grounded. It would be impractical and unrealistic to propose an EIA plan whereby each and every possible environmental impact is dealt with.<sup>73</sup> Accordingly, scoping acts as a filter for separating substantial

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<sup>69</sup> Ogola 2007 <http://www.os.is/gogn/unu-gtp-sc/UNU-GTP-SC-05-28.pdf>

<sup>70</sup> Aucamp *Environmental impact assessment : a practical guide for the discerning practitioner* 13

<sup>71</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 19

<sup>72</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 19

<sup>73</sup> Ogola 2007 <http://www.os.is/gogn/unu-gtp-sc/UNU-GTP-SC-05-28.pdf>

environmental factors from those regarded as trivial. Aucamp describes the scoping process as follows:<sup>74</sup>

Scoping can be defined as the identification of a number of priority issues, from a broad range of potential problems, to be addressed by an EIA. It is a procedure for narrowing the scope of an assessment and ensuring that it remains focused on the truly significant issues or impacts... Scoping always involves interaction between all stakeholders (the public, government departments, industry and the proponent) to identify the key issues for investigation.

Scoping further provides for the all-important 'public participation segment.' The scoping plan drafted during the scoping phase usually includes several aspects applicable to the public. It is desirable that a comprehensive description of the proposed project, the advantages and disadvantages thereof, social and economic factors, and all relevant elements of the project be brought to the attention of the public.<sup>75</sup> In South Africa, section 2 of NEMA states the following regarding public participation:

- (f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation and participation by vulnerable and disadvantaged persons must be ensured.
- (g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.

#### *2.4.3 Prediction and Mitigation*

This phase follows after scoping has been dealt with. Prediction and mitigation refer to a thorough prediction regarding mitigation factors applicable to the proposed project.<sup>76</sup> Measures are established in order to reduce identified adverse actions while enhancing positive impacts. Within the framework of climate change, mitigation refers to any action or strategy taken to remove GHG's released into the

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<sup>74</sup> Aucamp *Environmental impact assessment : a practical guide for the discerning practitioner* 6-7 and referenced in Warburton C *Evaluating South African Environmental Impact Assessment (EIA) processes in the Context of the Gautrain Project* 30

<sup>75</sup> Fuggle and Rabie (eds) *Environmental Management in South Africa* 1011.

<sup>76</sup> Food and Agriculture Organization of the United Nations unknown date <http://www.fao.org/docrep/V8350E/v8350e06.htm>

atmosphere, or to reduce their amount.<sup>77</sup> Mitigation is thus an intervention tool to reduce the sources of emissions or enhance the sinks of GHG's.<sup>78</sup> The IPCC defines mitigation as: "An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases."<sup>79</sup>

#### *2.4.4 Preparing a draft Environmental Impact Statement and final Environmental Impact Statement*

A draft Environmental Impact Statement (hereafter referred to as EIS), or often referred to as Environmental Impact Report, is then produced which sets out factual information linking the development, as well as all relevant information pertaining to screening, scoping, impact prediction and assessment of mitigation measures.<sup>80</sup> This again opens the process to public participation. The draft EIS is reviewed by the competent authority or decision-making body and measurements are put in place in order to ensure that the EIA complies with relevant legislation and regulations. A final EIS is then drafted containing all the necessary and essential information concerning the development's proposed impacts and concerns.<sup>81</sup>

#### *2.4.5 Management and monitoring*

Management and monitoring, often referred to as Environmental Management Plan, incorporates a continual environmental management and monitoring plan for a project, while regularly auditing the impacts of the project.<sup>82</sup> Without this process, the EIA would merely be a linear and ineffective project. Monitoring should aim to primarily focus on the most substantial impacts identified during the scoping phase.<sup>83</sup> It is important that these impacts be managed and monitored within the specific framework of sustainable development. Consequently, it is desirable that an

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<sup>77</sup> King and Rumsey "Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities" 1052

<sup>78</sup> Locatelli 2011 <http://goo.gl/yiv7Ej> 65

<sup>79</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report

<sup>80</sup> University of London unknown date [http://www.soas.ac.uk/cedep-demos/000\\_P507\\_EA\\_K3736-Demo/unit1/page\\_14.htm](http://www.soas.ac.uk/cedep-demos/000_P507_EA_K3736-Demo/unit1/page_14.htm)

<sup>81</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 20

<sup>82</sup> University of London unknown date [http://www.soas.ac.uk/cedep-demos/000\\_P507\\_EA\\_K3736-Demo/unit1/page\\_14.htm](http://www.soas.ac.uk/cedep-demos/000_P507_EA_K3736-Demo/unit1/page_14.htm)

<sup>83</sup> Ogola 2007 <http://www.os.is/gogn/unu-gtp-sc/UNU-GTP-SC-05-28.pdf>

Environmental Management Plan should be constructed in such a manner as to adapt to any substantial changes the project may incur during its life cycle.<sup>84</sup>

#### **2.4.6 Auditing**

This entails the final part of the EIA process. An environmental audit should be carried out in order to audit and assess the project based on its efficiency and environmental compliance. This in turn assists the competent authority or decision-making body to capitalize on vital experience obtained for future projects and developments.<sup>85</sup>

### **2.5 Importance of EIA**

As stated in chapter 1, climate change poses a severe challenge to economic growth and development. The type and nature of development occurring in the world today, leads to severe implications for GHG emissions along with the vulnerability of society to adapt to these climate change impacts.<sup>86</sup> Accordingly, it is widely acknowledged that a need exists to integrate climate change consideration and its impacts into development projects and policies.<sup>87</sup>

As a result, EIA's predominantly aim to identify the impacts that a proposed project or development might have on the environment, and to take all relevant environmental impacts into account before commencing with the project itself. As such, it can be argued that EIA's may be used as a substantial tool in managing and structuring the implications of eventual environmental implications on a project during its screening phase, rather than solely dealing with the aftermath.

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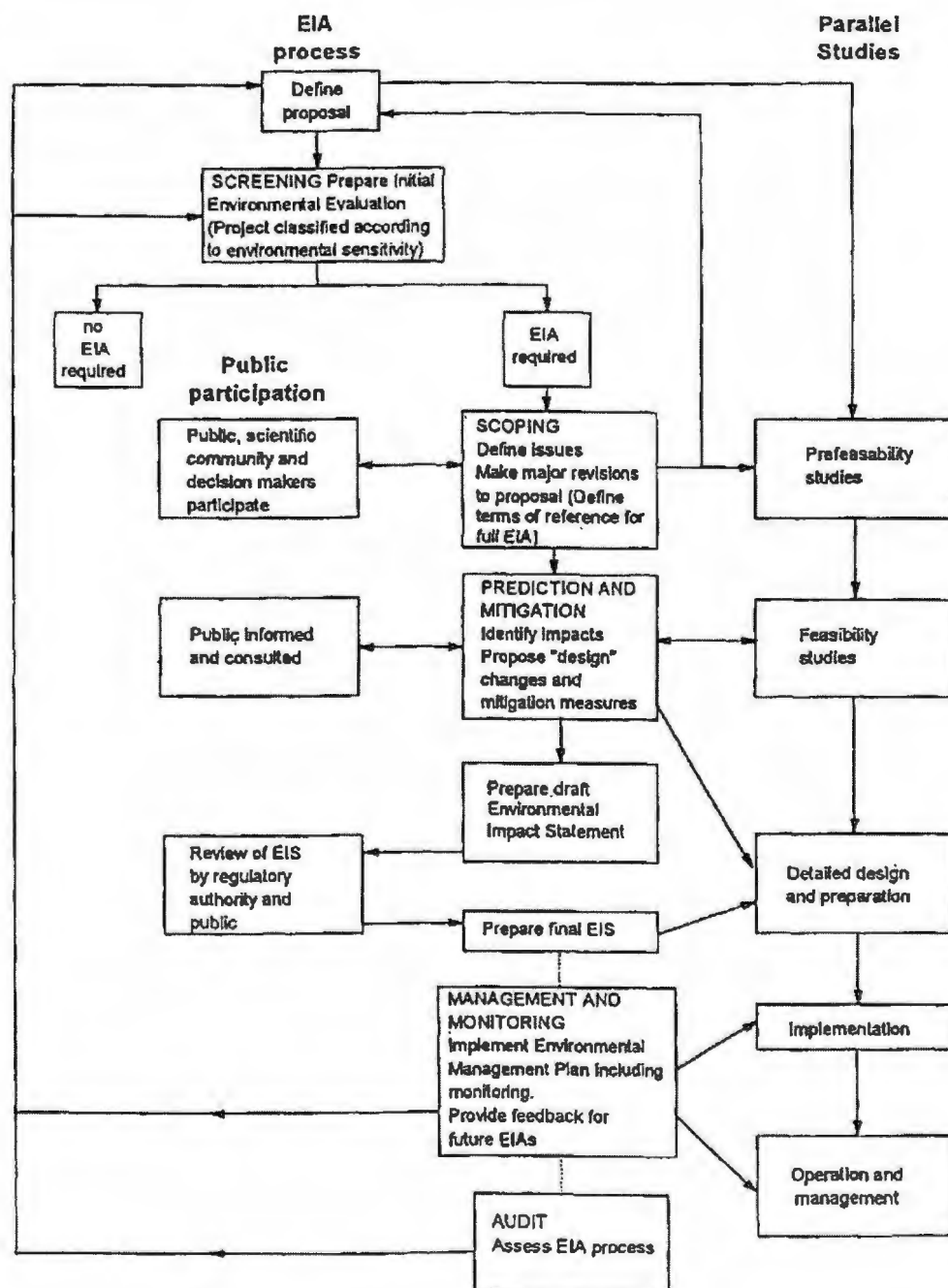
<sup>84</sup> Food and Agriculture Organization of the United Nations unknown date <http://www.fao.org/docrep/V8350E/v8350e06.htm>

<sup>85</sup> Food and Agriculture Organization of the United Nations unknown date <http://www.fao.org/docrep/V8350E/v8350e06.htm>

<sup>86</sup> Agrawala et al *Incorporating climate change impacts and adaptation in Environmental Impact Assessments: Opportunities and Challenges* 8

<sup>87</sup> Agrawala et al *Incorporating climate change impacts and adaptation in Environmental Impact Assessments: Opportunities and Challenges* 8

## 2.6 A practical depiction of the EIA process:



Source: Food and Agriculture Organization of the United Nations unknown date  
<http://www.fao.org/docrep/V8350E/v8350e06.htm>

## Chapter 3: South African law governing EIAs

### 3.1 Introduction

In South Africa, the performance of EIA's are defined as "*the process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application.*"<sup>88</sup> The NEMA has been the legislative basis for EIAs since 3 July 2006. It deals with the procedural and substantive requirements for EIAs in South Africa in accordance with the NEMA EIA Regulations,<sup>89</sup> namely those announced in Government Notices R982, 983, 984 and 985 in GG 38282 of 04 December 2014, which act as guideline in determining whether a proposed project or plan should comply with the requirements of commissioning an EIA.

Section 24(1) of the NEMA states that the potential consequences or impacts on the environment of listed activities or specified activities must be investigated, considered and assessed.<sup>90</sup> The regulations pertaining to EIAs have gradually progressed in South Africa since the 1970s in terms of their associated process and their listed activity system.<sup>91</sup> Presently the EIA regulations are applicable in the event of a development or expansion that triggers the need for such an assessment. EIAs are the best known and applied tool for achieving a proactive and integrated environmental management system as well as for giving effect to the principles stated in section 2 of NEMA, which include, *inter alia*, sustainable development, and the preventative and precautionary principles.<sup>92</sup>

The basic tenets of an EIA are that the environmental findings relevant to a development should be reported to the competent authority or the Minister of Minerals and Energy, as the case may be, except in those circumstances not requiring such authorization.<sup>93</sup> Section 24F(1) of the NEMA states that no person

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<sup>88</sup> NEMA Regulation 543

<sup>89</sup> GN R385 in GG 28753 of 21 April 2006

<sup>90</sup> NEMA Section 24F(1)

<sup>91</sup> Van Wyk 2014 <http://goo.gl/vtQBsm>

<sup>92</sup> September A *critical analysis of the application of s24G provisions of the National Environmental Management Act 1*

<sup>93</sup> Gilder 2010 <http://www.25degrees.net/articles/climate-change>

may commence a listed activity unless the competent authority has granted environmental authorisation for that activity.

### **3.2 Lodging an EIA**

The South African EIA system is very similar to that of the international concept, as discussed in chapter 2.<sup>94</sup> The EIA process starts with lodging an application to the relevant authority. The application contains all the relevant information applicable to the project, which will include for example; a topographical map specifying the district of the study area, aerial photographs of the study area, specific detail of the property title deed, erf number etc.<sup>95</sup> EIA's are conducted by environmental assessment practitioners (hereafter referred to as EAPs). The role of EAP's is to determine whether an activity should be subject to either a basic assessment or full scoping report.<sup>96</sup> EAP's are required to have appropriate expertise in conducting EIA's and are obliged to disclose all information that may affect the decision of the relevant authority.<sup>97</sup>

It is vital that EAP's act objectively and independently from the applicant/developer. Activities done by EAPs are further open to the public participation procedure. It is then the role of EAPs to present the application for environmental authorisation, a basic assessment or a full scoping report along with the relevant details pertaining to the public participation process to the relevant authority. The relevant authority may then grant the environmental authorisation, grant it subject to certain conditions, or completely reject the application.<sup>98</sup> A decision must be made by the relevant authority within the timelines prescribed by the EIA regulations.<sup>99</sup>

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<sup>94</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 24

<sup>95</sup> Townsend 2007 [http://www.enviropaedia.com/topic/default.php?topic\\_id=92](http://www.enviropaedia.com/topic/default.php?topic_id=92)

<sup>96</sup> Townsend 2007 [http://www.enviropaedia.com/topic/default.php?topic\\_id=92](http://www.enviropaedia.com/topic/default.php?topic_id=92)

<sup>97</sup> Endangered Wildlife Trust unknown date <http://www.eia.org.za/who.html>

<sup>98</sup> Townsend 2007 [http://www.enviropaedia.com/topic/default.php?topic\\_id=92](http://www.enviropaedia.com/topic/default.php?topic_id=92)

<sup>99</sup> Government Gazette No 38282

### 3.3 Listing Notices

Since April 2006, the previous EIA Regulations made in accordance with the ECA, were substituted and replaced by the new EIA Regulations in terms of NEMA's Chapter 5.<sup>100</sup> There are currently three listing notices published in the EIA Regulations. These Regulations, originally published in Government Notices No. R365 R386 and R387, have since been reviewed based on comments received from relevant stakeholders, the necessity to accommodate mining activities in South Africa, as well as the need to align the Listing notices with NEMA's Amendment Acts and other "*national environmental management Acts*."<sup>101</sup>

The listing notices published in the EIA regulations act as guideline when dealing with specific plans and projects. Listing Notice One specifies activities requiring only a basic assessment report.<sup>102</sup> These are normally activities with the potential to negatively impact the environment, but due to the scale and nature of these activities the impacts are generally known.<sup>103</sup>

The second listing notice classifies activities that require both scoping and an Environmental Impact Report (hereafter referred to as EIR). This would for example be the construction of a power station. The complete array of potential impacts needs to be recognized through a scoping exercise prior to the proposal's being evaluated, as such activities are usually of large scale or highly polluting.<sup>104</sup> An EIR is merely one of the many reports or sources of information which must be delivered during the EIA process. The EIR must direct environmental mitigation and evaluate alternatives as part of the whole EIA process to be used by the developer, project management, principal agents and contractors during construction, the operator and its management staff during the operational phase, DEA and the Local Authority in the area.<sup>105</sup> The EIR should also describe the planned activity and the potentially affected environment.

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<sup>100</sup> Development Bank of South Africa *SADC Environmental Legislation Handbook* 326

<sup>101</sup> Development Bank of South Africa *SADC Environmental Legislation Handbook* 326

<sup>102</sup> Development Bank of South Africa *SADC Environmental Legislation Handbook* 331

<sup>103</sup> Development Bank of South Africa *SADC Environmental Legislation Handbook* 326

<sup>104</sup> Friends of the Earth 2005 <http://goo.gl/xSJmjF>

<sup>105</sup> Department of Environmental Affairs and Tourism 2004 <http://goo.gl/ZgNrqp>

The aim of the EIR is to aid the responsible authority in its decision-making process, the community in grasping the probable impacts of the plan, and the proponent in handling and managing the impacts.<sup>106</sup> It ought to provide reliable, sufficient and useful information, focusing on those topics which should be taken into account in reaching a conclusion.<sup>107</sup> The reliability of an EIR is heavily dependent on the sufficiency of the related EIA process.

An Environmental Management Plan (hereafter referred to as an EMP) will also need to be initiated when dealing with a full EIA. The EMP is responsible for providing information pertaining to the site and proposed development and must be presented in terms of the NEMA and the Environmental Impact Regulations. An EMP is defined as:<sup>108</sup> *“A plan or programme that seeks to achieve a required end state and describes how activities, that have or could have an adverse impact on the environment, will be mitigated, controlled, and monitored.”* The EMP must identify the environmental impacts which might be a hazard throughout the planning, construction and operational phases of the proposed project. It deals with numerous aspects, including for example: plans for sufficient safety measures to be applied in accordance with the Occupational Health and Safety Act,<sup>109</sup> encouraging local labour, applying construction methods resulting in the least negative environmental impact, and the identifying of any sensitive areas or features in order to minimise possible damage.<sup>110</sup>

The third listing notice contains activities requiring environmental authorisation through a basic assessment process, if that activity is undertaken in one of the geographical areas specified in the listing notice. The geographical areas will differ from province to province.<sup>111</sup>

Environmental authorisation is compulsory for any developer wishing to undertake any listed activity in terms of Listing Notices 1, 2 and 3. Furthermore, numerous other licences, authorisations or permits may be required. This will depend on the nature

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<sup>106</sup> Department of Environmental Affairs and Tourism 2004 <http://goo.gl/ZgNrqp>

<sup>107</sup> Department of Environmental Affairs and Tourism 2004 <http://goo.gl/ZgNrqp>

<sup>108</sup> South African National Parks unknown <http://goo.gl/e1h57x>

<sup>109</sup> 85 of 1993

<sup>110</sup> South African National Parks unknown date <http://goo.gl/e1h57x>

<sup>111</sup> Gilder 2010 <http://www.25degrees.net/articles/climate-change>

of the activity anticipated.<sup>112</sup> Examples might include a water licence in terms of the National Water Act,<sup>113</sup> an atmospheric emission licence in terms of the National Environmental Management: Air Quality Act<sup>114</sup> or a waste management licence in terms of the National Environmental Management: Waste Act.<sup>115</sup> Accordingly, several activities will further initiate an obligation to engage in other environmental processes and obtain other approvals.<sup>116</sup>

A simple practical example can be used to illustrate the above. Firstly, investors and interested parties draw up a plan, buy a piece of land and obtain the required authorisation to start the construction. However, it would be unwise to start any construction without contemplating the long- and short-term environmental effects such a proposed project may have on the environment and the community. Accordingly, the NEMA EIA-listed activities act as a compulsory guide or framework to be followed for activities involving the required environmental authorization before building may commence. A report will have to be compiled, stating all the environmental and social effects the proposed project will have, as well as the steps that will be taken in order to minimize current and future environmental degradation. The report will also have to state how the environmental degradation will be rehabilitated in the future. This report, after public consideration, may then either be rejected, accepted or sent back for alteration of the plans for the development.

EIA is thus a systematic and hands-on process where potential environmental impacts related to certain activities are investigated, assessed and reported. This process contributes to giving effect to the objectives of integrated environmental management by informing decision makers of the desirability of developments, as well as the conditions to which the authorisation of the action should be subject.<sup>117</sup> It is a process of assessing the likely environmental impacts of a proposed development or project, taking into account cultural, inter-related socio-economic and human-health effects, both favourable and adversarial. The South African EIA system further aims to not only focus on the NEMA, but approach Environmental law

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<sup>112</sup> Development Bank of South Africa *SADC Environmental Legislation Handbook* 327

<sup>113</sup> 36 of 1998

<sup>114</sup> 39 of 2004

<sup>115</sup> 59 of 2008

<sup>116</sup> Anon 2011 <http://www.miningtoolkit.ewt.org.za/overview.html>

<sup>117</sup> Kidd *Environmental law* 239

as a whole package by including for example the Waste Management Act and National Water Act. This leads to an approach where sensitive potential environmental impacts receive more care through the introduction of a listing notice devoted to activities of a sensitive nature.<sup>118</sup>

Depending on the type of activity, the EIA Regulations will require either a basic assessment or a full scoping and an EIA prior to an environmental authorisation being approved.<sup>119</sup> Such authorisations may be granted or refused by the Department of Environmental Affairs or the applicable provincial environment department. Embarking on a listed activity without the prior appropriate environmental authorisation is considered an offence.<sup>120</sup> In cases where authorisation was not obtained, imprisonment for a period not exceeding 10 years or a fine not exceeding R5 million (or both) may result. However, there is a remedy in terms of section 24G, which deals with the rectification of unlawful commencement or the continuation of listed activities.

### **3.4 Section 24G**

With the integrated and active approach to environmental management seemingly established, a new provision was introduced, namely section 24G. Section 24G of the NEMA allows for the reflective authorisation of unlawful activities. Section 24G provides that the Minister or MEC may, on application by a party who committed an offence under section 24F, direct that party to prepare an EIR and an EMP. On receipt of such an EIR and EMP, the Minister or MEC may then either award an after-the-fact environmental authorisation subject to conditions, or direct that party to rehabilitate the harm caused.

This provision is something of a diverse approach and has raised concerns regarding its consistency with the provisions of the NEMA and its alignment with certain administrative justice and constitutional principles.<sup>121</sup> In addition to the legal

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<sup>118</sup> Gilder 2010 <http://www.25degrees.net/articles/climate-change>

<sup>119</sup> Anon 2011 <http://www.miningtoolkit.ewt.org.za/overview.html>

<sup>120</sup> Section 24F of NEMA

<sup>121</sup> September *A critical analysis of the application of s24G provisions of the National Environmental Management Act 2*

concerns, section 24G also gave rise to important concerns from an environmental management point of view. The main concern is that section 24G may challenge the very purpose of environmental assessment, as well as the principles of sustainable development and integrated environmental management.<sup>122</sup>

### **3.5 The legislative basis of EIAs concerning climate change**

As stated earlier, EIAs contribute to the implementation of the objectives of integrated environmental management by informing decision makers of the desirability of such activities, as well as the conditions which the authorisation of the action should be subject to. The NEMA deals with the general objectives of integrated environmental management (hereafter referred to as IEM) in section 23(2), which provides that EIAs must:

- (a) Promote the integration of the principles of environmental management set out in section 2 (of NEMA) into the making of all decisions that may have a significant effect on the environment.
- (b) Identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities. This is to be done with a view to minimising negative impacts, maximising benefits and promoting compliance with the principles of environmental management set out in section 2 (of NEMA).
- (c) Ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them.
- (d) Ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment.
- (e) Ensure the consideration of environmental attributes in management and decision making which may have a significant effect on the environment.
- (f) Identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2 (of NEMA).

The central statutory mechanism provided by the NEMA to expedite IEM in South Africa is EIA, through section 24 of the NEMA as well as a number of EIA

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<sup>122</sup> September A critical analysis of the application of s24G provisions of the National Environmental Management Act2

regulations.<sup>123</sup> The current 2014 NEMA EIA Regulations do not make any specific reference to climate change considerations within the assessment process. In 2008 an attempt was made in the proposed draft amendments to the NEMA EIA Regulations (2006) to specifically address climate change in the EIA process. It provided that when considering an application for environmental authorization, “*the competent authority must take into account any implications of climate change to the implementation of the activity*”<sup>124</sup> However, the provision was unfortunately deleted in the latest NEMA EIA Draft Regulations.<sup>125</sup> The amendment was not included in the final 2010 EIA Regulations either, which therefore have no comprehensive significance.<sup>126</sup> It might be argued, however, that the National Environmental Management: Air Quality Act<sup>127</sup> has a certain potential. This Act provides that an atmospheric emission licence should contain GHG emission measurements and provides reporting requirements.<sup>128</sup>

However, certain environmental assessment practitioners (discussed above) have already begun to consider adaptation and mitigation within assessment procedures they are responsible for. While this might be a welcome development, it should be remembered that an official recognition of climate change considerations for EIA processes by way of the 2010 EIA Regulations as well as the provision of essential tools to inform and assist assessments are still lacking. Their inclusion in South African EIAs would be a positive development.

On 20 January 2014, Business Day Live<sup>129</sup> reported that Transnet’s plan to widen and deepen berths at its Durban container terminal had run into trouble concerning its EIA. The EIA was rejected, among other reasons, on the grounds that it had failed to take climate change considerations seriously in its planning phase.<sup>130</sup> The grounds for the rejection involved the removal of part of the fundamental sand bank

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<sup>123</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>124</sup> Parramon “The Legal Barriers to Climate Change Adaptation” 240

<sup>125</sup> GN R. 658, GG 31144 of 13 June 2008

<sup>126</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>127</sup> *National Environmental Management: Air Quality Act* 39 of 2004

<sup>128</sup> *Kidd Environmental law* 324

<sup>129</sup> Paton *Business Day Live* 1

<sup>130</sup> Paton *Business Day Live* 1

for ecological reasons, as well as climate-change issues. The Department of Environmental Affairs stated that:

The proposed development should consider adequately the climate-change risks such as sea-level rise and coastal storm surges, as well as any other associated risks, and should also indicate mitigation in this regard.

The disappointment of the excluding of the amendment regarding climate change from the 2010 EIA Regulations does not necessarily mean that climate change considerations can be totally disregarded during the EIA process.

As mentioned, climate change considerations was not included in the latest EIA Regulations but was however implied in two circumstances. Firstly, it was implied through cumulative impacts in the EIA process.<sup>131</sup> One of the impacts to be identified during the EIA process is that of cumulative impacts, along with the current and potential impacts of the activity. Cumulative impacts are defined as:

in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities; Government Gazette 38282 of 04 December 2014

However, cumulative impacts is not regarded as the most effective practice in South Africa, due to a lack of climate change data and the complexity of climate change modelling availability.<sup>132</sup> However, if one considers the listed activities, it is clear that climate change considerations are implied. This is the second implied circumstance of climate change consideration in EIA's. For example, listing notice 2<sup>133</sup> activity number 24 states as follows:

The extraction or removal of peat or peat soils, including the disturbance of vegetation or soils in anticipation of the extraction or removal of peat or peat soils, but excluding where such. extraction or removal is for the rehabilitation of wetlands in accordance with a maintenance management plan.

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<sup>131</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 24

<sup>132</sup> Agrawala et al *Incorporating climate change impacts and adaptation in Environmental Impact Assessments: Opportunities and Challenges* 10

<sup>133</sup> GN 984 of 04 December 2014

It is clear from the above listed activity that the need to take climate change into consideration is required and will greatly effect any construction or planning involving climate change related factors, specifically those applicable to climate change. Consequently, a solid argument might be made that there is an implied obligation to reflect on climate change throughout the EIA process, where applicable, in view of the consequences of climate change for South Africa as well as the IEM objectives of EIA, read together with the principle of sustainable development as implied by the NEMA's environmental management philosophy.<sup>134</sup> As a result, certain listed activity advocates it as a necessity to incorporate climate change considerations. Within this framework, the National Climate Change Response White Paper recognises that sustainable development ought to be more climate responsive, and the more sustainable the growth path, the easier it might be to acknowledge the impacts of climate change and implement measures to combat them.<sup>135</sup>

### ***3.6 The South African constitution, sustainable development and Integrated Environmental Management.***

EIA's are regarded as a vital support tool for sustainable development as it is to a large extent intertwined.<sup>136</sup> The EIA process is utilized within NEMA as an environmental instrument aiming to accomplish the intention of the IEM, in order to achieve sustainable development.<sup>137</sup> Cashmore et al. states that:<sup>138</sup>

“EIA has inherent limitations, but it has the potential to promote sustainable development in multifarious ways, many of which have been largely ignored within the literature. Thus, the contribution of EIA to consent and design decisions can be viewed resolutely as one component of incremental changes in institutions, organisations, philosophy, science and culture”

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<sup>134</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>135</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>136</sup> Cashmore 2004 *Environmental Impact Assessment Review*

<sup>137</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 25

<sup>138</sup> M Cashmore et al 2004 *Impact Assessment and Project Appraisal* volume 22, number 4. Beech Tree Publishing 306

In *MEC for Agriculture, Conservation, Environment and Land Affairs vs Sasol (Pty) Ltd*<sup>139</sup> the court laid specific emphasis on the principles in section 2 of the NEMA, which includes sustainable development, and that these principles should be incorporated within the concept of EIA's. The court also made it clear that organs of state have to evaluate the "*social, economic and environmental impacts of listed activities*."<sup>140</sup> Sustainable development entails development which intends to meet the needs of the present generation without compromising the capacity of future generations to meet their own needs.<sup>141</sup> The Court stated In *MEC for Agriculture, Conservation, Environment and Land Affairs vs Sasol (Pty) Ltd*<sup>142</sup> that:

The first steps that were taken to protect the environment after the advent of the Constitution were the promulgation of regulations under s 21(1) of the ECA that listed the activities that are potentially detrimental to the environment and set out the rules regarding the compilation of environmental impact assessments relating to such activities.[12] This was followed by the enactment of NEMA, which gives effect to s 24 of the Constitution. Of particular importance is NEMA's injunction that the interpretation of any law concerned with the protection and management of the environment must be guided by its principles.[13] At the heart of these is the principle of 'sustainable development', which requires organs of state to evaluate the 'social, economic and environmental impacts of activities'

There is a direct correlation between EIAs and sustainable development in this regard, not only in South Africa, but globally. South Africa has in this regard profoundly been influenced by international law, especially with regard to environmental law. In most cases environmental issues supersede political boundaries and are global in effect, and for this reason national laws are pressured in their development.<sup>143</sup> There have been many different definitions and interpretations of the concept sustainable development. The most frequently used and best known definition came from Our Common Future, the United Nations World Commission on Environment and Development (WCED), where sustainable development was defined as follows:<sup>144</sup>

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<sup>139</sup> 2006 (5) SA 483 (SCA)

<sup>140</sup> Kidd *Environmental Law* 258

<sup>141</sup> Kidd *Environmental Law* 258

<sup>142</sup> 2006 (5) SA 483 (SCA) paragraph 15

<sup>143</sup> South African Government 2001 <http://goo.gl/Thlmbz>

<sup>144</sup> World Commission on Environment and Development *Our Common Future* 30

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

This formulation supports both economic and social development, and particular emphasis is placed on people with lower standards of living. At the same time it also highlights the importance of protecting natural resources and environmental affairs by providing that economic and social well-being cannot be enhanced through measures destructive to the environment.<sup>145</sup> Intergenerational solidarity is also important, entailing that any development process has to take its impact on future generations into account. This concept echoes the essence of the *Stockholm Declaration*,<sup>146</sup> which first introduced environmental concerns to the formal political development scope. The *Rio Declaration on Environment and Development*<sup>147</sup> also laid emphasis on the fact that there should always be a relationship between the protection of the environment and development.<sup>148</sup> There have been other definitions as well, but the Brundtland definition seems to be the one most readily recognised and most frequently used.

The South African definition of sustainable development is mainly derived from that of the Brundtland Commission,<sup>149</sup> and has been formalised by being included in law as provided by the NEMA.

NEMA states the objectives of EIM as:<sup>150</sup>

(2) The general objective of integrated environmental management is to-

- (a) promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment;

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<sup>145</sup> United Nations Economic Commission for Europe 2004 [http://www.unece.org/oes/nutshell/2004-2005/focus\\_sustainable\\_devlopment.html](http://www.unece.org/oes/nutshell/2004-2005/focus_sustainable_devlopment.html)

<sup>146</sup> 1972

<sup>147</sup> 1992

<sup>148</sup> Kidd *Environmental law* 56

<sup>149</sup> A National Framework for Sustainable Development in South Africa 14

<sup>150</sup> Section 23(2)

- (b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;
- (c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- (d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- (e) ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and
- (f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.

EIA's intend to reflect a process whereby the environmental impacts of a proposed activity should be measured, among other things, against the notion of sustainable development.<sup>151</sup> EIA's can therefore be seen as one of the most fundamental and important tools for use in achieving such a result. NEMA, through the achievement of the IEM objectives, made the linkage between EIA's and sustainable development.

The linkage suggests that EIA process implementations must aim to achieve sustainable development in South Africa, in parallel with other environmental tools mentioned in the NEMA.<sup>152</sup> This leads to the implied requirement that any potential environmental effect from a proposed development, such as climate change, be considered during the implementation of the EIA process. The Department of Environmental Affairs and Tourism states in its Integrated Environmental Management Information Series that:<sup>153</sup>

IEM provides an holistic framework that can be embraced by all sectors of society for the assessment and management of environmental impacts and aspects associated with each stage of the activity life cycle, taking into consideration a

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<sup>151</sup> Kidd *Environmental Law* 258

<sup>152</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 26

<sup>153</sup> Department of Environmental Affairs and Tourism 2000 Integrated Environmental Management Information Series 3

broad definition of environment and with the overall aim of promoting sustainable development

The *Constitution of the Republic of South Africa, 1996* (hereafter referred to as the Constitution) deals with environmental affairs by broadly stating that everyone has the right to an environment that is protected for present and future generations, hence implying that development must be sustainable. Section 24 of the Constitution states that everyone has the right:

- a. to an environment that is not harmful to their health or well-being; and
- b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
- c.
  - i. prevent pollution and ecological degradation;
  - ii. promote conservation; and
  - iii. secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development.

The state is further required to respect, protect, promote and fulfil these rights.<sup>154</sup> In implementing this constitutional mandate government agencies have promulgated and revised numerous laws over the last decade relating to a variety of thematic areas including environmental impact assessment, environmental management, air quality, waste management, biodiversity, forestry, mining, and water management.<sup>155</sup> This has resulted in a functional revision of South African environmental law which now includes more enforcement strategies, as well as an increase in public participation where environmental decision making and development is concerned. NEMA explains sustainable development. It does so as the:<sup>156</sup>

integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.

The duty imposed by section 24(b) of the Constitution to put legislative and other measures in place to promote, among other things, ecologically sustainable development is a key element imposed by the NEMA to govern all environmental

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<sup>154</sup> Section 7(2) of the *Constitution of the Republic of South Africa 1996*

<sup>155</sup> Feris and Van der Merwe (eds) *Compendium of SA Environmental legislation* 7

<sup>156</sup> Section 1 of the *National Environmental Management Act 107 of 1998*

matters, which includes EIAs.<sup>157</sup> Together with court decisions, the NEMA elaborates on the concept of sustainable development in South Africa. Another fundamental case in this matter was that of *Fuel Retailers Association of Southern Africa v Director-General Environmental Management, Mpumalanga and Others*<sup>158</sup> where the court noted:

The role of the courts is especially important in the context of the protection of the environment and giving effect to the principle of sustainable development. The importance of the protection of the environment cannot be gainsaid. Its protection is vital to the enjoyment of the other rights contained in the Bill of Rights; indeed, it is vital to life itself. It must therefore be protected for the benefit of the present and future generations. The present generation holds the earth in trust for the next generation. This trusteeship position carries with it the responsibility to look after the environment. It is the duty of the court to ensure that this responsibility is carried out. Indeed, the Johannesburg Principles adopted at the Global Judges Symposium underscore the role of the judiciary in the protection of the environment

As indicated, sustainable development intends to reflect a process that will meet the needs of present generations without compromising the capacity of future generations to meet their needs. Often referred to as intergenerational equality, the idea is that we share natural resources not only with those living on the planet today, but also with those who will exist in the future.<sup>159</sup> Understanding and applying sustainability is important to the safeguarding of all life and is an essential part of modern environmental law. In addition to the environmental right contained in section 24 of the Constitution, numerous other constitutional provisions and human rights are also of practical relevance to environmental administration and management, like, *inter alia*, the right to human dignity, the right to life, and the right to access to housing, water and health care,<sup>160</sup> all of which have to be kept in mind when dealing with an application for an EIA.

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<sup>157</sup> Murombo SAFLII 112

<sup>158</sup> 2007 (6) SA 4 (CC)

<sup>159</sup> South African Education and Environment Project unknown date  
<http://www.saep.org/medie/docs/123444107321.pdf>

<sup>160</sup> Feris and Van der Merwe (eds) *Compendium of SA Environmental legislation* 7

### 3.7 South Africa's response and obligations

Chapter 1 dealt with how the international community is responding to the challenges of climate change, among other things. South Africa is also playing its part within the international community. The country is a signatory to the UNFCCC. The convention was ratified by South Africa in 1997 and thus became binding. The convention classifies South Africa as a non-Annex I country. This means that South Africa, as a developing nation, has certain non-legal binding obligations imposed on it by being a party to the convention. Consequently, South Africa is not obliged to obey the more demanding commitments placed on Annex 1 countries. Despite its being categorized as a non-Annex I country, at the 2010 Conference of Parties in Copenhagen, South Africa committed to lowering its GHG emissions to 34% below "present-day" expected levels by 2020, as well as 42% below the present levels by 2025.<sup>161</sup> This obligation is conditional on an effective, ambitious and fair international climate change agreement being reached and upon the delivery of technological and financial support by Annex 1 countries to Non-Annex 1 countries.<sup>162</sup>

South Africa responded to its international commitments with *The National Climate Change Response Green Paper 2010*, which marked the beginning of the soundings around the government's climate change response plan. The Green Paper provided an indication of government's intended policy position on climate change and also examined the option of enacting climate change legislation. The green paper was followed by the *National Climate Change Response White Paper* (hereafter referred to as the White Paper"), which the government drafted in consultation with business, labour and civil society.<sup>163</sup> The White Paper describes the principles, policies and strategies South Africa will use to respond to the challenges of climate change, by means of the principles of the Constitution, NEMA and the UNFCCC.<sup>164</sup> The two explicit objectives of the White Paper are to manage the impacts of climate change

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<sup>161</sup> Khanye and Tucker 2014 <http://goo.gl/NrZ6yl>

<sup>162</sup> Khanye and Tucker 2014 <http://goo.gl/NrZ6yl>

<sup>163</sup> Anon 2011 <http://www.climateaction.org.za/cop17-cmp7/>

<sup>164</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 10

and to make it possible to respond to emergencies. The objectives had changed very little since the days of the Green Paper.

The White Paper incorporated adaptation responses by including a “*risk-based process to identify and prioritise short- and medium-term adaptation interventions to be addressed in sector plans.*”<sup>165</sup> This process further aims to identify the adaptation responses requiring cooperation between departments and sectors and is to be reviewed every five years. Sectors requiring immediate and specific attention are agriculture and forestry, water, biodiversity, human settlements and health.<sup>166</sup>

Additionally, the White Paper describes South Africa’s approach to mitigation as balancing South Africa’s contribution as responsible international citizen, to limit overall emissions with the social and economic opportunities offered by the transition to a low carbon economy, including tackling the development challenges facing South Africa.<sup>167</sup>

Due to the ever-present threat of climate change, associated South African policies like the *Integrated Pollution and Waste Management Policy* also emphasise cleaner production and technology, while shifting towards the promotion of sustainable development. This means that a more proactive approach regarding international law is being followed, a factor which should be considered during the formulation of further climate change policies and practices in South Africa. It is unfortunately necessary to point out that neither the Green Paper nor the White Paper has provided for the incorporation of climate change considerations into EIAs in South Africa.

Notwithstanding the importance the White Paper laid on the incorporating climate change adaptation and mitigation into sectors, planning, decision-making process and departments, no clear consideration of climate change into the South African EIA process within the EIA regulations and related reviewed legislation has been prepared. As climate change is acknowledged in the South African National Climate

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<sup>165</sup> National Climate Change Response White Paper 5

<sup>166</sup> National Climate Change Response White Paper 6

<sup>167</sup> National Climate Change Response White Paper 6

Change Response Policy, and efforts to adapt to and mitigate climate change has been represented, no direct legal obligation for climate change incorporation into the EIA process at any project level can be identified<sup>168</sup>

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<sup>168</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 50

## **Chapter 4: Dutch law governing EIAs**

### **4.1 Introduction**

The integration of climate change considerations into EIA's varies greatly among countries. Numerous countries have started implementing climate change considerations into EIA's; however, it would seem that the Netherlands is one of a few countries on the fore front of implementing climate change considerations into their EIA system. Along with Canada and Australia, the Netherlands is currently only one of only three countries to formally integrate climate change considerations in its EIA's.<sup>169</sup> Accordingly, the aim of this chapter is firstly to consider the climate change challenges currently faced by the Netherlands and investigate how the Dutch EIA system includes the introduction of climate change considerations within their EIA system.

The climate in the Netherlands, as with the rest of the world, is changing. The Netherlands Environmental Assessment Agency (*Planbureau voor de Leefomgeving*, hereafter referred to as the PBL) released a report concerning the possible impacts of climate change in the Netherlands in partnership with several Dutch research institutes.<sup>170</sup> The recent research of the PBL indicates that the perceived increase in temperature in the Netherlands is nearly twice that of the global average, with no noticeable decrease observed within the last twenty years. The PBL report further states that the average temperature has increased by about 1.7 °C during the last century.

### **4.2 Netherlands international and national policies**

Given the above challenges faced by the Netherlands, it comes as no surprise that they are highly involved in international climate change agreements as well as in implementing a national sustainable development policy. The Netherlands, as a member of the European Union, is automatically a party to the UNFCCC and the

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<sup>169</sup> Agrawala et al *Incorporating climate change impacts and adaptation in Environmental Impact Assessments: Opportunities and Challenges* 3

<sup>170</sup> Franken, Ligtoet and van Minnen 2012 <http://goo.gl/x3uHqF>

Kyoto Protocol. The European Union's emissions reduction target under the Kyoto Protocol's first commitment period was to decrease its GHG emissions by 8% from the 1990 baseline levels within the period of 2008 to 2012, which marked the end of the first commitment period.<sup>171</sup> The European Unions' target was reallocated among its member states,<sup>172</sup> and Dutch authorities agreed to a 6% decline within the first commitment period.<sup>173</sup>

A second commitment period began on 1 January 2013 and will end in 2020, with members setting out their own reduction aims. The parties also agreed to amend the Kyoto Protocol and deliver an overall plan to reduce emissions by 18% below 1990 levels by 2020. The European Union, along with its Member States, committed to the target on a mutual basis, while also pledging to reinforce the commitment to a 30% decrease if a firm international arrangement were to be reached.<sup>174</sup>

The sectors playing a part in the European Union Emission Trading System, such as heavy industry, civil aviation and electricity generation have to decrease their emissions by 21% by the year 2020.<sup>175</sup> The Dutch Government decided that sectors not participating in the European Union Emission Trading System must reduce their emissions by 16% by 2020. Consequently, the Dutch government's long-term plan is to decrease emissions of GHG by 40% by 2030, in line with the European Union's ultimate target of 80% to 95% by 2050.<sup>176</sup>

As already stated, the Dutch government regards sustainable development as one of its top priorities. The "Green Growth: for a strong, sustainable economy" policy letter presented to parliament in March 2013 by the Dutch government sets out the framework for a "Dutch Sustainability policy."<sup>177</sup> The government intends to reinforce the effectiveness of the country while decreasing the load on the environment as well as its dependency on fossil fuels. "Green growth" is a key priority theme for the government, and is to be implemented through the pioneering in industry.

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<sup>171</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>172</sup> "Burden Sharing Agreement"

<sup>173</sup> European Sustainable Development Network 2013 <http://goo.gl/P6gXqT>

<sup>174</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>175</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>176</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>177</sup> Ministry of Infrastructure and the Environment 2013 <http://goo.gl/VAFp0G>

**4.3 Netherlands environmental regulatory framework**

Environmental legislation in the Netherlands is generally influenced by European Union law.<sup>178</sup> As a result, the Netherlands regulatory framework is frequently based upon or amended by new European Union regulations and directives. These will either apply directly or might be integrated into national law by creating new decrees or amending current acts. The principal sources of national environmental law in the Netherlands include jurisprudence and case law, government regulations, policy rules and decrees, and acts of parliament.<sup>179</sup>

The environmental regulatory framework further specifically deals with environmental impact assessments, environmental management, waste, nuisance, air, contaminated land, the conservation of nature, habitats and wildlife, and water.<sup>180</sup> Health and safety affairs, along with planning matters, are regulated independently from environmental matters, while still interlinked to a certain extent.<sup>181</sup>

**4.4 The application of EIAs in the Netherlands**

The EIA system was put into action for projects in Europe on 27 June 1985 by way of a European Council Directive, assessing the effects of specific private and public projects on the environment.<sup>182</sup> This directive has since been revised in 1997, 2003 and 2009.<sup>183</sup> In 1987 this EIA device was formally inaugurated in the Netherlands. EIAs in the Netherlands are covered by the Environmental Management Act (hereafter referred to as the EMA), which outlines the fundamental principles of environmental procedures and is regulated by the Ministry of Infrastructure and Environment. The EMA also provides for the existence of an independent commission for environmental impact assessment, namely the Netherlands Commission for Environmental Assessment (hereafter referred to as the NCEA).<sup>184</sup> It

<sup>178</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>179</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>180</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>181</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>182</sup> 85/337/EEC

<sup>183</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

<sup>184</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

is important to note at this point that the EMA does not directly provide for the inclusion of climate change considerations in EIAs. That is the role of the NCEA. Chapter 7 of the EMA, the chapter dealing with EIAs, functions only as a baseline when working with EIAs. The complete function of the NCEA will be discussed in more detail at a later point.

Currently, there are two types of environmental assessment (hereafter referred to as EA) in the Netherlands: The first is Environmental Impact Assessments (EIAs). As stated in Chapter 2, EIAs are responsible for providing the information required to allow decision makers and affected parties to fully understand and consider the possible environmental impacts that a proposed project or plan may have on the environment. The succeeding EIA report then shows how the proposal might affect the environment, and whether alternatives exist that might achieve the required goal in a more sustainable manner.<sup>185</sup> This is thus the basic principle of an EIA in both South Africa and the Netherlands. The second form of EA in the Netherlands is Strategic Environmental Assessment (hereafter referred to as the SEA). An SEA is to large extent very similar to an EIA, having the same basic objectives,<sup>186</sup> but it is much more focused on the consideration of “environmental consequences in strategic decision making,”<sup>187</sup> for example, in the design of programmes and plans.

In addition to the EMA, the Environmental Impact Assessment Decree (hereafter referred to as the EIA Decree), which forms part of the EMA, plays a vital role. The EIA Decree entails that not only projects but also numerous other programmes and plans as specified are subject to the procedure laid down within the EMA.<sup>188</sup> These might, for example, consist of national plans for generating electricity, waste management, water supply or regional land-use. These particulars are set out in the EIA decree (*Besluitmilieueffectrapportage* in Dutch), which will also include the applicability of the EIA.<sup>189</sup> The EIA decree is thus parallel to the NEMA EIA listed activities found in South Africa. Consequently, the objective of EIAs in the

<sup>185</sup> Turpie “Environmental and Resource Economics” 51

<sup>186</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>187</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

<sup>188</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/sea>

<sup>189</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

Netherlands “*is to ensure that the environment is given full and proper consideration in the decision making process with respect to activities with possible negative consequences on the environment.*”<sup>190</sup>

The obligation to perform an EIA, much as in South Africa, is divided into two groups or types of activities specified in the EIA decree.<sup>191</sup> The EIA decree contains two lists, namely a C-list and D-list. C-list activities are projects and plans for which an EIA is compulsory, due to the nature of the specific activity.<sup>192</sup> Examples might include the construction of motorways, oil refineries or chemical installations. D-list activities, on the other hand, are projects and plans evaluated individually<sup>193</sup> to decide whether an EIA will be necessary. The Dutch follow a very interesting approach in this regard. South African NEMA legislation specifies certain activities in the NEMA EIA listed activities. As soon as a proposed development triggers such an activity, for example an activity in listing notice 2, a full EIA has to be undertaken.

In the Netherlands, however, a “listed activity”, consists of three columns, respectively dealing with the Activity, Case and thirdly Decision. For example, Part C (C-list “Activities and decisions for which an environmental impact statement is mandatory”) no 1.3 states as follows in the Activity column: “The construction of a road of four or more lanes, not being a trunk road, motorway or express road.” This is thus parallel to any listed activity described in the NEMA EIA regulations. The Cases column next to the Activity column states: “In cases where the activity relates to a road 10 kilometres or more in length.” The final column, Decisions, reads as follows: “The formal adoption of the route or plan by the provincial executive or the municipal executive, or of the spatial plan if that is the first to provide for the possible construction.”

To put it all in perspective, the C-list of activities (as well as D-list activities) firstly specifies the activity itself, and this is followed by a description of the case in which an EIA is required, and finally by the identification of the authority responsible for

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<sup>190</sup> Netherlands Commission for Environmental Assessment 2014  
<http://www.eia.nl/en/countries/eu/netherlands/eia>

<sup>191</sup> Appendices, EIA Decree

<sup>192</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>193</sup> Section 7.16 to 7.20 of the EMA

taking a decision. A full EIA is required only where these projects or plans are expected to have a substantial effect on the environment. Depending on the type of activity and the thresholds in the lists, either a limited or an extensive procedure should then be utilised. In cases where an EIA is applicable, the EIA must be considered before any decision can be made regarding the proposed plan or project.

South African EIA legislation is very similar to that of the Netherlands. Both countries share the notion of a “listed activity” which requires either a basic or a proper/full EIA. As already said, the EMA (as with the NEMA) makes no reference to the incorporation of climate change in EIAs. However, this is where the main difference between South Africa and the Netherlands come in. The next section deals specifically with how the Netherlands incorporates climate change in its EIA system.

#### ***4.5 The incorporation of climate change in EIA***

This is the part of Dutch law that is of importance regarding the inclusion of climate change considerations in the EIA process. As already stated, the enabling legal framework for EIAs in the Netherlands consists broadly of Chapter 7 of the EMA and the NCEA. The NCEA was established in 1987 as an independent expert body preparing both voluntary and mandatory advisory reports for government on the quality and scope of environmental impact reports, which includes climate change considerations.<sup>194</sup> It is important to understand that these advisory reports are not written by the NCEA, but rather by consultancy bureaus for central government, local or provincial authorities and private initiators.<sup>195</sup> The NCEA never involves itself in political considerations or decision-making.<sup>196</sup>

Either a simple or a complex EIA can be undertaken. This is of importance to the functionality of the NCEA. EIAs for complex projects, as well as SEAs for programmes and plans, are regarded as much more elaborate and must be evaluated by the NCEA.<sup>197</sup> As a result, the NCEA functions as an advisory entity with regard to the scoping or planning phase of any EIA, whether it is a basic or full

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<sup>194</sup> Netherlands Commission for Environmental Assessment 2014 <http://www.eia.nl/>

<sup>195</sup> Netherlands Commission for Environmental Assessment 2011 <http://goo.gl/fcdxrF>

<sup>196</sup> Netherlands Commission for Environmental Assessment 2011 <http://goo.gl/fcdxrF>

<sup>197</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

EIA.<sup>198</sup> Accordingly, one may choose whether or not to use the aid of the NCEA in the planning phase. In cases of a basic or simple EIA, the NCEA will act as an advisory entity throughout the whole process. When dealing with a full or complex EIA, however, the NCEA will act as an advisor only in the scoping phase, where after its participation becomes mandatory during the review of the final EIA report. After the EIA report has been completed, the NCEA will verify whether the report covers all applicable environmental information necessary (in this case climate change considerations) for decision making, and whether such information is accurate and proper.<sup>199</sup>

Section 2.17 to 2.24 of the EMA gives the NCEA its authority and requires its participation as a compulsory entity when working with full or complex EIAs. The EMA together with the NCEA thus forms the basis of the EIA process in the Netherlands. The NCEA's objective is to climate-proof spatial development by using two main principles: i) managing risk, including dealing strategically with uncertainty and damage mitigation; ii) natural processes, referring to the use of the properties of natural systems, and giving these systems space in which to function.<sup>200</sup> Thus, the NCEA is responsible for providing recommendations on how to integrate climate change considerations in EIAs by examining whether adaptation to climate change ought to be considered in the proposed project.<sup>201</sup> They do this by considering the local climate effects in both the short and the long term, the features of the area the adaptation will transpire on, an assessment of the risk involved, and the cost of such measures.<sup>202</sup>

The NCEA notes:<sup>203</sup>

If adaptation is deemed to be a factor of significance, the NCEA requires information to be given on how the initiative can best respond to the impacts of climate change: how the risk of damage can be limited, and at the same time how the quality of life, the spatial quality and the safety can be maintained or

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<sup>198</sup> Heijerman and Wieland 2012 <http://goo.gl/GbHFZZ>

<sup>199</sup> Netherlands Commission for Environmental Assessment 2011 <http://goo.gl/fcdxrF>

<sup>200</sup> Draaijers and van der Velden 2009 *The NCEA's recommendations on Climate Change in Environmental Assessment* 17

<sup>201</sup> Netherlands Commission for Environmental Assessment 2011 <http://goo.gl/fcdxrF>

<sup>202</sup> Netherlands Commission for Environmental Assessment 2011 <http://goo.gl/fcdxrF>

<sup>203</sup> Draaijers and van der Velden 2009 *The NCEA's recommendations on Climate Change in Environmental Assessment* 17

enhanced. We also require information to be given about whether the project might hamper necessary adaptation measures in the future, for example by taking up space and thereby making it no longer possible to store water. It is also important to know whether the project might aggravate the consequences of climate change.

The NCEA not only focuses on adaptation, but also stresses the importance of mitigation. The NCEA requires that mitigation measures be integrated if the proposed project will significantly contribute to the GHG emissions in the Netherlands, for example in power stations, industrial projects, infrastructure projects, greenhouse horticulture and housing projects.<sup>204</sup> In such cases, the NCEA will look beyond the scope of adaptation, and order that mitigation measures be put in place in order to combat the long-term effects of climate change.

As overwhelming as it may seem at first glance, the system is in actual fact very simple and straightforward. The Netherlands have the EMA, which deals with EIAs. As soon as a full EIA is triggered through the EIA decree, the NCEA becomes a mandatory entity. This results in the NCEA's reviewing the final EIA report. If the proposed project or plan is of a climate change-related nature, the NCEA is legally required to ensure that proper adaptation and/or mitigation measures are put in place before commencing with the project or plan, which consequently promotes the Dutch sustainable development policy.

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<sup>204</sup> Draaijers and van der Velden 2009 *The NCEA's recommendations on Climate Change in Environmental Assessment* 17

## **Chapter 5: Conclusion and recommendations**

### **5.1 Overview**

This dissertation began by explaining what the global dangers of climate change are, as well as the detrimental effects it might have on South Africa. It is evident that South Africa currently has no structure for integrating climate change considerations into EIAs, as opposed to the Dutch. The aim of this final chapter is to assess the current “climate change” position in South Africa, and then to make recommendations on how to address the climate change challenges faced by the current South African EIA regime.

### **5.2 The current SA position**

South Africa currently has no comprehensive climate change law, nor does the NEMA make any reference to climate change. As already said, it might be argued that the National Environmental Management: Air Quality Act<sup>205</sup> has certain potential. This Act provides that an atmospheric emission licence should contain GHG emission measurements, and provides reporting requirements.<sup>206</sup> The South African Constitution<sup>207</sup> deals with environmental affairs by stating that everyone has the right to an environment protected for present and future generations. Unfortunately, no consideration regarding climate change and EIAs is being made by any Act. This is especially alarming as the National Climate Change Response White Paper deals with South Africa’s vision for an effective climate change response and long-term climate strategy.<sup>208</sup> The strategy of the White Paper is to create a substantial transformation towards a lower-carbon economy and society, for both the present and the future generations, yet no reference is ever made to integrating climate change into EIAs.

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<sup>205</sup> *National Environmental Management: Air Quality Act 39 of 2004*

<sup>206</sup> Kidd *Environmental law* 324

<sup>207</sup> Section 24 of the *Constitution of the Republic of South Africa 1996*

<sup>208</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 50

Policy-makers should therefore react with caution, as their responsibility towards the international community and global climate conventions is reaching dangerous heights. However, specific amendments dealing with climate change and EIAs could be incorporated into the existing laws, which would thereafter enable the country to address the current environmental challenges.

### ***5.3 Addressing climate change in EIAs***

The simplest solution would be to advise the South African government to implement its own form of NCEA. However, it is not at all that simple. The South African EIA system is currently too fragile to commit to such a system, as unresolved issues still transpire between the NEMA and the Mineral Resources and Development Act.<sup>209</sup> However, a number of other options exist. A few possible options will now be explored.

#### ***5.3.1 Incorporating climate change in EIAs***

The first possible way of incorporating climate change in EIAs might be by addressing climate change in EIA reports,<sup>210</sup> therefore involving EMPs, EIRs etc.<sup>211</sup> It might be of interest for environmental assessment practitioners in applicable situations to include climate change considerations into the EIA process. Such reports would to a large extent function as NCEA reports incorporated before commencement of the proposed activity. In other words, before any activity is implemented, a NCEA approach should be a legally binding requirement in order to ensure that proper adaptation and/or mitigation measures are put in to place before commencing with the project or plan, consequently promoting a sustainable development approach.

The first important step to take would be to draw a distinction between adaption and mitigation, as implied by the UNFCCC.<sup>212</sup> These inclusions of climate change

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<sup>209</sup> 49 of 2008

<sup>210</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>211</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>212</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

considerations would subsequently influence the structure of the environmental impact report.

In the context of mitigation, this might lead to providing recommendations leading to the reduction of GHG emissions accompanying the application of the proposed project. To echo the wording the NEMA,<sup>213</sup> the EIA might assist in assessing how GHG emissions potentially arising from the implementation of the proposed project might be “avoided, or, where they cannot be avoided altogether, minimised and remedied.”<sup>214</sup> The term “mitigation measures” in this context refers to recommended measures “...designed to avoid, reduce or remedy adverse impacts”<sup>215</sup> of the proposed project on the environment.<sup>216</sup>

Adaptation concerns, on the other hand, might lead to a better understanding of how climate change might affect the proposed project or plan, and how measures can be put in place to best adapt, while still minimizing environmental impacts. This then in turn leads to better preparation for the proposed planning of projects regarding current and future climate change impacts.

The NCEA places great emphasis on both adaptation and mitigation, regarding them as vital tools when dealing with the challenges of climate change. This dual emphasis might be useful to retain if environmental assessment practitioners are forced to consider climate change challenges in the drafting of EIAs

### *5.3.2 Classifying activities as “requiring an EIA”.*

Secondly, it is recommended that climate change considerations be incorporated within the South African EIA regulations in the next EIA amendment regulations. This incorporation can be achieved by establishing whether climate change will be of concern during the initial scoping phase of the EIA. This can further be achieved by adding activities to the current listed EIA regulations requiring climate change

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<sup>213</sup> NEMA section 28(1)

<sup>214</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>215</sup> DEAT, Guideline Document – EIA Regulations: Implementation of Sections 21 and 26 of the Environment Conservation Act, April 1998

<sup>216</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

consideration in the EIA process. These activities would be depend on their climate change impacts, contribution to GHG emission as well as the nature of the activity, for example those found in specific environments for instance coastal areas.<sup>217</sup> The NEMA states as follows in section 24(2):

The Minister, or an MEC with the concurrence of the Minister, may identify-  
(a) activities which may not commence without environmental authorisation from the competent authority...

Given the power as prescribed by section 24(2) of the NEMA, the Minister or MEC might subsequently classify activities that, due to their climate change-related nature or their vulnerability to climate change effects, may not commence without a proper environmental authorisation being completed. This could further be expanded to function on the same level as the EMA's more elaborate activity listing notices.

The Netherlands C- and D-list activities might be translated into South Africa within an approach whereby an activity which is listed could then be classified as an activity of a "sensitive climate change nature" and would as a result be treated as vulnerable to climate change. In the same way, the MEC or Minister might also identify geographical areas susceptible to climate change where development may not commence without prior environmental authorisation. This might for example be of great value to any harbour-related listed activity, or for that that matter any development having a substantial influence on the ocean or a river.

However, finding entry points for incorporating climate change considerations in EIAs might be a bit of a challenge. During the screening phase it should be considered whether or not the proposed project scope justifies a consideration of climate change, as well as the implications thereof. During the scoping phase, as already said, both the concepts of mitigation and of adaptation will have to be reviewed and considered. It is important to keep in mind that should the Minister or MEC decide to establish such an activity or activities, the climate elements and variables of the project must be assessed. Therefore, pinpointing a specific activity as a climate change-listed activity would be extremely difficult and at times impossible to monitor.

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<sup>217</sup> Aljareo A *How is climate change incorporated into Environmental Impact Assessments (EIAs) in South Africa?* 64

Accordingly, this might be a plausible solution, but one not without its set of challenges.

### *5.3.3 The inclusion of climate change in environmental management frameworks*

The third option entails including the consideration of climate change in other statutory instruments, particularly in integrated environmental management (IEM). This might perhaps be the most effective approach for South Africa to follow. Section 24(3) and 24(4)(1) of NEMA states as follows:

The Minister, and every MEC, with the agreement of the Minister, can compile information and maps that specify the attributes of the environment, in particular geographical areas, including the sensitivity, extent, interrelationship and significance of such attributes; these attributes must be taken into account by every competent authority

Procedures for the investigation, assessment and communication of the potential impact of activities must as a minimum ensure, in relation to every application for an environmental authorisation, that environmental attributes identified in compiled information and maps (as contemplated in section 24(3) of NEMA) are considered

Firstly, one might consider environmental management frameworks (hereafter referred to as EMFs). The objectives and content of EMFs are specified in the EMF Regulations of 18 June 2010 and formally implemented on 2 August 2010.<sup>218</sup> The regulations entail that EMFs function as a support tool to the EIA process regarding the review and evaluation of development applications, while also allowing for “strategic informed decision-making in land use planning applications.”<sup>219</sup> This might again be implemented within the light of the NCEA. EMFs cover a range of information, including for instance maps showing the environmental qualities of a specified geographical region. This can be very valuable when preparing applications for environmental authorisation.<sup>220</sup> The objectives and content of EMFs may be updated by climate change considerations, sequentially confirming that climate change concerns are considered in related submissions for environmental authorisation.

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<sup>218</sup> GN R574 of 18 June 2010

<sup>219</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>220</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

One might also consider measures supporting IEM, namely the *White Paper on Environmental Management in South Africa* of 1998, which refers to "supportive measures," thus enabling operational environmental management while also promoting the notion of sustainable development.<sup>221</sup> These measures are divided into two key classes: those facilitating informed decision-making, such as SEA, EIA, risk assessment, integrated environmental planning etc., and those facilitating impact management, such as support for the expansion of cleaner technology, environmental management systems, support for sustainable resource management etc.<sup>222</sup> It is evident that climate change considerations might be incorporated into the IEM and support measures.

This dissertation has drawn attention to the fact that climate change is a very real and immanent threat, and has argued that there is perhaps no better time to integrate climate change considerations into the South African EIA system. There is currently no mention of any climate change-related EIA framework in South Africa, but the reformulation of existing legislation and regulation, along with the expansion of specific guidelines, might be the way to address current and future climate change challenges. The dissertation has focused on the current regime followed in both South Africa and the Netherlands. It is clear that the South African regime still lacks in numerous ways, and the State is therefore advised to consider with true urgency the ways in which it wishes to address climate change.

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<sup>221</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

<sup>222</sup> Gilder, Parramon, and Warburton 2011 <http://uk.practicallaw.com/8-508-7112>

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