DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 559 **25 June 2021**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

CONSULTATION ON INTENTION TO PUBLISH THE NATIONAL GUIDELINE FOR CONSIDERATION OF CLIMATE CHANGE IMPLICATIONS IN APPLICATIONS FOR ENVIRONMENTAL AUTHORISATIONS, ATMOSPHERIC EMISSION LICENSES AND WASTE MANAGEMENT LICENSES

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby consult on my intention to publish, under section 24J of the National Environmental Management Act, 1998 (Act No. 107 of 1998), the national guideline for consideration of climate change implications in applications for environmental authorisations, atmospheric emission licenses and waste management licenses, set out in the Schedule hereto.

Members of the public are invited to submit written comments or inputs, within 30 days after publication of this Notice in the Government *Gazette*, to the following address:

By post to: The Director-General
Department of Forestry, Fisheries and the Environment
Attention: Mr Simon Moganetsi
Private Bag X447
PRETORIA
0001

By hand at: Environment House
473 Steve Biko Road
Arcadia
0083

By email: Smoganetsi@environment.gov.za

Please note that anyone entering the Department's building will be subjected to COVID-19 procedures.

Due to the COVID-19 pandemic, delivering comments by hand at the Department is being discouraged.

Any enquiries in connection with the draft Notice can be directed to Mr Simon Moganetsi at Tel: 012 399 9309.

Comments or inputs received after the closing date may not be considered.

BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

INTEGRATED ENVIRONMENTAL MANAGEMENT

NATIONAL GUIDELINE FOR CONSIDERATION OF CLIMATE CHANGE IMPLICATIONS IN APPLICATIONS FOR ENVIRONMENTAL AUTHORISATIONS, ATMOSPHERIC EMISSION LICENSES AND WASTE MANAGEMENT LICENSES

JANUARY 2021
(VERSION 1)

ISSUED BY
Department of Forestry, Fisheries and the Environment
Private Bag X447
Pretoria
0001 South Africa

This document is available on the Departmental website: http://www.environment.gov.za

PLEASE NOTE: This document is intended as an information source and cannot take the place of legal advice in a specific situation governed by legislation.

ENQUIRIES AND COMMENTS
All enquiries and comments should be addressed to:
The Director: IEM Systems and Tools Coordination
Department of Forestry, Fisheries and the Environment
Private Bag X447
Pretoria
0001 South Africa
smoganetsi@environment.gov.za

TABLE OF CONTENTS

ABBREVIATIONS

AEL	Atmospheric Emissions License
BA	Basic Assessment
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIA Regulations	Environmental Impact Assessment Regulations, 2014, as amended
EMPr	Environmental Management Programme
GHG	Greenhouse Gas
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMAQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEMWA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
S&EIR	Scoping and Environmental Impact Reporting process
SEMA	Specific Environmental Management Act
WML	Waste Management License

DEFINITIONS

Adaptation	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects;
Applicant	A person who has submitted an application for an Environmental Authorisation, Waste Management License, or Atmospheric Emission License to the competent authority and has paid the prescribed fee;
Assessment	The process of collecting, organising, analysing, interpreting and communicating information that is relevant to decision-making;
Atmospheric emission license	An atmospheric emission license contemplated in Chapter 5 of the NEMAQA;
Carbon footprint	The total sets of greenhouse gas emissions caused by an organisation, event, product or person;
Carbon sink	Any reservoir, natural or otherwise, that absorbs more carbon than it releases, and thereby lowers the concentration of CO_2 from the atmosphere;
Competent authority	The change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods;
Development	In respect of a listed activity or specified activity, means the organ of state charged by NEMA with evaluating the environmental impact of that activity and, where appropriate, with granting or refusing an environmental authorisation in respect of that activity;
Direct emissions	Any activity that requires an authorization or license in terms of NEMA, NEMWA or NEMAQA;
	Emissions from sources that are owned or controlled by the reporting entity;

Environmental assessment practitioner	The individual responsible for the planning, management, coordination or review of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instruments introduced through regulations;
Environmental authorisation	An authorisation by a competent authority of a listed activity or specified activity in terms of the NEMA, and includes a similar authorisation or licence contemplated in a SEMA;
Environmental impact assessment	A systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes BA and S&EIR processes;
Environmental management programme	A programme contemplated in regulations 19, 23 and Appendix 4 of the EIA Regulations;
Greenhouse Gas (GHG)	Gaseous constituents of the global atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds;
GHG Emissions	Releases of GHG, from either natural sources or from anthropogenic activities, such as the burning of fossil fuels, deforestation, land use changes, livestock production, fertilisation, waste management, industrial processes, or transportation;

Indirect emissions	These are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity;
Licensing authority	Authority referred to in NEMWA section 43 and NEMAQA section 36 responsible for implementing the licensing system;
Listed activity	An activity identified in terms of section 24(2)(a) and (b) of NEMA requiring an environmental authorisation; listed in terms of section 21 of the NEMAQA requiring an atmospheric emissions license; or listed in terms of section 19 of the NEMWA requiring a waste management license;
Mitigation (of climate change)	A human intervention to reduce the sources or enhance the sinks of Greenhouse gases. Note that this encompasses carbon dioxide removal options;
Mitigation (of impacts and risks)	To anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible;
Resilience	The ability of a social, economic or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self organisation and the capacity to adapt to stress and change;
Screening	Determines what precisely needs to be assessed after it has been determined that an EA, WML or AEL is required, with specific focus on climate change aspects;
Specialist	A person generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies;
Specified activity	An activity as specified within a listed geographical area in terms of section 24(2)(b) and (c) of NEMA; and
Waste management license	License issued in terms of section 49(1) of NEMWA.

1. INTRODUCTION

The competent and licensing authorities recognize the importance of integrating climate change and its implications into the earliest stages of development planning. The consistent consideration of climate change in environmental impact assessments (EIA) will increase attention to, and awareness of, greenhouse gas (GHG) emissions, stimulate consideration of less emission intensive ways to realize developments and help proponents to assess:

i. how a proposed development will likely exacerbate climate change;
ii. the impact of a development on features (natural and built) that are crucial for climate change adaptation and resilience; and
iii. the sustainability of a development in the context of climate change projection.

Recent case law suggests that climate change is a relevant consideration in EA, WML, and AEL application processes, both from a climate change mitigation and climate change adaptation perspective[1]. A climate change assessment done as part of an EIA involves an assessment of:

i. whether, and to what extent, proposed development will result in the release of GHG emissions;
ii. the impact of proposed development on ecological or built infrastructure that are important for climate change adaptation and resilience;
iii. the projected impact of climate change on proposed development; and
iv. whether, and to what extent, the impacts identified in (i) - (iii) can be mitigated.

While some effort has already been made to incorporate climate change considerations in EIAs, this Guideline puts forward a consistent approach in providing interested and affected parties (e.g. the proponents, EAPs and specialists) with the minimum requirements to consider when undertaking a climate change assessment, which forms part of an application for environmental authorisation (EA), an atmospheric emission license (AEL) and/or a waste management license (WML). The guideline will further assist authorities with determining the minimum information required to enable an informed decision on applications for EA, AEL and WML.

2. LEGAL CONTEXT

[1] Earthlife Africa Johannesburg v Minister of Environmental Affairs and others [2017] 2 All SA 519 (GP), para 78- 79, The Trustees of the Groundwork Trust v Acting Director-General: Department of Water and Sanitation and Others (2020) WT02/18/MP, para 20.

The relevant laws and policies for the purposes of this guideline are the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA), the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEMWA) and the National Climate Change Response White Paper[2]. These laws must be read in the context of section 24 of the Constitution of the Republic of South Africa, 1996 (the Constitution) which gives everyone the right:

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

This guideline has also taken into consideration relevant international legal mechanisms that are binding on South Africa, most notably the United Nations Framework Convention on Climate Change and the agreements made under that Framework Convention. These include the Paris Agreement under which countries agreed to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". Article 4 of the Paris Agreement sets out Nationally Determined Contributions (NDCs) that the countries that are parties to the agreement must develop to present their part of the global effort to "reach global peaking of greenhouse gas emissions as soon as possible... on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.". Moreover, South Africa is in process of developing legislation specifically pertaining climate change.

NEMA and SEMAs provide for an integrated environmental management system in terms of which an environmental authorisation is required for listed or specified activities. The listed or specified activities are contained in Listing Notices 1 – 3 of the Environmental Impact Assessment Regulations, 2014, as amended (EIA Regulations), published in terms of NEMA. Furthermore, Notices under NEMAQA and NEMWA contain activities requiring AELs and WMLs respectively. The process to be followed for EA applications is prescribed in the EIA Regulations. In terms of the EIA Regulations and the Listing Notices,

[2] Department of Environmental Affairs. National Climate Change Response Plan White Paper, 2011

basic assessments (BAs) must be conducted as part of an EA application to conduct the activities identified in Listing Notices 1 and 3 and scoping and environmental impact report (S&EIR) must be conducted as part of EA applications to conduct activities identified in Listing Notice 2. Importantly, for the purposes of this guideline, the EIA Regulations make provision for the submission of specialist reports under certain circumstances. NEMA also requires the submission of an environmental management programme (EMPr) for approval by a competent authority.

NEMWA makes provision for the listing of waste management activities that have, or are likely to have, a detrimental effect on the environment. Such a list has been published by the Minister.[3] The activities identified as Category A and B activities may not be conducted without a WML, unless waste streams or portions of waste streams have been excluded from the definition of a waste stream in terms of the Waste Exclusion Regulations, 2018, published under Government Notice No. 715 in Government *Gazette* No. 41777 of 18 July 2018. Applications for a WML to conduct a Category A activity requires submission of a BA report as contemplated in the EIA Regulations, and applications for a WML for an activity identified as a Category B activity requires the submission of a scoping and EIA report as contemplated in the EIA Regulations.

NEMAQA makes provision for the listing of activities that result in atmospheric emissions, which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Such a list has been published by the Minister[4]. An AEL is required before the activities identified in that list can be conducted. Unlike with an EA or WML application, an application for an AEL does not follow the process in the EIA Regulations. The licencing process requirements contained in the NEMAQA do however interface with the process in the EIA Regulations and air quality impact assessment reports generally form part of the EA process. In terms of section 39 of NEMAQA, the licencing authority must take into account the pollution being or likely to be caused by the carrying out of the activity applied for and the effect or likely effect of that pollution on the environment, including health, social conditions, economic conditions, cultural heritage and ambient air quality. It is therefore necessary for the EA decision, including the air quality impact assessment report, to have been completed prior to the decision on the AEL application being made by the licencing authority. NEMAQA requires that the AEL decision must be consistent with any

[3] Government Notice 921 in Government Gazette 37083 of 29 November 2013, as amended.
[4] The most recent list was published Government Notice 893 in Government Gazette 37054 dated 22 November 2013.

environmental impact assessment done and the decision taken on an application for an environmental authorisation. The AEL licencing authority must furthermore make their decision within 60 days of the date on which the EA decision was made.

As indicated above, the relevant legislation must be read in the context of section 24 of the Constitution and relevant international legal instruments and agreements as well as the general requirement for organs of state to consider all relevant factors in decision-making processes in terms of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000). The requirement for climate change considerations to be taken into account is therefore important in decision making for EAs, AELs and WMLs.

Section 24J of NEMA authorises the Minister responsible for environmental affairs, or a Member of the Executive Council (MEC) responsible for environmental affairs in a province with the concurrence of the Minister, to publish guidelines regarding listed or specified activities or the implementation, administration and institutional arrangements of Regulations made in terms of section 24(5) of NEMA (including the EIA Regulations). This guideline seeks to give guidance on the implementation of the EIA Regulations where climate change considerations are relevant.

3. PURPOSE AND APPLICABILITY

The purpose of this guideline is to give guidance on the consideration of climate change impacts in the EIA processes linked to EA, WML and AEL applications.

i. Who is the target audience for this guideline?

The guideline is directed at authorities, EAPs, specialists, proponents and other stakeholders involved in EIA processes.

ii. What type of EIA processes and developments is this guideline applicable to?

This guideline has been developed to support the inclusion of climate change considerations into EIA processes, regardless of whether such considerations are applicable during the early development planning phase to inform planning and design decisions (i.e. during pre-application planning) or as part of prescribed EIA processes to obtain statutory approvals for a proposed development.

Where specialist climate change input may be required, the guideline promotes early, focused and appropriate involvement of specialists in EIA processes in order to encourage proactive consideration of potentially significant impacts, so that negative impacts may be avoided or

effectively managed and for benefits to be enhanced through due consideration of alternatives and changes to the development proposal. The guideline is applicable to a range of types and scales of development, across all components of the environment i.e. different biophysical, social, economic and governance contexts.

iii. What will this guideline not do?

In order to retain its relevance in the context of a changing legislative context, the guideline promotes the principles of EIA best practice without being tied to specific legislated requirements. The guideline therefore does not clarify the specific administrative, procedural or reporting requirements and timeframes for applications to obtain statutory approval. The guideline should, therefore, be read in conjunction with the applicable legislation, regulations and procedural guidelines to ensure that mandatory requirements are met.

This guideline does not replace the value of practical experience gained through coordinating, being responsible for and/or reviewing specialist inputs. The guideline must not be viewed as prescriptive and inflexible. It is intended to provide best practice guidance to improve the quality of specialist input related to climate change. The guideline should therefore not be used indiscriminately without due consideration of the particular context and circumstances within which an EIA is undertaken, as this has an influence on both the approach and the methods available and used by EAPs and specialists.

The guideline does not address climate change issues related to existing developments where the required statutory approvals have already been obtained.

4. DEVELOPMENT AND CLIMATE CHANGE

4.1 In order to assist all stakeholders (e.g. applicants, proponents, EAPs, specialists, competent authorities and the public), this guideline gives -

(a) Some examples of –

(i) when a proposed development will likely have climate change implications;

(ii) measures that can be taken to mitigate the likely climate change impact of a development;

(iii) how to assess whether a development will exacerbate climate change (typically by the emission of GHGs);

(iv) how to assess the impact of a development on features (built or natural) that are crucial for adapting to climate change, or climate change resilience;

(v) how to assess the likely impact of climate change on the development in the future; and

(vi) how to assist stakeholders such as EAPs, applicants, proponents and, where applicable, specialists regarding the minimum information to be included in EIA reports (including specialist reports), to enable an informed opinion or recommendation as to whether the proposed development should be authorised; assist authorities regarding the minimum information required to enable informed decisions on applications for EA, AEL, and WML; and provide guidance on how to consider adaption and mitigation measures when applying for EA, WML and AEL; and

(b) Minimum information guidance –

(i) as to when a specialist climate change report would be required;

(ii) on the type of information that must be included in a BA, scoping or EIA report when a climate change assessment is not required;

(iii) on the type of information that must be included in a climate change specialist report when it is required; and

(iv) on the type of information that must be included in an EMPr.

4.2 It is reiterated that this guideline does not provide comprehensive, technical guidance on climate change assessments, but rather emphasises the importance of climate change for EIA processes and to give some minimum information guidance on how climate change must be considered.

4.3 A proponent, applicant or EAP should consider whether a proposed development will likely have climate change implications or if climate change will have implications for a specific development. If one or more of the following criteria apply to a proposed development, climate change will be a relevant consideration for EIA processes:

a) The development will likely result in the release (or absorption) of GHGs and therefore exacerbate (mitigate) climate change;
b) The development will likely impact (adversely or positively) on ecological infrastructure (e.g. biodiversity corridors or wetlands) or built infrastructure (e.g. dams and storm water systems) that is important for climate change adaptation or resilience; and/or
c) The development will likely be impacted (positively or negatively) by the future climate change implications.

PLEASE TAKE NOTE: the lists of examples given in this guideline are not intended to be exhaustive.

4.4 Examples of developments that will result in the release of GHGs include –

- The construction of electricity generation facilities that utilise fossil fuels[5];
- Industrial developments that contribute to atmospheric emissions;
- The extraction and production of fossil fuels[6];
- The development and related operation of feedlots[7];
- The clearing of vegetation, especially where the vegetation is important for carbon capture and where the cleared vegetation is going to be replaced by built infrastructure such as roads, airports and urban development;
- Waste disposal facilities; and
- Treatment of waste through burn technologies such as incinerators.

4.5 Examples of developments that will likely result in impacts on ecological or built infrastructure that is important for climate change adaptation or resilience include:

- Those that will impact on water resources, such as rivers, streams, aquifers, wetlands, as well as water resource systems such as strategic water source areas (both surface and groundwater) and aquifer recharge areas, given the projections that South Africa will likely become drier as a result of climate change;
- Those that will impact on coastal systems and wetlands that will mitigate severe weather events such as storms and floods that will likely become more severe and frequent owing to climate change;

[5] See activities 2 in Listing Notices 1 and 2.
[6] See activities 17, 18 and 20 in Listing Notice 2.
[7] See activity 4 in Listing Notice 1.

- Those that will impact on water infrastructure, such as dams and storm water systems, given the likely drying climate and the future severe weather events; and
- Waste disposal facilities.

4.6 Example of developments that will likely be impacted by climate change include:

- Those in areas that will likely become prone to increased frequency and intensity of fires, rainfall, flooding or be affected by sea-level rise in future as a result of climate change.

5. GENERIC PRINCIPLES FOR INVOLVING CLIMATE CHANGE SPECIALISTS IN EIA PROCESSES

The following generic principles apply to the involvement of specialists in EIA processes and underpin this guideline:

- Eliminate unnecessary specialist involvement through proactive development planning and design to avoid or sufficiently reduce negative impacts that may otherwise require specialist assessment;
- Maximise use of existing relevant information prior to involving a specialist;
- Where appropriate and necessary, involve specialists early in the EIA process to increase efficiency and effectiveness of their involvement;
- Maintain continuity of specialist involvement throughout the EIA process (specialist involvement should add value to development planning and design);
- Support flexible, focused and appropriate involvement of specialists to provide adequate, relevant information to make informed decisions (i.e. the correct level of information should be supplied at the right time in the EIA process);
- Allow for greater involvement of specialists in the identification of key issues, over and above those identified through stakeholder engagement processes;
- Allow for efficient and effective interaction between specialists and the EAP, the development proponent, the authorities, other specialists on the EIA/development team and other stakeholders to improve the quality of the EIA process and outcomes; and
- Ensure that findings are informed by local and indigenous knowledge and experience.

6. THE ROLE OF THE EAP

The EAP appointed to conduct the EIA process takes the primary responsibility for the screening of issues and concerns, inclusive of climate change implications. It must be acknowledged that climate change is not a concern in every EIA process, and it is the responsibility of the EAP to identify the need for specialist climate change inputs into the EIA process. Note that the specialist inputs can be requested at any stage of the EIA process, and can range from providing brief inputs when consulted, to a specialist assessment. The following steps will assist in determining the need for specialist inputs:

Step 1: Gather and evaluate adequacy of available information

At the start of the EIA process, the EAP must gather all the relevant information on the development, the affected receiving environment, and the strategic context (i.e. policies, plans and frameworks) within which the proposed development will be situated. This information is needed to identify issues that may have a positive or negative impact on the biophysical, social or economic environment. Note that at this stage, information should be sufficient to identify climate change issues (Step 2 below), rather than to assess the significance of potential climate change impacts.

Additional information about the development, the environment and the legal, policy and planning context may be required, but if insufficient information is available and an aspect of the proposed development or the context triggers concerns about significant negative climate change impacts, the EAP should involve an appropriate specialist(s) to provide the outstanding information.

Step 2: Identify potential issues and concerns

The EAP must ensure that the EIA process only focus on climate change issues where it is relevant (avoiding the generation of excessive amounts of irrelevant information). Consistent with the principles of sustainable development, the screening process must consider intra- and inter-generational sustainability concerns (i.e. identifies issues of potential concern to future generations as well as the current generation). Furthermore, and of importance in terms of climate change, potential local, regional, national and international issues should be identified.

As already highlighted, the EAP appointed to conduct the EIA process takes the primary responsibility for the scoping of issues and concerns, inclusive of climate change implications. This determination will also be influenced by the inputs of other stakeholders, especially the determination from the

competent/licensing authorities. Issues and concerns can be identified through a combination of the following approaches:

- EAP's knowledge and experience from similar developments;
- Specialist knowledge and experience;
- Consultation with relevant organs of state;
- Consultation with key infrastructure and service providers;
- Consultation with other stakeholders;
- Proponent's knowledge and experience in constructing, operating and closure of similar developments;
- A review of relevant literature (e.g. EIAs conducted for similar developments) and best practice guidelines;
- Legislation, polices and strategic frameworks and plans;
- Site visits; and
- Scoping checklists.

It is important to note that climate change aspects may be substantive (i.e. related to the nature of the development or the sensitivity of the receiving environment, and its possible impacts) and necessitate an environmental impact assessment which may be based on both objective knowledge and subjective opinions or values. Whilst the EAP must respond to all issues that are raised during the scoping process, not all issues require specialist input. The relevance of climate change issues to decision-making and the amount of available information, will determine whether (or not) finality can be reached on the issue without further assessment (i.e. an issue being scoped out). The rationale used for determining which issues are scoped out without further specialist input and which issues are assessed in more detail (potentially by specialists) is described in subsequent Steps 3-5.

Step 3: Determine if the issue falls within the scope of the EIA process

After climate change has been identified as an issue, the EAP must determine the impact significance[8] and whether it falls within the scope of the EIA process as not all issues identified would require climate change assessment. For example, if the issue is of a strategic nature that can only be addressed by a strategic policy or planning process. Where issues fall outside the scope of the EIA these should be

[8] DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

recorded and explained in the EIA process. It must be noted, however, that where an issue falls outside the scope of the EIA process a pre-application meeting may be arranged to consider whether the issues falling outside are relevant for consideration by authority. The EAP may be requested by the authority to include a discussion on the issue and implications in the BA and/or S&EIR. If appropriate, this could be informed by specialist inputs.

Not all activities that require EA, WML or AEL will require climate change assessments. However, it must be kept in mind that some climate change impacts are cumulative in nature – even small amounts of GHG emissions may still contribute to global climate change. All EIA reports should preferably still include potential risks from climate change that could affect the development in the short, medium or long term.

In the event where no climate change assessment is undertaken, the EIA reports should include the following:

- A reasoned opinion (from an adaptation perspective) whether the proposed activity, activities or portions thereof should be authorised including any avoidance, management and adaptation measures that will be included in the EMPr;
- A Life Cycle Assessment (LCA) of whether or not the development will result in GHG emissions;
- An assessment of whether or not a proposed development would impact adversely on the ecological or built infrastructure that is important for climate change adaptation or resilience, or a carbon sink;
- An assessment of whether or not a specific development will likely be impacted by the effects of climate change, such as more severe and frequent floods, droughts and storm events;
- A statement on how the Impact Mitigation Hierarchy was followed in respect of the development's climate change impacts, for example was the climate change impact avoidable, and if not, can it be minimised and remedied;
- A statement on how the risk averse and cautionary approach was applied in respect of a proposed development's likely climate change impacts and the likely impacts of climate change on the development;
- Proposed recommendations in terms of conditions to be included in the EA, AEL and/or WML; and
- Any other information that may be requested by the competent authority and licensing authority.

Step 4: Determine whether the issue can be resolved through changing the development proposal

Consistent with the application of the Impact Mitigation Hierarchy, this step determines if the climate change issues can be resolved through amending the development proposal or components thereof (e.g. design, layout, location or technology). This may require specialist involvement to propose and investigate the possible impacts of practical changes to the development proposal, considering the nature of the receiving environment. The consideration of alternatives should be well motivated.

If changes to the development proposal can be made which effectively avoid or minimize negative impacts or enhance positive impacts, and which do not raise other key issues, closure can be reached on the issue without further assessment or specialist involvement (i.e. the issue can be scoped out). This must be clearly documented and communicated in the EIA process.

In instances where an issue cannot be resolved through changing the development proposal, the EIA process moves to step 5.

Step 5: Assess potential impacts associated with the proposed development, including recommendations for management actions and monitoring programmes

The remaining unresolved climate change issues (after following steps 1-4) that could not be addressed through changes to the development proposal, need to be evaluated by the EAP to determine if enough information exists to assess the associated impacts without specialist involvement. If the EIA practitioner is able to draw on existing information and experience to confidently assess the impact without specialist input, or is able to conclude that the potential impact is of such low significance that no further impact assessment is required, then the issue can be closed off without specialist involvement.

However, climate change issues that cannot be resolved through the screening process based on the available information must be taken forward through BA and/or S&EIR processes and must be addressed through the involvement of climate change specialists. The EAP, in conjunction with the specialists, should draft the TOR for the required input. At this stage the specialist's role is to assess the potential impacts of the proposed development (including feasible alternatives within the development proposal) and provide recommendations for management actions and monitoring programmes.

Further to the above, it must be noted that whilst the EAP as part of the EIA process will determine the need for involvement of a climate change specialist, the competent authority or licensing authority may be approached through a pre-application meeting to determine whether or not a proposed development would have significant climate change impacts and therefore require a climate change specialist input

into the EIA process. This must be communicated to the EAP.

7. THE ROLE AND TIMING OF SPECIALIST STUDY WITHIN THE EIA PROCESS

Once the need for climate change specialist inputs have been identified by the EAP, specialists can be involved for different purposes during various stages of the EIA process, regardless of whether the process is initiated before or upon submission of an application for statutory approval. Specialists can therefore provide input during pre-application planning or following the submission of an application for statutory approval of the proposed development (i.e. during screening, BA and/or scoping and/or impact assessment). Differences in the nature and outcome of specialist involvement at different stages of the development cycle and EIA process are summarized in Table 1.

Table 1: Role and timing of specialist input within the EIA process

Scope of specialist involvement	**Pre-application planning/screening**	**Screening and scoping**	**Impact assessment**
Need for specialist involvement	The need for specialist involvement is to be determined by the EAP based on the level of information available on the nature and scale of the development proposal, the nature of the receiving environment, the policy and strategic environmental planning context and need and desirability[9] considerations.		
Timing of specialist involvement	Prior to submission of application for environmental authorisation – part of the planning team.	In accordance with the provisions of the applicable NEMA and SEMA.	
Nature of involvement	Proactive and advisory in nature and often focused on avoidance of impacts. Intensity of involvement determines whether or not ToRs are required.	Proactive, reflective and advisory. Intensity of involvement determines whether or not ToRs are required. This mostly constitutes specialist opinions and	Investigative, analytical and advisory. ToRs required. This constitutes detailed specialist studies.

[9] The Guideline on Need and desirability (DEFF, 2017).

Scope of specialist involvement	**Pre-application planning/screening**	**Screening and scoping**	**Impact assessment**
		inputs without detailed assessments.	
Type of decision which specialist involvement informs	Informs proponent's development planning and design (including alternatives) and if the development should proceed into the formal regulatory process (fatal flaw analysis).	**Screening** - to determine whether or not a proposal should be subject to EIA and, if so, at what level of detail. **Scoping** – to identify the issues and impacts that are likely to be important and to establish terms of reference for EIA.	Informs the EAPs assessment of impacts, mitigation measures and if the development proposal should be recommended for decision making. Informs the competent authority's review of the application for environmental authorisation, the adequacy of the EIA mitigation measures. Where application is being considered, the specialist information informs the conditions attached to the decision and the management measures of the EMPr.

Although current EIA practice often only involves specialists during the impact assessment phase of the process, this guideline encourages earlier, focused and appropriate involvement of specialists in order to improve the efficiency and effectiveness of their input.

Importantly, the involvement of specialists should not be seen as an obstacle in the approval process, but that specialist input, especially at the early concept stage of the development, can play an important role in helping to identify potential "fatal flaws" and formulate practical design alternatives that enhance development benefits, as well as minimise negative impacts, and possibly even costs, of the development.

Depending on the nature of the development, the stage of development planning and the EIA process, the environmental context and the amount of available information, specialist involvement will vary in intensity (i.e. level of detail) and may include any or all of the following approaches:

- Provision of a specialist opinion or comment - professional judgement;
- Research and literature review – a synthesis of current available information;
- Baseline survey, from a rapid scan to a more comprehensive survey (including site visit/s);
- Consultation and interviews;
- Mapping and simulation modelling;
- Scenario planning;
- Specific approaches such as:
    - Climate change risk and vulnerability assessments;
    - Carbon footprint analysis;
    - Greenhouse gas emissions inventories; and
    - Carbon footprint calculations;
- Cause-effect-impact pathways, to identify and focus on significant issues; and
- Assessment of impacts and their significance.

The ToR for specialist involvement should, therefore, be appropriate to the purpose and intensity/scale of involvement and should be discussed and agreed between the EIA practitioner and the specialist (and the authority where relevant).

In deciding on the approach and method to be employed, the following should be considered:

- The type, scale and duration of the development;

- The environmental context within which the development is proposed (i.e. sensitivity of the receiving environment, the type and significance of resource affected, covering socio-ecological and socio-economic aspects);
- The type of climate change issues to be addressed;
- The adequacy of information available;
- The potential significance of impacts;
- The level of certainty and confidence required;
- The time and budget available; and
- Legal requirements and policy directions

The selected approach and method should be clearly motivated and communicated by the specialist.

8. ROLES AND RESPONSIBILITIES

The roles and responsibilities of the various stakeholders in the EIA process, in particular the EAP, the climate change specialist, the applicant/proponent and competent /licensing (decision making) authorities, as it pertains to climate change issues, are described as follows:

The EAP must *inter alia* –

- Determine the need for and purpose of specialist involvement in the EIA process;
- Where appropriate, ensure that the specialist becomes involved as early as possible in the EIA process, including the pre-application phase. (This includes determining the appropriate level of specialist input required – i.e. to determine if a specialist comment will be adequate, or if a detailed specialist assessment will be required);
- Ensure specialist involvement is appropriately budgeted and planned for;
- Draft TOR for specialist;
- Ensure specialist TOR are appropriate to the nature of the development and the environmental context; and
- Incorporate specialist information into the EIA process in an objective manner that effectively communicate it to all stakeholders;

The climate change specialist must *inter alia* –

- Understand the nature of inputs required and the phase of the EIA process (especially as the pre-application phase may not include a TOR);
- Clarify the TOR with the EAP and ensure its appropriateness considering the nature of the development and the environmental context;
- Select the approach and method to address impacts and clearly motivate and communicate it to the EAP; and
- Provide information objectively and clearly communicate it to the EAP for inclusion in the EIA process.

The development applicant/proponent must *inter alia*:

- Allocate adequate time and budget to the involvement of specialists in all phases of the EIA processes, especially during the pre-application (development planning) phase (under the guidance of the EAP);
- Provide for a contingency budget in the event that additional specialist involvement may be required during the course of the statutory EIA process (i.e. scoping and impact assessment phases), recognizing that it is impossible to accurately determine the scope of specialist involvement during the initial EIA budgeting process;
- Recognise that changes to the development proposal during the course of the pre-application (development planning) phase as well as during statutory EIA process may have time and budgetary implications for the EAP and the specialist;
- Respect the requirement for EAP and specialists to provide accurate and objective information to the competent/ licensing authority (decision-making authority) and timeously provide relevant and accurate development information necessary to identify and assess impacts; and
- Contribute constructively, consistent with the steps of the Impact Mitigation Hierarchy, to the identification of issues, appropriate alternatives, impacts and mitigation measures associated with the proposed development.

9. EXTENT AND CONTENT OF CLIMATE CHANGE ASSESSMENTS

9.1 Information required to provide specialist input

The existence of adequate information is a prerequisite for effective and efficient specialist

involvement. This requires the upfront identification of the information needed by the climate change specialist. Specialists should provide a list of information requirements to the EAP as early as possible in the EIA process in order to comply with the regulatory timeframes. However, the primary responsibilities for sourcing the required information lies with the EAP and the specialist. The following information is generally required:

- Relevant development information (including relevant alternatives where applicable);
- Information describing the receiving environment;
- Legal, policy and planning context;
- Issues raised during the screening process;
- Information generated by other specialists; and
- Contextual factors, external to the EIA that may influence issues and concerns (where relevant).

It must be noted that the lack of adequate information on the receiving environment or the legal, policy and planning context at the start of the EIA process, may require upfront specialist involvement to fill this information gap.

9.2 When must a climate change assessment be undertaken?

When the climate change impacts of a proposed development are significant, following the steps 1 to 5 as described in paragraph 6, a specialist climate change assessment will generally be required. Whilst the EAP, as part of the EIA process, will determine the need for involvement of a climate change specialist, the competent authority or licensing authority can, however, differ from the EAP and request that a specialist assessment is required. The significance of climate change impact will depend on a multitude of factors, including the location of the proposed development, the type, and scale of the development, the nature and sensitivity of the receiving environment, and development duration.

In summary, a climate change assessment will be required in the following instances:

a) The EAP, in following the steps 1 to 5 as set out in paragraph 6, determines the need for such a specialist assessment as part of the EIA, WML and AEL process;
b) the proposed development involves conducting an activity set out in GHG regulated thresholds[10]; and

[10] National Greenhouse Gas Emission Reporting Regulations, 2016 as amended.

c) where such assessment is specifically required by the competent authority.

9.3 Content of a climate change assessment

As with all specialist reports, a climate change assessment report must comply with the requirements of EIA Regulations (Appendix 6).

Examples of the type of information that should be included in a climate change assessment include –

9.3.1 Declaration

- A declaration by the specialist that he or she is independent in a form as may be specified by the competent authority.

9.3.2 Scope and purpose of the report

- An indication of the scope of, and the purpose for which, the report was prepared (this includes, where applicable distinguishing between pre-construction, construction, operational and decommissioning impacts). Reports must be limited to the scope of the listed or specified activity applied for.

9.3.3 Description of the development activities

- Description off the development and associated activities
- The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment.
- Summary of potential development impacts

9.3.4 Methodology

- A description of the methodology adopted in preparing the report or carrying out the specialized process inclusive of equipment and modelling used.

Typical approaches to providing climate change inputs, including:

- Desk top study – a synthesis of current available information;
- Professional judgment or opinion;
- Site visits;
- Cause-effect-impact pathways, to identify and focus on significant issues;
- Identification development specific methodologies such as:
    - Baseline survey, from a rapid scan to a more comprehensive survey;
    - Climate change risk and vulnerability assessments;
    - Carbon footprint analysis;
    - Greenhouse gas emissions inventories;

- Carbon footprint calculations;
- Detailed studies and/or surveys, laboratory processing, analysis, and/or mapping;
- Modelling; and
- Scenario planning.

9.3.5 Impacts or Findings

- A description of climate change (temperature and rain-precipitation) scenarios applicable to the specific geographical area and climate risks associated with it;
- A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change (this could also superimpose climate scenarios and risks looking into future and determine whether the identified impact worsen or not, and implications for that);
- A description of the potential impact on the surrounding environment, and implications for the proposed development;
- A description of the potential impact on the proposed development, and implication for the surrounding environment and the climate resilience of the proposed development;
- What GHG are likely to be emitted as result of the proposed activity?
- An estimation of the GHG emissions, direct and indirect (including upstream GHG emissions), that will be released into the atmosphere annually throughout the impact related to the activity;
- An analysis of how the development's estimated GHG emissions will impact on South Africa's GHG emission trajectory and its ability to maintain its nationally determined contributions under the Paris Agreement;
- The likelihood of the proposed development becoming a stranded asset in future owing to variable economic factors of renewable energy, likely stricter GHG emission limits, lower water supplies and other factors;
- An estimation of the climate change impact, measured in GHG emission equivalent, of destroying or damaging a carbon sink should the proposed development have a likely adverse impact on a carbon sink;
- An assessment of how important the ecological or built infrastructure is for climate change resilience and adaptation in a specific context should the development have a likely adverse impact on such ecological or built infrastructure;

- Mitigation outcomes and mitigation actions, including any monitoring requirements to be included in the EMPr;
- Whether, and how, the climate change impacts of a proposed development can be mitigated, having due regard to the precautionary principle and the Impact Mitigation Hierarchy, which determines that environmental impacts must be avoided, and where they cannot altogether be avoided, must be minimised and remedied;
- Details of the expected carbon footprint of the development including, but not limited to:
  a) Identification of avoidance, management and mitigation measures (i.e. consideration of the Impact Mitigation Hierarchy for managing development related GHG emissions);
  b) Identification of the contribution the development could have towards climate change;
  c) Consideration of the impacts that climate change could have on the development proposal; and
  d) The inclusion of adaptation measures.

10. THE APPLICATION OF THE IMPACT MITIGATION MEASURES

The following considerations can guide the specialist to improve the effectiveness of mitigation measures:

- For each positive impact, determine whether it can be further enhanced, and for identified negative impacts, state whether mitigation measures are avoidance measures, replacement measures, reduction measures, rectification measures or compensatory measures (Table 2 below for a summary of the different types of mitigation);
- For each identified impact, provide mitigation objectives that would result in a measurable reduction.
- For each impact, recommend practically attainable mitigation actions that can measurably affect the significance rating;
- Where relevant, mitigation actions should consider enhancement options, soft engineering solutions or using the construction and operation methods or processes to reduce environmental effects;
- New innovative techniques should be investigated and should form part of the considerations for the custom-design of mitigation measures to particular problems;
- Mitigation measures should, where possible, be based on successful case studies or measures applied successfully in other developments;

- Provide a precise description for each recommended mitigation action;
- The mitigation actions should be affordable, feasible, achievable and measurable with defined criteria for success;
- Mitigation measures for addressing identified impacts should not result in, or create additional impacts of their own;
- If no mitigation is considered feasible, this must be stated and reasons provided;
- The significance rating of the development with and without mitigation measures should be provided;
- The proposed mitigation actions that will be implemented should be provided;
- A specified implementation date, time and sequence for mitigation measures should be provided; and
- A clear assessment of the likely success of the proposed mitigation measures should be provided.

Table 2 below summarizes the different approaches to prescribing and designing mitigation measures[11].

Table 2: Different categories for prescribing and designing mitigation measures

1. Avoidance:	Mitigation by not carrying out the proposed action or the unacceptable parts of the proposed action. For example, if the only area available for a regionalairport happens to be an area of extensive wetlands that would be filled in by construction of the airport, avoidance of the action would be the only reasonable way to protect those wetlands.
2. Minimization:	Mitigation by scaling down the magnitude of a project, reorienting the layout of the project or employing technology that reduces the factors generating the undesirable environmental impact.
3. Rectification:	Mitigation through the restoration of environments affected by the action. For example, areas cleared for the installation of pipelines or power lines can be rehabilitated and then replanted with native vegetation.

[11] Council on Environmental Quality Regulations, 40 CFR 1508.20, cited in the US EPA Resource Manual for Environmental Impact Assessment Review, 1998

4. Reduction:	Mitigation by taking maintenance steps during the course of the action. For example, storm water management systems can be designed to trap sedimentsfrom developed areas.
5. Compensation:	Mitigation through the creation, enhancement or acquisition of environments similar to those affected by an action. This step should only be considered after all steps above have been completed. As a last resort, donation of land or money for a regional programme of habitat creation or enhancement shouldbe considered.

11. ADDRESSING DIRECT, INDIRECT AND CUMULATIVE IMPACTS

The specialist must consider potentially significant direct, indirect and cumulative climate change impacts of a proposed development. This requires the following:

- Conceptualisation of possible cause-effect pathways resulting from the proposed development;
- An understanding of strategic context within which the proposed development is located, the current and future plans/frameworks, developments and activities in the area;
- An awareness of other threats or trends that could affect the socio-economic and socio-ecological systems within which the development is proposed;
- An understanding of the likely resilience and status of affected systems;
- An understanding of broader strategic sustainability goals or targets for the area that would be affected by the proposed development.

If there are potentially significant cumulative effects[12] that cannot be addressed in the EIA, the specialist should bring this under the attention of the EAP to be included in the EIA to inform authority decision making. The specialist (in consultation with the EAP) should also make recommendations on how to address these impacts.

12. CLIMATE CHANGE ADAPTATION

Climate change adaptation refers to the required response to climate change that specifically seeks to

[12] DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

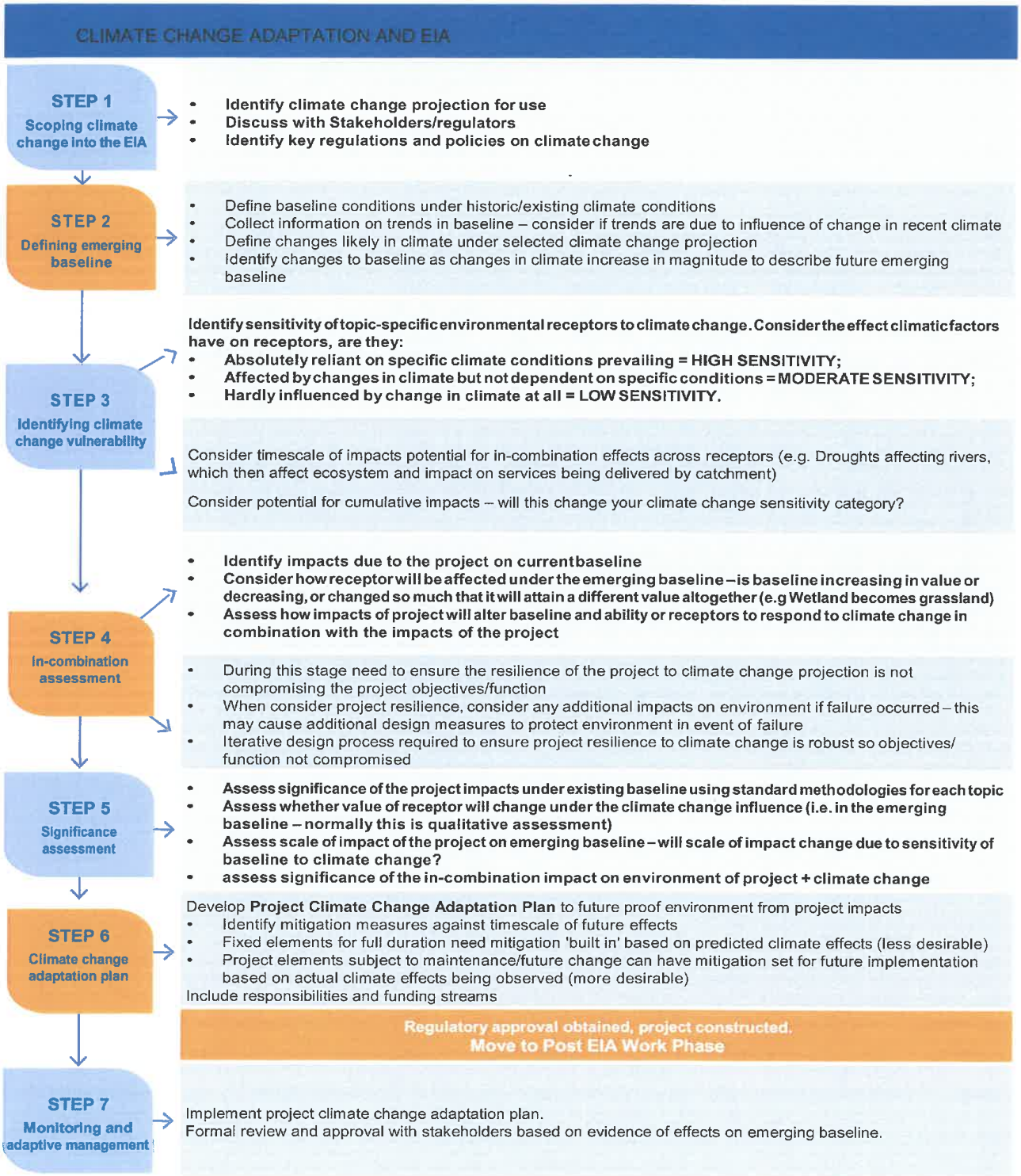
reduce the vulnerability of socio-economic and biological systems to possible negative impact of climate change on the proposed development, and the surrounding environment. The proposed development could have detrimental impacts and exacerbate problems on the surrounding environment and other closely related infrastructure, and could also be impacted negatively as result of the risks associated with climate change, and the surrounding environment. Climate change adaptation becomes fundamental to ensure that the proposed development is not vulnerable to climate risks, and also to ensure that adaptation measures are implemented to prevent or minimise negative impacts associated with climate change as result of the development.

The following issues must be addressed by climate change studies in the context for environmental impact assessment, namely:

- Climate change scenarios that are anticipated;
- Climate change risks associated with climate change;
- Likely impact of the climate change risks on the developments;
- Likely impact of climate change on the surrounding environment, and implications for the development; and
- Explanation of how the existing impacts identified during the EIA process is likely to be exacerbated or minimised as result of climate change and what measures are likely to be implemented to accommodate and manage (adaptation) the anticipated worst scenario where applicable.

Figure 1 below shows the steps to be followed, with an indication of the climate change-specific actions that are likely to be required at each stage of the process. Emphasis has been placed on scoping the assessment, as this is the process whereby broad principles need to be translated into tangible plans for addressing climate adaptation issues through the EIA process.

Figure 1: Step by step approach to considering climate change adaptation in Environmental Impact Assessment



13. EMPr REQUIREMENTS: IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

Where an EMPr is prepared for a development that will likely have climate change impacts, impact management outcomes and impact management actions regarding the mitigation measures for the climate change impacts must be recorded in an EMPr. As terms suggest, impact management outcomes are certain management targets that are set in an EMPr and impact management actions are the actions required to meet those targets.

The impact management outcomes in the climate change context could include, for example, enhancing a carbon sink or ecological infrastructure that is important for climate change adaptation or resilience. Specific impact management actions could include, for example, using low carbon technology during the construction and operational phases of a development, designing the development in such a way as to enhance a carbon sink or important ecological infrastructure or constructing artificial levees to protect the development from a storm surge or a flood. Any adaptation measures and/or mitigation measures proposed, must be included in the EMPr and comply with Appendix 4 of EIA Regulations.

13.1 Adaptation and mitigation measures

- Mitigation outcomes and mitigation actions, including any monitoring requirements to be included in the EMPr.
- Whether, and how, the impacts of the climate change of a proposed development can be mitigated, having due regard to the precautionary principle and the Impact Mitigation Hierarchy, which determines that environmental impacts must be avoided, and where they cannot altogether be avoided, must be minimized and mitigated.
- Identification of adaptation measures for the impact identified in the impact section (both impact on the proposed development and of the proposed development on the surrounding environment).

CONTINUES ON PAGE 130 OF BOOK 2

Printed by and obtainable from the Government Printer, Bosman Street, Private Bag X85, Pretoria, 0001
Contact Centre Tel: 012-748 6200. eMail: info.egazette@gpw.gov.za
Publications: Tel: (012) 748 6053, 748 6061, 748 6065

This gazette is also available free online at **www.gpwonline.co.za**

Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 672 25 June Junie 2021 No. 44761

PART 2 OF 2

ISSN 1682-5845

9 771682 584003 44761

NATIONAL GUIDELINE FOR CONSIDERATION OF CLIMATE CHANGE IMPLICATIONS IN APPLICATIONS FOR ENVIRONMENTAL AUTHORISATIONS, ATMOSPHERIC EMISSION LICENSES AND WASTE MANAGEMENT LICENSES

JANUARY 2021
(VERSION 1)

FORESTRY, FISHERIES AND THE ENVIRONMENT
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, South Africa, www.environment.gov.za