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Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

**INTEGRATED ENVIRONMENTAL MANAGEMENT GUIDELINE**

# GUIDELINE ON NEED AND DESIRABILITY

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**REFERENCING**

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**PREFACE**

This guideline must be read together with the NEMA, the EIA Regulations, the relevant SEMA(s) and its Regulations, and is not intended to be a substitute for the provisions of the NEMA, the SEMAs or the Regulations, in any way.

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## 1. BACKGROUND

When considering an application for Environmental Authorisation (EA), the competent authority must comply with section 24O of the National Environmental Management Act, No 107 of 1998 (NEMA), and must have regard for any guideline published in terms of section 24J of the Act and any minimum information requirements for the application. This includes this need and desirability guideline.

Additionally, the Environmental Impact Assessment (EIA) regulations require environmental assessment practitioners (EAPs) who undertake environmental assessments, to have knowledge and take into account relevant guidelines. A person applying for an EA must abide by the regulations, which are binding on the applicant.

This guideline contains information on best practice and how to meet the peremptory requirements prescribed by the legislation and sets out both the strategic and statutory context for the consideration of the need and desirability of a development involving any one of the NEMA listed activities. Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable – and ensuring the simultaneous achievement of the triple bottom-line.

The Guideline sets out a list of questions which should be addressed when considering need and desirability of a proposed development. These are divided into questions that relate to ecological sustainability and justifiable economic and social development. The questions that relate to ecological sustainability include how the development may impact ecosystems and biological diversity; pollution; and renewable and non-renewable resources. When considering how the development may affect or promote justifiable economic and social development, the relevant spatial plans must be considered, including Municipal Integrated Development Plans (IDP), Spatial Development Frameworks (SDF) and Environmental Management Frameworks (EMF). The assessment reports will need to provide information as to how the development will address the socio-economic impacts of the development, and whether any socio-economic impact resulting from the development impact on people's environmental rights. Considering the need and desirability of a development entails the balancing of these factors.

## 2. INTRODUCTION: STRATEGIC CONTEXT FOR THE CONSIDERATION OF NEED AND DESIRABILITY

The need for and the desirability of a proposed development forms a key component of any EIA application. The consideration of proposed developments in context of the various spatial planning tools and policy applicable to the study area forms an integral part of the present environmental processes. The "need and desirability" will be determined by considering the broader community's needs and interests as reflected in a credible IDP, SDF and EMF for the area, and as determined by the EIA .It is essential that national policies and strategies supports growth in the economy. It is also essential and that these policies takes cognisance of strategic concerns such as climate change, food security, as well as the sustainability in supply of natural resources and the status of our ecosystem services. In other words, to achieve our Constitutional goal of a better quality of life for all now and in future, through equitable access to resources and shared prosperity, it is essential that society improves on the efficiency and responsibility with which we use resources, and improve on the level of integration of social, economic, ecological and governance systems.

The environmental right in the Constitution also acknowledges that the relationship between different forms of capital[1] (i.e. social, human and man-made and natural capital) is *not* one of "substitutability", but a relationship of "interdependency" and "complementarity", especially the dependence of other forms of capital on maintaining natural capital[2].

Consistent with national priorities, environmental authorities must support "*increased economic growth and promote social inclusion*", whilst ensuring that such growth is "*ecologically sustainable*". In the National Spatial Development Perspective (NSDP) (2003 and updated in 2006) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas ("spatial targeting") with potential for economic development, with development to serve the broader societies' needs equitably.

The New Growth Path (NGP) (2010) in turn highlights the need to focus on facilitating growth in sectors ("sectorial targeting") able to create employment on a large scale, while not neglecting more advanced industries that are crucial for sustained long-run growth, and encouraging stronger investment by the private and public sectors to grow employment-creating activities rapidly while maintaining and incrementally improving South Africa's core strengths in sectors such as capital equipment for construction and mining, metallurgy, heavy chemicals, pharmaceuticals, software, green technologies and biotechnology. In this regard the NGP aims to lay out a dynamic vision for how South Africa can collectively achieve a more developed, democratic, cohesive and equitable economy and society over the medium term, in the context of sustained growth. NGP highlights the need for the simultaneous achievement of the different sustainability objectives:

> *In essence, the aim is to target our limited capital and capacity at activities that maximise the creation of decent work opportunities. To that end, we must use both macro and micro economic policies to create a favourable overall environment and to support more labour-absorbing activities. The main indicators of success will be jobs (the number and quality of jobs created), growth (the rate, labour intensity and composition of economic growth), equity (lower income inequality and poverty) and environmental outcomes.*

The National Development Plan 2030 (NDP) (2012) stresses that the threat to the "environment and the challenge of poverty alleviation are closely intertwined" and as such environmental policies should not be framed as a choice between the environment and economic growth. The NDP states that:

> *The 20th century was a period of unparalleled growth for humanity's population and socioeconomic development. During this period, environmental constraints to human activity were often not fully recognised. The world is now experiencing a growing number of undesirable consequences as continued economic expansion and resource exploitation threatens the stability of natural systems.*
> …
> *Market and policy failures have resulted in the global economy entering a period of "ecological deficit", as natural capital (ground water, marine life, terrestrial biodiversity, crop land and grazing) is being degraded, destroyed, or depleted faster than it can be replenished. Waste and carbon-equivalent emissions per capita are climbing faster every year in an ecosystem with finite limits.*
> …
> *South Africa faces urgent developmental challenges in terms of poverty, unemployment and inequality, and will need to find ways to "decouple" the economy from the environment, to break the links between economic activity, environmental degradation and carbon-intensive energy consumption.*

[1] "*Social capital*", referring to social networks, democracy, culture, and institutions, "*human capital* ", referring to investment in education and health, "*built*, *man-made"* or "*manufactured capital",* referring to infrastructure such as houses, roads, or factories, and "*natural capital" , referring to ecosystems and its ecosystem services*

[2] *The relationship between natural and man-made capital as one of "complementarity" and dependence rather that "substitution" and that the significant loss of natural capital cannot be compensated (or substituted) by an accumulation of manufactured capital*

While the NDP therefore calls for policy in the short term to "respond quickly and effectively to protect the natural environment and mitigate the effects of climate change", it also calls for "spatial transformation across all geographic scales, and for "policies, plans and instruments" to, *inter alia*, "reduce travel distances and costs, especially for poor households", "prevent further development of housing in marginal places", increased urban densities to support public transport and reduce sprawl", and to create vibrant settlements. The NDP further highlights that "developments that have serious environmental or social effects need to be offset by support for improvements in related areas".

*The NDP formulated the following principles to guide "the transition to an environmentally sustainable low-carbon economy, moving from policy, to process, to action":*

***Just, ethical and sustainable.*** *Recognise the aspirations of South Africa as a developing country and remain mindful of its unique history.*

***Global solidarity.*** *Justly balance national interests with collective action in relation to environmental risks and existential threats.*

***Ecosystems protection.*** *Acknowledge that human wellbeing is dependent on the health of the planet.*

***Full cost accounting.*** *Internalise both environmental and social costs in planning and investment decisions, recognising that the need to secure environmental assets may be weighed against the social benefits accrued from their use.*

***Strategic planning.*** *Follow a systematic approach that is responsive to emerging risk and opportunity, and which identifies and manages trade-offs.*

***Transformative.*** *Address the structural and systemic flaws of the economy and society with strength of leadership, boldness, visionary thinking and innovative planning.*

***Managed transition.*** *Build on existing processes and capacities to enable society to change in a structured and phased manner.*

***Opportunity-focused.*** *Look for synergies between sustainability, growth, competitiveness and employment creation, for South Africa to attain equality and prosperity.*

***Effective participation of social partners.*** *Be aware of mutual responsibilities, engage on differences, seek consensus and expect compromise through social dialogue.*

***Balance evidence collection with immediate action.*** *Recognise the basic tools needed for informed action.*

***Sound policy-making.*** *Develop coherent and aligned policy that provides predictable signals, while being simple, feasible and effective.*

***Least regret.*** *Invest early in low-carbon technologies that are least-cost, to reduce emissions and position South Africa to compete in a carbon-constrained world.*

***A regional approach.*** *Develop partnerships with neighbours in the region to promote mutually beneficial collaboration on mitigation and adaptation.*

***Accountability and transparency.*** *Lead and manage, as well as monitor, verify and report on the transition.*

In the National Framework for Sustainable Development ("NFSD") (2008) it is stated that *"[T]he achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action or decision. It is an ongoing process that requires a particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in a manner that sustains human well-being without compromising the ability of future generations to meet their own need."* The NFSD further continues to emphasise that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced.* "

The National Strategy for Sustainable Development and Action Plan 2011 – 2014 (NSSD 1) (2011) states the following:

> *Although the concept of sustainable development has been on the international agenda since the United Nations Conference on the Human Environment in Stockholm in 1972, the terms 'sustainability' and 'sustainable development' have been used and interpreted in widely different ways. In developing this strategy for sustainable development, a fixed definition of these terms has been accepted in a South African context.*
>
> ***Sustainability** (or a sustainable society) is seen as the overall goal of the NSSD 1. Sustainability in this context implies **ecological sustainability.** In the first instance, it recognises that the maintenance of healthy ecosystems and natural resources are preconditions for human wellbeing. In the second instance, it recognises that there are limits to the goods and services that can be provided. In other words, ecological sustainability acknowledges that human beings are part of nature and not a separate entity.*
>
> ***Sustainable development** is the process that is followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option, which allows for appropriate and justifiable social and economic goals to be achieved, based on the meeting of basic needs and equity, without compromising the natural system on which it is based.*

What is needed and desired for a specific area should primarily be strategically and democratically determined beyond the spatial extent of individual EIAs. The strategic context for informing need and desirability may therefore firstly be addressed and determined during the formulation of the sustainable development vision, goals and objectives of Municipal Integrated Development Plans ("IDPs") and Spatial Development Frameworks ("SDFs") during which collaborative and participative processes play an integral part, and are given effect to, in the democratic processes at local government level.
In this regard the SDF, which forms a core component of a Municipality's IDP, must, in terms of the Municipal Planning and Performance Management Regulations, specifically "*set out objectives that reflect the desired spatial form of the municipality* (…) *contain strategies and policies regarding the manner in which to achieve the objectives (…) which strategies and policies must (…) indicate desired patterns of land use within the municipality (…) provide strategic guidance in respect of the location and nature of development within the municipality (…) provide a visual representation of the desired spatial form of the municipality, which representation (…) must indicate desired or undesired utilisation of space in a particular area"*.

When formulating project proposals and when evaluating project specific applications, the strategic context of such applications and the broader societal needs and the public interest should be considered. In an effort to better address these considerations and its associated cumulative impacts, the NEMA also provides for the compilation of information and maps that specify the attributes of the environment in particular geographical

areas, including the sensitivity, extent, interrelationship and significance of such attributes which must be taken into account. The Environmental Management Framework ("EMF") Regulations of 2010 state that EMFs must, *inter alia*, "*specify the attributes of the environment in the area, including the sensitivity, extent, interrelationship and significance of those attributes (…) state the environmental management priorities of the area (…) indicate the kind of developments or land uses that would have a significant impact on those attributes and those that would not (…)and indicate the kind of developments or land uses that would be undesirable in the area or in specific parts of the area*".

It is, however, important to realise that a plan, framework or strategy for an area does not ultimately determine if an EIA is refused or granted. When "need and desirability" must be considered as part of an EIA process, the content of the IDPs , SDFs, EMFs and other relevant plans, frameworks and strategies must be taken into account when considering the merits of each application. Whether a proposed activity will be in line with or deviation from the plan, framework or strategy per se is not the issue, but rather the ecological, social and economic impacts that will result because of the alignment or deviation. As such, the EIA must specifically provide information on these impacts in order to be able to consider the merits of the specific application. Where a proposed activity deviates from a plan, framework or strategy, the burden of proof falls on the applicant (and the Environmental Assessment Practitioner) to show why the impacts associated with the deviation might be justifiable. The need and desirability of development should be measured against the abovementioned contents of the IDP, SDF and EMF for the area, and the sustainable development vision, goals and objectives formulated in, and the desired spatial form and pattern of land use reflected in, the area's IDP and SDF. While project-level EIA decision-making therefore must help us stay on course by finding the alternative that will take us closer to the desired aim/goal, it is through Integrated Development Planning (and the SDF process) that the desired destination is firstly to be considered and the map drawn of how to get there.

Financial viability should be considered within the context of justifiable economic development, measured against the broader societal short-term and long-term needs. While the financial viability considerations of the private developer might indicate if a development is "do-able", the "need and desirability" will be determined by considering the broader community's needs and interests as reflected in an IDP, SDF and EMF for the area, and as determined by the EIA. While the importance of job creation and economic growth for South Africa cannot be denied, the Constitution calls for *justifiable* economic development. The specific needs of the broader community should therefore be considered together with the opportunity costs and distributional consequences in order to determine whether or not the development will result in the securing of ecological sustainable development and the promotion of justifiable social and economic development – in other words to ensure that the development will be socially, economically and environmentally sustainable.

In South African context, developmental needs (community needs) are often determined through the above planning processes (IDP, SDF and EMF). The need may be at the local, regional or national level. For example, at the local level, a shopping mall site may be a key need for the local community. As such the particular local municipality may, in its IDP, identify a particular site for the location of a shopping mall. For the construction of such a shopping mall, the developer will have to submit an application for environmental authorisation with the relevant competent authority (EIA authority) if a listed activity is triggered. While the Municipality therefore will decide the "need and desirability" of the shopping mall from a municipal planning perspective, the competent authority in terms of the EIA must decide whether the proposed shopping mall is considered needed and desired from an EIA perspective. It might therefore happen that a Municipality decides that the shopping mall should be approved considering "need and desirability" from a municipal planning perspective, while the competent authority decides to refuse environmental authorisation for the shopping mall considering "need and desirability" from an EIA perspective

## 3. THE STATUTORY CONTEXT FOR THE CONSIDERATION OF NEED AND DESIRABILITY

In terms of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) ("PAJA") all administrative action must be based on the "relevant considerations". NEMA and the EIA Regulations highlights specific considerations that must be taken into account for every application for environmental authorisation, including the principles set out in section 2 of NEMA, the general objectives of Integrated Environmental Management set out in section 23 of NEMA, the minimum requirements set out in section 24(4) of NEMA, the criteria set out in section 24O of NEMA and in regulation 18 of the EIA Regulations.[3] In terms of the EIA Regulations, when considering an application, the relevant competent authority must have regard to a number of specific relevant considerations, including specifically having to consider "*the need for and desirability of the activity*"[4]. The EIA Regulations appendices specify that the basic assessment report (BAR), scoping report and environmental impact report (S&EIR)[5] must provide a motivation for the need for and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location . It requires that both "need" and "desirability" must be considered by the developer, his/her independent environmental assessment practitioner (EAP), the specialists, and the competent authority. Interested and affected parties (I&AP) must also be afforded an opportunity to make representation in terms of their views in terms of the need and desirability considerations.

The consideration of "need and desirability" during an application process (basic assessment (BA) or S&EIR), must consist of a preliminary description of the relevant considerations, as highlighted below, in relation to the feasible and reasonable alternatives. During the actual assessment stages of an EIA process the need and desirability must be specifically assessed and evaluated, including specialist input/studies as required.
While NEMA (and its predecessor the Environment Conservation Act, 1989 (Act No. 73 of 1989)) does not specifically refer to "need and desirability", the Constitutional Court in the Fuel Retailed case[6] in 2007 already confirmed that "need and desirability" is a relevant consideration and the Constitutional Court at that time equated it to the socio-economic considerations. Since then the EIA Regulations[7], as highlighted above, has specifically included the requirement that the "need for and desirability of the proposed activity" must be considered. With the EIA Regulations specifically calling for the consideration of how the "geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity"[8], "need and desirability" relates to all of these considerations and not only to socio-economic considerations.
NEMA defines "*evaluation*" as "*the process of ascertaining the relative importance or significance of information, in the light of people's values, preferences and judgements, in order to make a decision*." In evaluating each impact (negative and positive) in terms of each of the aspects of the environment, "need and desirability" must specifically be considered in the analysis of each impact of the proposed activity (during all the stages of an EIA process: screening, "scoping", assessment). However, to determine if the proposed activity is the best option when considering "need and desirability", must also be informed by the sum of all the impacts considered holistically. In this regard "need and desirability" also becomes the impact summary with regard to the proposed activity.

In considering the impact summary it must be remembered that ultimately the aim of EIA is to identify, predict and evaluate the actual and potential risks for and impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment, in order to find the alternatives and options that best avoid negative impacts altogether, or where negative impacts cannot be avoided, to minimise and manage negative impacts to

[3] Section 2, 23, 24(4) and 24O of NEMA as well as Regulation 18 of Government Notice No. R. 982, inter alia, refer.
[4] Regulation 18 of Government Notice No. R. 982 of 04 December 2014 refers.
[5] Regulations appendix1 (3) (f), appendix2 (2) (f), appendix3 3(f) of Government Notice No. R. 982 of 04 December 2014 refers.
[6] Fuel Retailers Constitutional Court Case – 2007 (6) SA 4 (CC), decided on 7 June 2007.
[7] Government Notice No. R. 543 of 04 Dec 2014 (as corrected) refers.
[8] Regulations appendix1 (3)(1)(h)(iv), appendix2 (2)(1)(h)(iv) and appendix3 (3)(h)(iv) of Government Notice No. R. 982 of 04 Dec 2014 refer.

acceptable levels, while optimising positive impacts, to ensure that *ecological* sustainable development and *justifiable* social and economic development[9] outcomes are achieved.

Consistent with the above aim and purpose of EIA, the concept of "need and desirability" relates to, amongst others, the *nature, scale* and *location* of development being proposed, as well as the *wise use of land*. While essentially, the concept of "need and desirability" can be explained in terms of the general meaning of its two components in which *need* primarily refers to *time* and *desirability* to *place* (i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed?), "need and desirability" are interrelated and the two components collectively can be considered in an integrated and holistic manner.

In order to properly interpret the EIA Regulations' requirement to consider "need and desirability", it is necessary to turn to the principles contained in NEMA, which serve as a guide for the interpretation, administration and implementation of NEMA and the EIA Regulations. With regard to the issue of "need", it is important to note that this "need" is not the same as the "general purpose and requirements"[10] of the activity. While the "general purpose and requirements" of the activity might to some extent relate to the specific requirements, intentions and reasons that the applicant has for proposing the specific activity, the "need" relates to the interests and needs of the broader public. In this regard the NEMA principles specifically *inter alia* require that environmental management must:

- "place people and their needs at the forefront of its concern" and equitably serve their interests;
- "be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option;
- pursue environmental justice "so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person";
- ensure that decisions take "into account the interests, needs and values of all interested and affected parties"; and
- ensure that the environment is "held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage".

The consideration of "need and desirability" in EIA decision-making therefore requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest. The government decision-makers, together with the environmental assessment practitioners and planners, are therefore accountable to the public and must serve their social, economic and ecological needs equitably. Ultimately development must not exceed ecological limits in order to secure ecological integrity, while the proposed actions of individuals must be measured against the short-term and long-term public interest in order to promote justifiable social and economic development[11] – i.e. ensuring the simultaneous achievement of the triple bottom-line. Considering the merits of a specific application in terms of the need and desirability considerations, it must be decided which alternatives represent the "most practicable environmental option", which in terms of the definition in NEMA and the purpose of the EIA Regulations are that option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term.

## 4. QUESTIONS TO BE ENGAGED WITH WHEN CONSIDERING NEED AND DESIRABILITY

[9] Section 23 of NEMA, Regulation 2 of Government Notice No. R. 982 of 04 Dec 2014 , and Section 24 of the Constitution refer.
[10] The definition of "alternative" under Regulation 1 of Government Notice No. R. 982 of 04 Dec 2014 refer.
[11] Section 24 of the Constitution call for the securing of "ecological sustainable development and use of natural resources" and the promotion of "justifiable economic and social development".

In light of the above, the need for and desirability of a proposed activity should specifically and explicitly be addressed throughout the EIA process when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to *inter alia* the following questions:

**"securing ecological sustainable development and use of natural resources"[12]**

1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?[13]

1.1. How were the following ecological integrity considerations taken into account?:

1.1.1. Threatened Ecosystems,[14]

1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,[15]

1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),

1.1.4. Conservation targets,

1.1.5. Ecological drivers of the ecosystem,

1.1.6. Environmental Management Framework,

1.1.7. Spatial Development Framework, and

1.1.8. Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).[16]

1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[17]

***The Impact Mitigation Hierarchy***

NEMA and the EIA Regulations call for a hierarchical approach to impact management.

- *Firstly,* alternatives must be investigated to avoid negative impacts altogether.
- *Secondly*, after it has been found that the negative impacts cannot be avoided, alternatives must be investigated to reduce (mitigate and manage) unavoidable negative impact.
- *Thirdly*, alternatives must be investigated to remediate (rehabilitate and restore).
- *Fourthly,* unavoidable impact that remain after mitigation and remediation must be compensated for through investigating options to offset the negative impacts.
- While *throughout*, alternatives must be investigated to optimise positive impact.

In this regard, the EIA regulations states that the purpose of the EIA regulation is "… to regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities *in order to avoid detrimental impacts on the environment, or where it cannot be avoided, ensure mitigation and management of impacts to acceptable levels, and to optimise positive environmental impacts,* and for matters pertaining thereto."

In terms of having to follow the impact mitigation hierarchical, it is not acceptable to not follow the hierarchy in terms of for instance not investigation alternatives to avoid negative impacts and simply investigation options to mitigate impacts.

[12] Section 24 of the Constitution refers.

[13] Section 24 of the Constitution and Section 2(4)(a)(vi) of NEMA refer.

[14] Must consider the latest information including the notice published on 9 December 2011 (Government Notice No. 1002 in Government Gazette No. 34809 of 9 December 2011 refers) listing threatened ecosystems in terms of Section 52 of National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

[15] Section 2(4)(r) of NEMA refers.

[16] Section 2(4)(n) of NEMA refers.

[17] Section 24 of the Constitution and Sections 2(4)(a)(i) and 2(4)(b) of NEMA refer.

1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[18]

1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?[19]

1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[20]

1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[21]

1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?[22]

1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)

1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?)

| ***Intra- and inter-generational equity in the context of sustainability*** |
|---|
| The report by the World Commission on Environment and Development, *Our Common Future*, issued in 1987 (also referred to as the "Brundtland Report"), is widely regarded as the key point in the evolution of the concept of "sustainability" and "sustainable development". The Brundtland Report defined sustainable development as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (WCED, 1987). Two key concepts conveyed in this definition are the notion of "needs" with a particular focus on the disadvantaged portion of |

[18] Section 24 of the Constitution and Sections 2(4)(a)(ii) and 2(4)(b) of NEMA refer.
[19] Section 24 of the Constitution and Sections 2(4)(a)(iv) and 2(4)(b) of NEMA refer.
[20] Section 24 of the Constitution and Sections 2(4)(a)(iii) and 2(4)(b) of NEMA refer.
[21] Section 24 of the Constitution and Sections 2(4)(a)(v) and 2(4)(b) of NEMA refer.
[22] Section 24 of the Constitution and Sections 2(4)(a)(vi) and 2(4)(b) of NEMA refer.

current societies, and the sense of limits on the ability of the environment to meet the needs of current and future generations.

The Strategic Framework for Sustainable Development (SFSD) emphasises that South Africa's current development path in many respects are not sustainable in the long-term. It highlights that economic growth in South Africa is achieved by "*consuming natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced*. " (DEAT 2007).

Intra-generational equity also refers to equitable access to, or distribution of opportunities, resources, (positive and negative) impacts between individuals and between current societies. Inter-generational equity refers to the equitable distribution of opportunities, resources, (positive and negative) impacts between current and future societies. As such, the manner in which resources are used to address the needs of current societies, must not demise the options of future societies to experience the same opportunities.

1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?

1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts?[23]:

1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?

1.8.2. What is the level of risk associated with the limits of current knowledge?

1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

***A risk averse and cautious approach***

A risk averse and cautious approach (the precautionary principle) in the context of the protection of environmental rights is essentially about the assessment and management of risk.

South Africa has given effect to the precautionary principle in the NEMA. The NEMA in section 2 contains a principle that development must be socially, environmentally and economically sustainable, and requires the consideration of all relevant factors including that:

> "*a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions"*

Section 2(4)(a)(vii) of NEMA applies to any organ of state that takes a decision in terms of a statutory provision connected to the protection of the environment. It must apply a risk-averse and cautious approach that takes into account the limits of current knowledge about the consequences of decisions and actions. It appears that international jurisprudence is increasingly being persuaded to accept the precautionary principle as a means of dealing with scientific uncertainty in environmental disputes.

The application of the precautionary principle and the associated need to take precautionary measures are triggered by the satisfaction of two conditions precedent or thresholds:

- a threat of serious or irreversible environmental damage; and
- scientific uncertainty as to the nature and scope of the threat of environmental damage.

If either of the conditions is not met, then there will be no basis upon which the precautionary principle can operate.

1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following[24]:

1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?

[23] Section 24 of the Constitution and Section 2(4)(a)(vii) of NEMA refer.

[24] Section 24 of the Constitution and Sections 2(4)(a)(viii) and 2(4)(b) of NEMA refer.

1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?

1.10. Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?

1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?

1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?[25]

1.13. Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?[26]

| ***Cumulative effects*** |
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| In terms of the EIA Regulations "cumulative impact", 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 reasonable foreseeable impacts eventuating from similar or diverse activities.<br><br>**Cumulative effects** can be:<br>▪ Additive: the simple sum of all the effects (e.g. fertilizer inputs to a river from farms in the catchment);<br>▪ Synergistic: effects interact to produce a total effect greater than the sum of individual effects. These effects often happen as habitats or resources approach capacity (e.g. fragmentation of habitat for a species can have limited effect until additional fragmentation makes areas too small to support that species at all);<br>▪ Time crowding: frequent, repetitive impacts on a particular resource at the same time (e.g. small-scale mining within a particular ecosystem).<br>▪ Neutralizing: where effects may counteract each other to reduce the overall effect (e.g. infilling of a wetland for road construction, and creation of new wetlands for water treatment).<br>▪ Space crowding: high spatial density of impacts on an ecosystem (e.g. rapid expansion of urban sprawl).<br><br>Crucial to the identification of cumulative implications of an activity or project, is to have an understanding of the context within which the impact will occur. For example, if the context (goal/vision) for an area is to protect its agricultural land use potential and its associated landscape character, the anticipated cumulative implications associated with the establishment of an industrial plant will be significant. |

**"promoting justifiable economic and social development"[27]**

2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:

2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,

2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),

2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and

2.1.4. Municipal Economic Development Strategy ("LED Strategy").

[25] Section 2(4)(b) of NEMA refer.

[26] Regulations appendix1 3(1)(h)(vii) & 3(1)(j)(i) , appendix2 2(1)(h)(vii) and appendix3 3(1)(h)(vii) & 3(1)(j)(i) in Government Notice No. R. 982 refer.

[27] Section 24 of the Constitution refers.

2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?

2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?

2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?[28]

2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term?[29] Will the impact be socially and economically sustainable in the short- and long-term?

2.5. In terms of location, describe how the placement of the proposed development will[30]:

2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other,

2.5.2. reduce the need for transport of people and goods,

2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),

2.5.4. compliment other uses in the area,

2.5.5. be in line with the planning for the area,

2.5.6. for urban related development, make use of underutilised land available with the urban edge,

2.5.7. optimise the use of existing resources and infrastructure,

2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),

2.5.9. discourage "urban sprawl" and contribute to compaction/densification,

2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,

2.5.11. encourage environmentally sustainable land development practices and processes,

2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),

2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),

2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and

2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?

2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?[31]:

2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?[32]

2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?

2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:

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[28] Section 2(2) of NEMA refers.

[29] Sections 2(2) and 2(4)(c) of NEMA refers.

[30] Section 3 of the Development Facilitation Act, 1995 (Act No. 67 of 1995) ("DFA") and the National Development Plan refer.

[31] Section 2(4)(a)(vii) of NEMA refers.

[32] Section 24(4) of NEMA refers.

2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?

2.7.2. Positive impacts. What measures were taken to enhance positive impacts?

2.8. Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?

2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?[33]

2.10. What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)?[34]
Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?

2.11. What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?[35]

2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?[36]

2.13. What measures were taken to:

2.13.1. ensure the participation of all interested and affected parties,

2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,[37]

2.13.3. ensure participation by vulnerable and disadvantaged persons,[38]

2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,[39]

2.13.5. ensure openness and transparency, and access to information in terms of the process,[40]

2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge,[41] and

2.13.7. ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?[42]

2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?[43]

| ***Opportunity Cost*** |
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| Opportunity costs refer to the process of considering and comparing the ecological, social and economic costs, implications and opportunities of different alternatives. Choosing a specific option, alternative or path may result in other options (and |

[33] Section 2(4)(b) of NEMA refers.
[34] Section 2(4)(c) of NEMA refers.
[35] Section 2(4)(d) of NEMA refers.
[36] Section 2(4)(e) of NEMA refers.
[37] Section 2(4)(f) of NEMA refers.
[38] Section 2(4)(f) of NEMA refers.
[39] Section 2(4)(h) of NEMA refers.
[40] Section 2(4)(k) of NEMA refers.
[41] Section 2(4)(g) of NEMA refers.
[42] Section 2(4)(q) of NEMA refers.
[43] Section 2(4)(g) of NEMA refers.

its associated opportunities) being foregone - the loss of these opportunities are referred to as the opportunity cost of the preferred option. Assessing the opportunity costs of different options will also assist in the search for alternatives that will result in -

- the understanding the value of the foregone opportunities;
- the achievement (or at least contribute most to the achievement) of the desired aim/goal for the specific area;
- optimising positive impacts;
- minimising negative impacts;
- the equitable distribution of impact (negative and positive); and
- the maintenance of ecological integrity and environmental quality.

The above is also linked to the positive duty to find the "best practice environmental option", which is defined in NEMA as "*the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*"

The need to consider the opportunity costs of different options are particularly relevant in instances where resources are limited, environments that are under stress.

Examples where the consideration of opportunity cost is relevant include the option of redeveloping and public open space into a parking area. Another example is where it is confirmed that there are adequate water resources to service a development proposal. Applying the "opportunity cost" principle would change the question being asked, by placing a positive duty to consider if the proposed development will constitute the best use of the available water resources (i.e. the best practicable environmental option).

2.15. What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?[44]

2.16. Describe how the development will impact on job creation in terms of, amongst other aspects:

2.16.1. the number of temporary versus permanent jobs that will be created,

2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),

2.16.3. the distance from where labourers will have to travel,

2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and

2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).

2.17. What measures were taken to ensure:

2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and

2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?

2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?[45]

2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left? [46]

2.20. What measures were taken to ensure that he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution,

[44] Section 2(4)(j) of NEMA refers.
[45] Section 2(4)(o) of NEMA refers.
[46] Section 24O(1)(b)(iii) of NEMA and the National Development Plan refer.

environmental damage or adverse health effects will be paid for by those responsible for harming the environment?[47]

2.21. Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?[48]

2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?

## 5. THE USE OF NEED AND DESIRABILITY DURING THE DIFFERENT STAGES OF AN EIA PROCESS

Answering all the above-mentioned questions will ensure that all the relevant considerations have been taken into account. As states previously need and desirability considerations must be addressed during all the different stages of the EIA process (screening, "scoping", and assessment). During screening and "scoping" the abovementioned questions must be used to identify the key issues to be addressed as well as to identify alternatives that will better respond to the considerations (i.e. that will firstly avoid the negative impact or better mitigate the negative impact, or that will better enhance the positive impact). The "scoping" process might find that many of the questions have clear answers and that no further information has to be gathered related to the specific question. In this regard would be required is for the relevant report (first part of the Basic Assessment Report or the Scoping Report) to clearly answer all the questions including a clear indication which questions do not require further information to be generated during the assessment. During the assessment part of the report all the questions must again be considered, but for those questions for which the "scoping" found that no further information were required, it can simply be reported how the questions were dealt with during "scoping", with the remaining questions having to be considered in terms of the additional information generated during the assessment stage.

The incorporation of the above-mentioned questions into the basic assessment, scoping and environmental impact reports of EIA applications will ensure that all the relevant considerations are taken into account in order to adequately consider need and desirability. The requirement to consider need and desirability as part of an EIA does, however, also highlight the value for IDPs and SDFs, in order for planning to provide an adequate framework for the consideration of need and desirability.

In terms of collectively considering ecological, social and economic impacts it is important to remember that while there might be some trade-offs between the considerations, in South Africa all development must in terms of Section 24 of the Constitution be ecologically sustainable, while economic and social development must be justifiable. There are therefore specific "trade-off rules that apply. Environmental integrity may never be compromised and the social and economic development must take a certain form and meet certain specific objectives in order for it to be considered justifiable. EIAs are about the search for the best practicable option that will best ensure the maintenance of ecological integrity while promoting justifiable social and economic development. In this regard it is also vital to follow the "mitigation hierarchy", where alternatives must firstly be considered to avoid negative impacts altogether, but if avoidance is not possible to considered alternatives that will better mitigate and manage negative impacts, while search for alternatives to better enhance the positive impacts.

## 6. CONCLUSION

The Need and Desirability guideline provides information and guidance for proponents or applicants, authorities and interested and affected parties when considering the need and desirability in terms of NEMA, the EIA

[47] Section 2(4)(p) of NEMA refers.
[48] Section 2(4)(b) of NEMA refers.

Regulations, the National Environmental management: Air Quality Act (NEM: AQA) and National Environmental Management Waste Act (NEM: WA).

The guideline also aims to assist proponents or applicants, environmental assessment practitioners and competent authorities to ensure that need and desirability is given due consideration in every EIA application, to help ensure well-informed decision-making is promoted.

This guideline will be a live document, with regular updates when necessary. The user is, however, reminded that the guideline is not intended to be a substitute for the relevant legislation. If any conflict should arise between this guideline and the legislation, the provisions of the legislation will prevail.