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The role of practitioners in facilitating the public participation process: A review of EIA in renewable energy projects

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UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG



FACULTY OF SCIENCES

MSc RESEARCH REPORT

June 2025

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DECLARATION

I Nthabiseng Pebetse Madiba, declare that this research is my own unaided and supervised work. It is submitted for the Master of Sciences in Environmental Sciences degree. All the sources that are used and quoted have been acknowledged through referencing. This work has not been submitted for any degree or examination at any other university.

Candidate signature



Date:

05/06/2025

ACKNOWLEDGMENT

First, I wish to thank the Almighty God who granted me the capacity to complete this research report successfully. Then I want to express my sincere gratitude to the following people for their meaningful contribution to this research:

My academic supervisor, Dr Ingrid Watson for her commitment, guidance leadership, support, and instrumental input throughout this study; without whose help this accomplishment would have been impossible.

All the Environmental Assessment Practitioners who willingly volunteered their valuable time to be interviewed and contributed immensely to the findings of this study.

My family for their undying emotional support.

ABSTRACT

The public participation process is a crucial part of Environmental Impact Assessment (EIA) in renewable energy projects. The role of Environmental Assessment Practitioners (EAPs) in ensuring that this process is carried out as mandated by environmental legislation is equally important. Globally there has been a significant increase in renewable energy projects to support the transition to a low carbon economy. The role played by EAPs and the associated challenges they face when conducting public participation in EIA, particularly in renewable energy projects, has recently been the subject of studies across the globe.

The aim of this study was to assess the practice of public participation in South African renewable energy projects, and to explore the role of practitioners in facilitating this process. The methodology employed involved reviewing the documentation from four renewable energy projects, this included the environmental impact reports, public participation reports, and background information documents. Legislation, in particular, the National Environmental Management Act (NEMA), EIA regulations, and NEMA public participation guidelines were reviewed and studied. Furthermore, structured interviews were conducted with EAPs to address the study's objectives.

Results indicated that the public participation guidelines and EIA regulations provide clear and concise requirements that EAPs should meet when conducting public participation. However, there is a key contention on the parts of the EIA regulation that give discretion to EAPs in some activities of the public participation process. The findings indicate that to a greater extent EAPs meet the requirements of public participation. EAPs also face some challenges that are unique to renewable energy projects such as lack of public knowledge, the dispersed nature of settlements in the location of renewable energy projects, and lack of public interest when it comes to the participation of Interested and Affected Parties (I&APs) in renewable energy projects. Also, the Covid-19 restrictions on public gathering had both negative and positive impacts on the public participation process. However, on the positive side these restrictions encouraged the use of social media apps and other internet platforms.

The conclusions indicates that the EIA regulations and public participation guidelines provide clear and concise requirements for public participation which are implementable and has led to EAPs being able to meet most of these requirements when conducting public participation. One of the key points of contention however was the discretion given to EAPs when it comes to certain practices in public participation. An example is the issue relating to language barriers, wherein minority groups were left out, because communication was only being made in Afrikaans and English.

It is recommended that concerning the issue of discretion the regulation should be revised to determine the limitation of this discretion, for example when it comes to language barriers, a multilingual clause should be included in the regulation wherein it makes it mandatory for EAPs to make information available in the language of all registered I&APs to accommodate minority groups. It is further recommended that community engagement and education be promoted when it comes to renewable energy projects to minimise the disinterest of the community in participating due to misconceptions and lack of information. A change in practice is suggested to accommodate all those participating in meetings. As such translation and interpretation services should be offered to ensure meaningful discourse and contribution to decision making.

It is suggested that future studies be employed to address some of the issues that emanated from this study, but where not thoroughly investigated, such as an investigation into the role of education coupled with awareness creation in changing the public's attitude towards renewable energy projects. Additionally, an in-depth study maybe conducted that compares and contrasts the different practices and regulation approaches to public participation in renewable energy projects across different regions and contextual circumstances.

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LIST OF ACRONYMS

BID	Background Information Documents
CA	Competent Authority
CSP	Concentrated Solar Power
CSIR Environmental Services	South African Council of Scientific and Industrial Research Environmental Services
DEADP	Western Cape Department of Environmental Affairs and Development Planning
DEA	Department of Environmental Affairs
DMRE	Department of Mineral Resources and Energy
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
EIA	Environmental Impact Assessment
ESKOM	Electrical Supply Commission
GW	Gigawatts
I&APs	Interested and Affected Parties
IAPP	International Association for Public Participation
IPP	Independent Power Producers
MW	Mega Watts
NEMA	National Environmental Management Act 107 of 1998
NQF	National Quality Framework
PV	Photovoltaic
REIPPP	Renewable Energy Independent Power Producer Program

1. CHAPTER 1: INTRODUCTION

Environmental Impact Assessment (EIA) is a consultative and systematic process used in decision-making to help identify and evaluate the probable environmental impacts or consequences of proposed developments and projects (Cashmore, 2004). EIA has led to more consideration of environmental issues and factors in decision-making, which has propelled the achievement of environmental protection and resource conservation (Cashmore, 2004). The prediction of environmental impacts aims to determine the degree of the identified positive and negative impacts on the environment (Glasson et al., 2012). Furthermore, another important role of EIA is the development of impact mitigation measures, this involves the development of measures to avoid, reduce, remedy, or compensate for any of the identified impacts on the environment (Glasson et al., 2012). EIA aims to determine the probable course of action, by aiding environmental decision-making and allowing public involvement in the assessment of the positive and negative impacts that are related to a proposed project (DEA& DP, 2015).

Public participation in EIA aims to help ensure quality, comprehensive and effective EIA. A much more important role of public participation in EIA is to ensure that the public‘s views are sufficiently taken into consideration in decision-making processes (Glasson et al., 2012). A contextualized definition of the concept of public participation from the National Environmental Management Act 107 of 1998 (NEMA) public participation guidelines, states that public participation is “the process by which potential interested and affected parties are allowed to comment or raise their issues relevant to the application of an environmental impact assessment” (Department of Environmental Affairs, 2017). The process of public participation contributes to improved projects, better developments, and collaborative governance. Andre et al. (2004) further emphasizes that for public participation to be successful, it requires access to information and the consideration of its outcomes in decision-making. Moreover, public participation is an integral part and a fundamental principle of EIAs.

In the context of EIAs, EAPs play a crucial role as the key implementers of public participation. The EAPs are central to the process, therefore how they conduct their role in facilitating the process is crucial for the success of the process. It is the responsibility

of the EAP to conduct public participation. In carrying out these roles, practitioners are sometimes faced with difficulties that may affect the success and meaningfulness of the process. The participation of interested and affected parties is plagued by difficult and multifaceted challenges, making it difficult for the EAPs to complete public participation successfully at times (Mahlangu, 2008).

The process of public participation is supported by several international legal instruments, one of these instruments is Principle 10 of the Declaration of the United Nations Conference on Environment and Development, which highlights that environmental issues are best resolved through the participation of all parties affected, at all levels (United Nations, 1992). In its environmental legislation (NEMA) and its regulations (EIA regulations, 2014), South African law upholds the significance of public participation and encourages meaningful public consultation, before making decisions about the environmental authorisation of a proposed project (Sisilana, 2019).

To help mitigate the impact of climate change, global carbon dioxide emission needs to be reduced (World Wildlife Fund, 2023). South Africa is facing a significant energy crisis (Bayliss, 2008). These factors propelled the energy shift from fossil fuel-based energy sources to renewable energy sources (Araujo, 2014). Renewable energy projects are a growing area of development, with large-scale projects underway (Araujo, 2014). These developments have different impacts on local communities such as noise, visual impacts, and loss of agricultural land. Therefore, it is important to allow the participation of the public being affected by renewable energy projects. A comprehensive and transparent public participation process is essential in EIAs of renewable energy projects (Omenge et al., 2019). The process offers an important platform for stakeholders in renewable energy projects to contribute to addressing the environmental issues and concerns that are related to renewable energy projects (Omenge et al., 2019). However, an analysis of stakeholder responses in a Kenyan study shows that public participation during the EIA process seldom supports decisions that protect the environment (Omenge et al., 2019), as such one wonders if this is also the case in the context of South Africa regarding renewable energy.

1.1 Research aim and objectives

This research aims to assess the practice of public participation in South African renewable energy and projects and to explore the role of practitioners in facilitating the process. This will be achieved through the following objectives:

a. Review legislation and guidelines to determine the requirements for public participation in environmental management and renewable energy in South Africa.
b. Conduct a case study in renewable energy projects to understand the role of public participation in such projects.
c. Explore the experiences of practitioners in facilitating public participation in renewable energy projects in South Africa.

1.2 Overview of the research report

- ✓ **Chapter 1: Introduction**

This chapter provides a brief overview of the research. The research aims and objectives are articulated.

- ✓ **Chapter 2: Literature Review**

A review of literature on public participation, EIAs, Renewable energy projects and environmental assessment practitioners. The following elements/ aspects were discussed with the support from existing literature, the definition of public participation in EIA, the South African legislation, guidelines on public participation, public participation in renewable energy projects, renewable energy in South Africa, the environmental assessment practitioners and as well as the challenge faced by EAPs in conducting public participation.

- ✓ **Chapter 3: Methodology**

This section of the study discusses the research methods applied in the study. The overcharging research method is the qualitative research method, moreover the research methods used to address the three objectives of the study are discussed in detail, which include document reviews, case studies and interviews with EAPs.

- ✓ **Chapter 4: Results**

The result section includes a flow diagram summarising the process of public participation in South Africa and data obtained from a table detailing the legislative and regulative requirements of public participation. A detailed discussion of the results obtained from cases is populated in the checklist, this addressed objective two. Finally, for objective three discussions of themes derived from the interviews with participant are included in this section.

- ✓ **Chapter 5: Discussions**

The discussion section provides a recap of the key study results, an interpretation of what the results mean and their implications concerning the research topic and a focus on providing an explanation and evaluation on the outcomes of the study and the way it correlated to the literature review. This section also includes a conclusion, stating the answers to the study's research question, a reflective summary of the research process and an indication of the new knowledge that has been obtained throughout the course of the study. Recommendations were made on the improvements that practitioners could make to solve challenges and enhance better public participation process, recommendations for future studies and of the gaps left out or determined by the study as well as recommendations made to policymakers.

- ✓ **Chapter 6. Conclusion and Recommendations**

A few recommendations are made about the findings of the study. Concerning the issue of discretion, the regulations should be revised to determine the limitations of this discretion, for example when it comes to languages the regulation should make it mandatory for EAPs to make information available in the languages that are spoken by all the I&APs so that no one is left out. In terms of public knowledge, more effort should be put into schools and other learning platforms to educate the public about renewable energies as well as their environmental impacts. The long-term social effects and economic benefits of these renewable energy projects should be discussed openly with the public to avoid negative perceptions and impacts on future renewable energy projects. Moreover, providing information in a variety of languages to accommodate even minority groups is important for ensuring inclusivity and encouraging active public engagement in public participation.

2. CHAPTER 2: LITERATURE REVIEW

Public participation has increasingly become a key element of environmental decision-making of many environmental regulatory systems globally (Richards and Razzaque, 2006). Public participation occurs in different forms, such as through education, information dissemination, advisory or review boards, public advocacy, public hearings, and submissions (Richards and Razzaque, 2006). It is an important process that enables decision-makers to understand and identify public interest and concerns in decision-making, such as formulating and applying environmental policies. Moreover, the participation of the public may help enhance the accountability of project proponents and thus increase the likely acceptability of the decisions taken (such as environmental decisions). Public participation improves the substantial outcomes of the decision-making processes (Richards and Razzaque, 2006).

Public participation refers to the various process mechanisms accessible to the public to indicate their needs and opinions, receive information, and provide input to and actively participate in environmental decision-making. It is important to recognize that the "public" is made up of different groups with different needs and opinions (Van Der Merwe, 2003). The process is based on the principle that the affected public has the right to be involved in the decision-making process of projects and developments that affect and interest them (International Association of Public Participation, 2018). It aims to ensure the consideration of the public in decision-making, through the application of different mechanisms.

Conversely, certain approaches to public participation may be the cause of ineffective public participation. These include the deficiency in the provision of information or deliberate provision of inaccurate information, poor identification of internal and external stakeholder and the inability of practitioners and competent authorities in examining and implementing public views, concerns and issues in decisions (Kaku et al., 2022). The failure to disseminate adequate information to all stakeholders result in the lack of project transparency and thus negatively impact on the possibility of public buy in. Moreover, deficiency in the incorporation of public issues and concerns lead to communities being

frustrated, this further diminishes the honesty and integrity required for the public participation process within the EIA process.

However, effective public participation requires that practitioners must inform and involve interested and affected parties. It further requires that the comments and inputs of affected parties should be explicitly addressed both in documentation and in decision-making. Effective public participation is achieved when all relevant parties are involved and represented, wherein access to relevant documents and information concerning the project is made available (International Institute for Sustainable Development, 2016).

2.1. Public participation

The process has evolved and improved from when it was initiated in the early 1960s (Churchman, 2012). In its infant stage, the process was mostly applied to urban renewal projects in the United States, recently the process has however spread across the world, appearing in varying legislative requirements. Although the process has become somewhat popular, in some cases it is still met with some degree of scepticism, resistance, and even refusal (Churchman, 2012).

The need for public participation in environmental management is recognized internationally (Sisilana, 2019). The consideration and involvement of the public in environmental decision-making on the international stage are reinforced by several international legal instruments and international agreements. Omenge et al., (2019) state that such legal instruments and international agreements include the Aarhus Convention, the United Nations Conference on Environment and Developments, the Convention on Environmental Impact Assessment in Trans-Boundary Context, the North America Agreement on Environmental Cooperation, Rio Declaration on Environment and Development and Agenda 21.

The International Association for Public Participation describes the principal values of public participation to include the following: the public should have a voice in decisions concerning the actions affecting their lives, public participation must be inclusive of an assurance that public contribution will influence decisions, the process must communicate the interest and fulfil the process needs of all participants, the process must pursue and facilitate the involvement of all that are affected, it includes involving participants in

defining how they contribute, the process must provide the participants with the information required for them to partake in a meaningful manner and the public participation process must communicate with the participants regarding how their input affected decisions (Creighton, 2005).

Public participation is a tool that enables impacted communities and other stakeholders to take part in decision-making in environmental management (Maphaga et al., 2022). Others view public participation as means to an end. For example, public participation can improve the quality of decision-making by providing decision-makers with additional and unique information and understanding of the local environmental conditions, as well as the public livelihood‘s connection with the physical environment (Maphanga et al., 2022). The EIAs have become a pre-emptive tool for the process of environmental management, the success of EIAs depends on the level of public participation or stakeholder involvement (Kaku et al., 2022). The process of public participation enables the sharing of user-friendly or understandable information, which contributes to fruitful environmental management (Kaku et al., 2022).

Moreover, the involvement of the public in the process of environmental management helps eliminate the distrust that comes with having a predominance of experts within the process (La Berr et al., 2019). Nonetheless, when dealing with environmental issues, the involvement of the public is complicated and has inherent problems, that need to be embraced (Kaku et al.,2022), such issues include the elements of employment opportunities and socio-economic concerns, which take precedence over environmental issues and influences greatly the level of public interest and participation in EIAs (Kaku et al., 2022).

Public participation occurs at different levels, this includes informing, consulting, involving, and collaborating with the public on developments and projects. The International Association for Public Participation has developed the IAP2 spectrum of public participation, which is illustrated in table 1 (IAAP, 2018). As it can be seen in this model, it is significant to note that public levels in the spectrum are not synonymous to steps, which means they can be applied independently depending on the context of the situation

that needs to be addressed. However, the further to the right on the spectrum, the more influence the community has over the decisions (IAPP, 2018).

Table 1. IAP2 spectrum of public participation (International Association for Public Participation, 2024)



	Inform	Consult	Involve	Collaboration	Empower
Promise to the public	We will keep you informed	We will keep you informed, listen to and acknowledge concerns and aspiration, and provide feedback on how public input influenced the decision	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible	We will implement what you decide
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/ or solutions	To obtain public feedback on analysis alternatives and/ or decisions	To work directly with the public throughout the process to ensure that the public concerns and aspiration are consistently understood and considered	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution	To place final decision making in the hands of the public

Informing is a part of public participation that involves providing the public with balanced and objective information to enable them to understand the problems, alternatives, opportunities and solutions associated with a project or a development (International Association of Public Participation, 2018). Public consultation is based on obtaining public feedback on analysis, alternatives and decisions, including addressing any comments, issues and responses emanating from the public (International Association of Public Participation, 2018). Public involvement is the process of directly working with the public in all stages of the public participation process, with the intention of ensuring that

the public concerns and issues are consistently understood and considered. Collaboration is about partnering with the public in all aspects of the decision-making process, including the development of alternatives as well as the identification of a preferred solution. The final level of public participation which is empowering, is about placing the final decision making in the hands of the public (International Association of Public Participation, 2018).The aim of the spectrum is to help with selecting the appropriate level of public participation defining the public's role in any specific community engagement activity.

2.2 Public participation in EIA

EIA are a systematic and technical process, which endeavours to analyses projects to determine their potential environmental impacts, and the significance thereof as well as to propose measures to mitigate those impacts (Cashmore, 2004). One of the key elements to ensure best practices in EIA is to lessen conflicts through promoting public participation (Cashmore, 2004). It is a common consensus in the literature and legally that public participation is a primary part of EIA (Western Cape Government Environmental Affairs and Development Planning, 2015). Public participation is key in ensuring effective environmental assessments (DEADP, 2015). Public participation helps to makes sure that the potential environmental impacts of projects are communicated to the public and, where possible, public input may assist in the mitigation of these potential impacts (Aregbeshola et al., 2011).

The key role players in public participation within EIAs include registered interested and affected parties (I&APs), EAPs, state departments, other organs of states, and the competent authority (CA) (RSA, 1998). The participants involved in public participation throughout the EIA process are often referred to as the 'public', 'stakeholders', and or 'citizens', these terms are often used interchangeably in literature (Glucker et al.,2013). There is an expansive agreement that the 'public' refers to anyone who in any manner is affected by or interested in a decision affecting their environment (Glucker et al., 2013).

Public participation in EIA plays a role in providing a chance for all stakeholders, to attain clear, precise, and understandable information concerning the environmental impacts of a proposed project (Kanu et al., 2018). The process further aims to provide a prospect for

the role players to voice their support, concerns, and questions concerning the proposed project (DEA & DP, 2015). For that matter, public participation in EIA does not only offer an opportunity for the role players to raise concerns, but it also allows for these role players to make suggestions about the mitigation measures for the negative impacts and the enhancement of positive impacts (Kanu et al., 2018).

The most compelling challenge of public participation is that every affected and interested party, may have a varying or preferred manner of communication. Such preferences cause language issues, representation issues, and problems with the types of communication technology that are used to disseminate information, this may hinder the progress of the EIA process (Aregbesola et al., 2011). In some cases, they may view their contribution to the process as time-consuming and unnecessary, because it may incur an immediate cost in terms of time and sometimes money (Omenge et al., 2019). Conflicts may arise between the developer and the public due to misunderstandings. In some cases, a lack of support from the public may cause delays in the project.

In the context of Southern Africa, the process of public participation in EIAs is significant for ensuring that communities are awarded the opportunity to voice their concerns with regards to the decisions that affect their environment and livelihoods (Hartmann & Thornton, 2024). Amongst the key issues of contention is the lack of meaningful engagement and consultation with affected communities and individuals in the Southern Africa region (Mahomedy, 2019). In majority of the cases locals are not sufficiently informed about the proposed projects as well as the associated impacts on the environment and livelihoods (Mahomedy, 2019). This lack of information creates a situation where the communities cannot provide informed feedback and thus undermining the effectiveness of public participation. Moreover, the issue of limited access to culturally and linguistically appropriate information impedes the full participation of communities in the public participation process of EIAs, which perpetuates inequalities (Chebanne &Dlali, 2019).

2.3 The South African legislation and guidelines on public participation

The environmental management policies and legislative framework in South Africa require that public participation be carried out throughout any proposed project. The initial legislation dealing with environmental issues was the Environmental Conservation Act no. 73 of 1989 which was repealed. The next legislation making the inclusion of public participation in South Africa is the NEMA, which is the cornerstone for environment governance in South Africa and is based on section 24 of the Bill of Rights. NEMA serves currently as the basic legal framework for all environmental protection and rights. It makes provision for extensive public participation in the EIA process.

According to section, (2) (4) (f) of NEMA, participation of those interested in and affected by the impacts of a project on their environment, must be promoted in the environmental governance of such a project. Furthermore, the public must be allowed to develop the understanding, skills, and capacity needed to help achieve equal and effective participation, and participation of vulnerable and disadvantaged persons must be guaranteed. NEMA also requires that the environment is held in trust for the benefit of the people; that the environment must not be harmed and that it must be protected as the people's common heritage.

Section 24(A) (C) of NEMA supports public participation in EIA, by requiring that those responsible for facilitating public participation must comply with any stipulated regulations in terms of NEMA when conducting public consultation and information gathering during the public participation processes.

The NEMA: Environmental Impact Assessment Regulations, 2014, Government Notice no. R.983 in Government Gazette No. 38282 Regulations 2014 provides public participation guidelines on how public participation should be facilitated. The enforcement of public participation as required by the principles of NEMA is outlined in these guidelines. These guidelines are intended to assist potential applicants, interested and affected parties, and the EAP to understand what is required of them during public participation in the context of EIAs.

The South African requirements for public participation include the following: a notice must be made in local, provincial, or national newspapers, depending on the complexity

of the project (Department of Environmental Affairs: Public Participation Guidelines, 2017). For localised projects, notice must be made in the local newspaper over two columns. For complex projects and those spreading over provincial borders, notice must be served in a provincial or national newspaper (Department of Environmental Affairs, 2017).

Additionally, the process requires that a background information document (BID) must be sent out to neighbours, known interested and affected parties. The local authority, other forms of local organization, and leadership structures within which the project is situated must also be informed. The BID is a document, with the purpose of providing a description of the proposed project activities, the environmental authorisation and the EIA process that are to be followed. Including a description of the role of interested and affected parties in the process (CSIR Environmental services, 1995). The objective of the BID is to ensure the provision of complete information by the project proponent and to ensure that key aspects of the EIA are being raised early in the process (CSIR Environmental services, 1995).

Requirements for contact sessions are also prescribed. According to the Department of Environment Affairs (2017, p.6) an “opportunity to learn and discuss the project must be created”, using suitable methods or formats depending on the characteristics of the population group (or public) that needs to be addressed.

In the context of South Africa, public participation in renewable energy projects is required during the application, scoping, and impact assessment phases (Department of Environmental Affairs, 2017). Although the South African legislation is clear on the steps that needs to be followed when conducting public participation, some studies have questioned its effectiveness. For public participation to be effective it need not to be a once-off event, but a sustained process, whose application covers problem identification, conception, formulation and approval (Murombo, 2008). However, it is noted that the public participation process intended in NEMA and Chapter 6 of the EIA regulations only end with the granting of authorisation, with the only option for the public to content such decisions through an appeal process (Murombo, 2008). This presents an essential defect because non-compliance to mitigating measures set out in EIR reports cannot be

monitored by the public. Thus, public participation in South African EIAs lacks ongoing engagement and monitoring (Murombo, 2008). Moreover, the clear establishment of definitions and guidelines provided in the public participation guidelines help to ensure inclusivity. On the other hand, the lack of provision for representation and capacity building in the legislation and EIA regulations, has constrained opportunities for providing training and support for affected communities, therefore, hampering their ability to participate meaningfully (Murombo.2008)

2.4 Public participation in renewable energy projects

The goal of public participation in renewable energy, which is to reduce conflicts and enhance the understanding of renewable energy technology by public has not been yet achieved (Liu et al., 2018). The renewable energy sector just like other sectors requires community participation to ensure its effectiveness and efficiency (Nouri et al, 2022). The issues that are most prominent concerning public participation in renewable energy projects are public acceptance and public awareness (Liu et al., 2018). Considering that renewable energy sources are new in most communities, public participation in renewable energy projects requires awareness creation and public acceptance before the public participation process (Nouri et al., 2022). A lack of public awareness concerning renewable energy sources may lead to a loss of interest from the public to participate (Nouri et al., 2022, as seen in the IAP2 spectrum informing the public through creating awareness is an important part and key initial stage to a successful public participation process). An open and fair public participation process can perform a vital part in terms of forging acceptance of renewable energy projects, such as wind energy projects (Langer and Decker, 2016).

Public participation in renewable energy projects plays a vital part in the development and expansion of renewable energy technology (Langer and Decker, 2017), through raising awareness about renewable energy technologies and their associated benefits and potential challenges. This will help increase public acceptance of renewable energies, reducing opposition and promoting a smoother transition to mixed energy economies reliant on renewable energy. However, public participation does not always guarantee the acceptance of certain types of renewable energies (Nouri et al., 2022). Empirical evidence

for analysing citizen's approval of wind energy projects, especially when it concerns public participation remains limited (Liu et al., 2018).

Furthermore, considering that renewable energy is new, in most parts of South Africa there is a lack of much needed knowledge and understanding of renewable energy technologies (Liu et al., 2018). The preference of informed public participation is crucial. One study suggests that the public should take part in an informative and deliberative participation process (Liu et al., 2018). Department of Environmental Affairs, (2013) indicates that early inclusion of the public in the process relating to renewable projects has been witnessed to encourage acceptance of proposed projects and augment the element of trust among stakeholders.

2.5 Renewable energy in South Africa

Renewable energy refers to energy sources that come from a supply source that is continuously and naturally replenished over a relatively short period (Dale et al., 2015). It is generated using natural resources such as sunlight, wind, rain, ocean tides, biomass, geothermal heat, and waste and converting them to energy. Solar energy is generated using photovoltaic or concentrated solar power, wherein sunlight is converted into electricity. Wind energy is source of energy created using wind turbines. Geothermal energy is extracted from geothermal heat, which is created naturally by itself at approximately 6400km below the earth's core, where temperatures reach 5000 degrees Celsius (Garjan, 2017). Hydropower on the other hand is energy generated through harnessing energy from falling water or fast-running water, the flowing water creates energy that can be harnessed and turned into hydroelectricity (Garjan, 2017). Lastly, biomass energy is derived from feedstock (straw, wood, and animal wastes) to produce bioenergy, by burning feedstock directly to produce heat or power or be converted into biofuels (Garjan, 2017). Renewable energy sources are crucial as the support for energy supplies to the overwhelmed existing power-generating plants in South Africa (Bodunrin et al., 2021). Thus, renewable energy is significant in helping the country mitigate carbon dioxide emissions and allow the provision of reliable electricity to the public (Bodunrin et al., 2021).

The South African energy sector has been in a crisis, which has been ongoing since as early as 2007 and has become worse with time, more especially between the period 2022 and 2023, with the country experiencing rolling blackouts for almost two years (Reboredo and Carmody, 2024). These blackouts resulted from a combination of factors, which include discrepancies in generation capacity due to a lack of necessary maintenance of existing infrastructure, unplanned breakdowns, and continued failure to ensure the full operation of the Kusile and Medupi power station (Reboredo and Carmody, 2024). These led to the pursuit of renewable energy as an alternative energy source to help boost the energy supply within the country, to mitigate emissions and mitigate impact of climate change (Reboredo and Carmody, 2024). Renewable energy provides an energy alternative to the overwhelmed existing power generation infrastructure.

The standing of renewables in the country is progressing at a reasonable pace. The country released a White Paper on Renewable Energy, detailing how it anticipated generating 10 kWh of energy through renewable energy sources (Akinbami et al., 2021). The white paper serves as the foundation for renewable energy technology development in South Africa (Akinbami et al., 2021). These renewable energy sources include biomass, wind, solar, and small-scale hydro (Department of Energy, 2015). Historically the use of biomass and waste represented the largest renewable energy sources in the country, however recently solar and wind energy sources have become dominant (Department of Energy, 2015).

The Minister of the Department of Mineral Resources and Energy (DMRE) issued a section 34 of the Electricity Regulation Act No. 4 of 2006 determination (which enables the department to undertake procurement of additional electricity capacity in line with the integration resources plan) for the procurement of 11813 MW of renewable energy between 2022 to 2027, of which 6800MW is allocated to wind and solar photovoltaic (PV) (Terblanche and Radmore, 2023). The contribution of renewable energy technologies (wind, solar PV, and Concentrated Solar Power (CSP) into the energy mix in South Africa in 2022 increased to a total of 6.2 GW installed capacity and provided 7.3% of the total energy mix. Wind energy contributed 3, 4 GW, Solar PV contributed 2.3 GW and CSP contributed 0,5GW (Pierce and Le Roux, 2023)

One of the contributors to renewable energy in South Africa is the Renewable Energy Independent Power Production Programs (REIPPP). REIPPP is an action-based renewable power program that is aimed at improving power generation by using renewable energy sources at much cheaper costs. The program is based on a competitive model, wherein Independent Power Producers (IPPs) bid for the delivery of energy output from different renewable energy technologies at a specific price (Ayamolowo et al., 2022). Majority of the projects emanating from the REIPPP comprise PV projects located commonly in the Northern Cape, and a few spread out across the different provinces (Department of Energy, 2015). Wind energy projects commonly found in the Eastern Cape and Northern Cape also form part of most projects emanating from the REIPPP program (Department of Energy, 2015).

In terms of interaction with the public and communities, the REIPPP contributes to the local community in the form of local community empowerment targets, this refers to the specific community initiatives that benefit communities. The economic targets of renewable energy projects include the promotion of local content, offering support to local business and community-based organization and setting up a community trust that will disburse 1% of the profits to the communities within 50-kilometer radius of the project (World Wildlife Fund, 2015).

The IPPs (Independent Power Producers) provide a growing share of the country‘s electricity grid, they mostly operate wind and solar renewable energy facilities. Independent power producers refer to private entities, owning and operating facilities which produce electricity for sale to the state utility (ESKOM), central government buyers and end users. The sale of the generated energy is procured through the independent power producers (IPP) procurement programme, which is a South African government initiative, which offers the opportunity to private owned companies to compete for contracts to produce electricity for sale to the national utility. This forms a part of the REIPPP which is an initiative to increase electricity capacity through private sector investment in renewable energy sources.

However, research has found that the process of involving communities and the public in renewable energy projects, run by IPPs It highly fragmented, which leaves powerful stakeholders to flourish, whilst vulnerable community members suffer (Nkoana, 2018). In most cases, although renewable energy (solar and wind energy) is taken from its natural sources and monetized, local host communities barely receive much direct or indirect benefit from the exploitation of the energy resource (Sandham et al., 2019). Instead of host communities being empowered, they become susceptible to rent-seeking practices, including land grabbing, fraud and enticement, empty promises, and unfair reimbursement methods (Sandham et al., 2019). This thus, makes it imperative to improve the role of EAPs in public participation process of renewable energy projects in host communities, in order to help achieve social justice in the form of improved communication and equitable distribution of the project benefits (Sandham et al., 2019).

2.6 The Environmental Assessment Practitioner

One important role player in public participation is the EAP. According to the Department of Environmental Affairs, (2017), the EAP is required to ensure that all I&APs participate fully in the environmental assessment process and contribute towards the outcomes of the EIA.

For the EAP to practice professionally in EIA and public participation, they must be registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA). According, to EAPSA an EAP must be in possession of a qualification relating to environmental assessment practice. This qualification must be awarded by a higher learning institution, with a program accredited by the South African Qualification Authority (SAQA) at a South African National Qualification Framework (NQF) level 8. Moreover, these should be coupled with a minimum of three years of appropriate experience and the completion of a minimum of three EIAs (Environmental Assessment Practitioners Association of South Africa, 2016).

The EIA process in South Africa requires the project proponent or the applicant to employ an independent EAP that will be paid by the proponent, to aid the EIA process and to make submission of the environmental impact report to the competent authority for a decision. The competent authorities rely on the EAP to give accurate information and

decide on the information provided. It is therefore important for the EAP to stay independent from the project proponent although they are appointed and remunerated by the project proponent as required by NEMA. The project proponent is likewise responsible for making sure that the EAP is independent (Department of Environmental Affairs, 2017).

The EAPs are required to conduct themselves in a professional manner when undertaking public participation process as part of EIAs. The conduct of EAPs in their stature as professionals is guided by the EAPASA rule book, which gives an outline of the procedures and rules as per the EAPASA constitution. Furthermore, regulations for registered EAPs concerning continuous professional development are contained in this rule book. The rule book moreover contains the code of ethical conduct to ensure ethical practice by all registered EAPs. Additionally, EAPASA core competencies which refers to the fundamental skills and knowledge that are mandatory for EAPs to efficiently and effectively conduct EIAs are a part of the tools used by EAPASA to access the professional readiness of EAPs. They include a set of structured questions that are used to demonstrate an EAP‘s proficiency in environmental assessment and management. Through the assessments of the suitability of an applicant to acquire the professional status of an EAP is determined.

2.7 Challenges faced by EAPs in conducting public participation

EAPs often face challenges during the public participation process. The direction and success of public participation are dependent on the type of participants that it involves (Maphanga et al., 2022). The knowledge gap between stakeholders may create a gap in the way that public participation is conducted. Some of the participants may be well knowledgeable and contribute positively to the process, while others may fail to partake in the process due to varying factors such as being constrained from attending stakeholder meetings because they are committed to other responsibilities such as attending to long working hours. The need to secure current job security is much of a priority for such an individual as compared to the future benefits presented by the proposed project (Maphanga et al., 2022), meaning individuals I mostly not willing to take time out of their daily jobs to participate in consultation activities if they do not perceive some future incentive

In some cases, participants may not put forth their actual demands, owing to social relationships. In practice, some participants “state views and opinions that do not reflect their real attitude, and later change their minds” (Wessels, 2015, p.14). Thus, if true opinions are not identified, the effectiveness of the public participation process will be compromised (Wessels, 2015).

Marginalised people, which include a group of people that are at the bottom of the social and economic ladder, lack impetus in terms of being able to participate and contribute to decisions, while they are the ones that are mostly affected by the impacts of the project. Public participation is often a formalized process that requires participants to go through documents (Maphanga et al., 2022). This thus puts the illiterate and marginalized, such as child-headed families, and people with multiple jobs in a place of disadvantage as they are unable to participate.

3. CHAPTER 3: METHODOLOGY

A qualitative research approach was followed in this study, using semi-structured key informant interview questions, and case studies focused on public participation. This was done through a study of selected renewable energy project cases with a particular focus on the public participation process as conducted within their EIAs. Semi-structured interviews were conducted to understand the experiences of EAPs in facilitating public participation specifically in renewable energy projects. Furthermore, the method was selected to explore the perceptions of EAPs concerning the process of public participation, with the aim of getting a deeper analysis of the challenges faced by EAPs in facilitating public precipitation.

Qualitative research methods are employed when one seeks to understand the perspective of selected participants on a particular phenomenon and to explore the meaning that is attached to a specific phenomenon by people, through an in-depth observation of such a phenomenon (Barkhuizen and Schutte, 2015). The key characteristic of qualitative research is that it is typically appropriate for application for small samples. Although the outcomes of qualitative research cannot be quantified, its advantage lies in the fact that it offers a complete description and analysis of a research subject, without putting a limit on the scope of the research and degree or level of participant ‘s responses (Langos,2014). Qualitative research methods afford the researcher with the opportunity to learn about other related elements to the key research topic, which would have otherwise been unknown to the researcher (Langos, 2014).

3.1 Review of legislation, guidelines and regulations

3.1.1 Data sources

South African legislation, regulations, and guidelines related to EIA and public participation were reviewed. These included: the National Environmental Management Act 107 of 1998, the Public Participation Guidelines in terms of the National Environmental Management Act, of 1998, and Environmental Impact Assessment Regulations, 2014, Government Notice no. R.983 in Government Gazette No. 38282.

NEMA is the primary legislation that governs environmental management in South Africa, it is supported by other legislation and creates the fundamental legal framework for

ensuring environmental protection in the country. The purpose of the 2014 EIA regulation is to regulate the procedure and criteria as contemplated in chapter five (5) of NEMA, it relates to the preparation, evaluation, submission, processing, and application of environmental authorization for the undertaking of project and development activities. It enforces project and development activities to be subjected to the EIA process, to prevent or to mitigate detrimental impacts on the environment and optimize positive impacts. The public participation guidelines are formed in connection with NEMA and EIA regulations, its provisions are not substitutes for provisions made in the legislation and regulations. The 2017 public participation guidelines were developed with the aim of assisting key role players in the EIA process to understand what is required of them and to equip them with the correct manner of comprehensively undertaking the public participation process.

The purpose of this review was to identify specific requirements for public participation, through the review of the legislation, regulations, and guidelines to indicate the following:

- ✓ The purpose/aim of public participation.
- ✓ The point in the EIA process at which public participation should take place.
- ✓ The role players that should be involved in the planning and implementation of the process and the identification of who should participate.
- ✓ How public participation should be conducted.
- ✓ The engagement processes and methods to be followed and applied in public participation.
- ✓ How concerns and issues raised should be addressed and dealt with, as well as an outline of the required documents that should be kept

3.1.2 Data analysis

Legislation and guidelines were reviewed to determine the requirement for public participation in environmental management in South Africa:

The review was conducted by reading through the documents, to identify public participation requirements, process and methods and process activities. The purpose of the review was to critically evaluate EIR to identify gaps, inconsistencies and areas of further investigation in the practice of public participation in these selected EIA cases. Following the review, a flow diagram describing the steps in conducting public

participation in EIA was developed. Furthermore, the requirements for public participation in EIA were tabulated indicating the name of the legislation, the associated specific requirements for public participation contained in that legislation, who is responsible for making sure that these requirements are met, and a description of who would do what action and when it should be done, the outcome was a checklist as seen in Table 5, that was applied for each of the case studies. The items of this checklist (Table 5) were used as a framework to address objective 2.

3.2. Assess the practice of public participation in renewable energy projects in South Africa.

A review of four selected case studies was conducted, wherein the checklist developed in objective one was used as a framework to analyse the public participation activities of each case.

3.2.1 Data sources

A total of four EIAs for recent renewable energy projects and the associated public participation reports and comment and response register were sourced and studied. The documents were sourced from the websites of the consulting companies that carried out the public participation process. The selection of EIAs for review was based on the following criteria:

- ✓ Location within the Northern Cape Province – the review of EIAs is a provincial competency and therefore EIAs from within the same province were reviewed. Many renewable energy projects are based in the Northern Cape.
- ✓ The EIAs were on solar or wind energy, as these are the most prevalent renewable energy projects in South Africa.
- ✓ The selected EIAs were conducted using the most recent EIA Regulations (2014).
- ✓ The projects were selected based on easy access and availability of information. The EIA documents were published and made available online, and with completed documentation.

Four case studies were selected and conducted to help develop an in-depth analysis on the practice of public participation in renewable energy projects, using four cases allowed for comparative analysis which enabled the identification of patterns, contrast and

anomalies across the different context of each case study. Furthermore, four case studies are used for cross-comparison amongst the cases without becoming unmanageable.

A list of EIAs for renewable energy projects located in the Northern Cape Province since 2014 was compiled. Those that meet the above criteria were selected. The selection was done randomly from a total of fifteen EIAs that met the selection criteria.

Table 2. Details of the EIRs selected and analysed

Case study – project name	Type of project	Project location
Kwana Solar PV facility	Solar photovoltaic	Ubuntu local municipality, Pixley Ka Seme District Municipality, Northern Cape
Proposed Development of a 225MW Solar PV Plant on Several Portions of Farms in the Hanover District	Solar photovoltaic	Portions of Farms in the Hanover District, Emthanni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape
Proposed development Merino wind farm	Wind farm	Ubuntu local municipality Pixley Ka Seme District Municipality
The proposed development of 100 MWAC Photovoltaic solar energy facility Paulputs PV1	Solar Photovoltaic	Kwai-Ma municipality, Northern Cape

- ✓ **Case Study 1: Kwana Solar PV facility**

The Kwana solar PV facility is a commercial renewable energy project that was proposed by Great Karoo Renewable Energy (Pty) Ltd. This project is a commercial photovoltaic facility and its associated infrastructure. The project is in the Ubuntu local municipality, within the Northern Cape Province. This is at a site which is approximately 35 Km southwest of Richmond and 80 Km southeast of Victoria West. The selected location or project site extends to 29909 ha; however, the actual development area is 571 ha. The proposed project was expected to have the capacity to produce 100MW of power. This project forms a part of a large band of projects that will be undertaken in this area, which are constructed to provide renewable energy sources that will contribute to the REIIPP program.

The EIA process for the Kwana solar photovoltaic facility project was carried out and conducted by Savannah Environmental. Savannah Environmental as the EAP for this

project conducted the public participation. This case study is based on the public participation aspect of the EIA and how this process is being carried out by the EAP.

- ✓ **Case 2: A 225MW solar PV plant on several portions' farms in the Hanover District**

The project involved the construction of solar panels in three (3) separate, but integrated facilities, which are estimated to produce 75 MW each, combined the three solar panels will produce 225 MW of power. The project covers a land area of approximately 187 ha per solar facility and a total land area of 448ha for all the projects combined. Additionally, an onsite substation forms part of the project infrastructure, this substation is necessary to help feed the power generated into the national grid. The three solar facilities are interconnected and are intended to feed power into this substation that is linked to an existing ESKOM 400KV or 132KV overhead power line. Furthermore, the facility will include areas that are used for security management, a control room, maintenance storerooms, an office, and changing facilities.

The project proponent is Seventy South Africa which appointed Ecologies environmental consultants as its EAP to conduct and obtain environmental authorization of this project and conduct public participation.

- ✓ **Case 3: Proposed development of Merino wind farm**

The project proponent is the Karoo renewable energy, the proposed project involved the development of a commercial wind farm and as well as associated infrastructure. The wind farm is located about 35km southwest of Richmond and 80km southeast of Victoria West, within the Ubuntu local Municipality under the jurisdiction of Pixley Ka Seme District municipality in the Northern Cape. The wind farm is expected to have power capacity of up to a 140 MW. This project forms part of a cluster of renewable energy projects. The wind farm is independent to be bid under the REIPPP, with the aim of feeding the power generated into the national grid. The project will cover a land area of up to 6463ha.

Savannah Environmental was appointed as the EAP, also responsible for conducting the public participation process. In summary the public participation process in this case involved the capturing and recording of comments in comments respond report, focus

group meetings were conducted, with government officials, a radio live was done on RSG radio to notify the public of the availability of documents for review. Furthermore, the reports were made available on Savannah Environmental website.

- ✓ **Case 4: Proposed 100 MWAC photovoltaic solar energy facility Paulputs PV1**

The Paulputs PV1 is a 100 MWAC photovoltaic solar energy, the project proponent was Judi Renewable Energies (Pty) (Ltd). The project proponent appointed Gaea Enviro (Pty) (Ltd) as the EAP. The solar PV facility will be connected to the ESKOM 220/132 kilo volts (KV) Paulputs main transmission substation. The project covered a land area of 200 hectares; it is located within the Khaki-Ma local municipality of the Northern Cape. The proposed project was expected to have the capacity to produced 300 MW of power.

The public participation process was based on the requirements stipulated in the regulations; in summary the public participation process included a pre- application period meeting with the DEA. A site visit was also organised with different government departments, agencies and parastatals to the Paulputs PV1 site. All EIA related documents were uploaded on the project website for the purpose of public review and access to information. The languages of communication were English and Afrikaans.

3.2.2 Data analysis

To assess the practice of public participation in renewable energy projects in South Africa, the checklist outlining the legal requirements from objective 1, was applied to each case study. The checklist was used to collect data through document analysis, wherein the reviewed data on public participation requirements, process, methods and activities were checked against the comprehensive statements on the checklist derived from a combined study of the legislation, regulations and public participation guidelines. Data was categorized according to the checklist items. Patterns, similarities and compliance to regulations, legislations and public participation guidelines in the cases were identified by using the checklist items as a framework. The findings were reported highlighting key themes, patterns and implication for public participation compliance in the selected case studies.

3.3. Explore the challenges faced by practitioners in facilitating public participation

3.3.1 Data sources

Key informant interviews were conducted with ten environmental assessment practitioners and/or practitioners responsible for public participation. EAPs that have been involved in conducting public participation in EIAs of renewable energy, particularly solar and wind energy were selected through snowball sampling. Contact was made with those EAPs that conducted the EIAs to be reviewed. They were asked to recommend other EAPs that have been involved in EIAs for renewable energy projects. This was continued until ten EAPs were identified and interviewed. Table 3 provides the details of the EAPs that participated in the interviews. Overall, they have extensive experience in conducting EIAs with some having completed EIAs in the renewable energy sector. These practitioners were therefore able to provide useful insights into the practice of being an EAP in South Africa. The purpose of these interviews was to better understand the practice of public participation, the challenges faced, and issues particular to renewable energy projects. The semi-structured, key informant interviews were recorded and kept as recordings. The interviews were conducted online using different online methods (Teams and Zoom meetings) available.

The issue of time and resource constraints was one of the factors considered in choosing ten (10) EAPs, interviewing ten (10) EAPs was strategic in that it allowed feasibility and alignment with the research scope. Furthermore, interviewing ten EAPs allowed for exploration of EAPs with a broader range of experiences and roles, which help to enhance the credibility of findings in this study. Also, the small number helped to ensure that each interview was thoroughly analysed and interpreted.

The EAPs that were selected for the interview, had conducted the public participation process in the renewable energy projects. The interviews were held for approximately 30 minutes to one hour, they took place online and were recorded. Ethics clearance was obtained from the Wits Human Research Ethics Committee (Non-medical) to conduct the study, see ethics certificate in Appendix D.

Table 3. Relevant details of the key informants interviewed for this research

Participant	Years experience as an EAP	Number of EIAs completed	Number of EIAs completed in renewable energy projects
1	More than 20 years	20 EIAs	Several EIAs in renewable energy projects (not specified)
2	5 years	10 EIAs	None
3	16 years	More than 20 EIAs	3 renewable energy projects
4	9 years	400 EIAs (reviewed, no EIAs completed)	None
5	9 years	More 30 EIAs	5 renewable energy projects
6	19 years	Several EIAs (not specified)	None (only theoretical knowledge of renewable energy projects)
7	19 years	16 EIAs	2 renewable energy projects (Currently working on 3 more renewable energy projects)
8	5 years	10 EIAs	3 renewable energy projects
9	3 years	7 EIAs	None
10	2 years	5 EIAs	2 renewable energy projects

The above table indicates the population sample for the study and answers the first question of objective 3. The data as seen in this table indicates that most of the participants have a vast amount of experience as EAPs, and even so in conducting EIAs as the indicated by the number of EIAs completed by each participant. However, there is a hint of a lack of experience when it comes to conducting EIAs in renewable energy projects. This may be because renewable energy projects are fairly a new industry in South Africa.

Some of the participants in the study are EAPs working on the reviewing side of the public participation process as representatives of the competent authority. Although they are not carrying out the bulk implementation of the requirements of the public participation process as per the regulation, these EAPs offer a unique perspective on the flip side of how this same requirement are used as baselines against which compliance is determined. This is done in the process of reviewing the public participation reports submitted by the EAPs (mostly consultants) whose role is to ensure implementation of the public participation requirements.

3.3.2 Data analysis

The responses from the interviews of the EAPs were used to evaluate and determine the challenges that are faced by EAPs in facilitating public participation. Data analysis in this study was done using coding and theme content analysis; in which the data obtained was coded into several categories from which fitting themes were formed. These themes were ordered and classified in a tabular format, in which the verbal data obtained from interviews with the participants was classified under each theme verbatim and unedited. Conclusions and recommendations were made, as informed by the summarized data.

The findings from all the objectives were combined to identify the gaps in public participation, and the challenges that are unique to public participation in renewable energy projects. As well as the identified key issues and findings around meeting public participation requirements in renewable energy projects.

3.4 Limitations

There are several possible limitations to this research, which may result in the findings not being broadly applicable across South Africa. These relate to the number and selection of case studies, the location of these and the analysis of the data.

Four case studies were selected, although this is a small number, an attempt has been made to obtain a diversity of case studies, with regards to technology employed, consultants used and location within the Northern Cape. It was necessary to limited case studies to a single province to eliminate any issues related to the Competent Authority (the Provincial Department responsible for environmental affairs). Furthermore, the study was conducted in only one province, which creates a small or limited sample size, this may prevent appropriate representation of the issues of public participation in renewable energy projects. Moreover, the unique socio-economic and environmental factors within the province of study will influence the result of the study, this thus results in limiting the applicability of the study learnings in other locations with varying conditions.

The study applied coding and theme content analysis of the responds obtained from interviews with EAPs, the is a possibility of miscoding participants' responses, that comes with the use of qualitative research methods, which may indicate that the researcher was biased with a drive to twist participant responses to achieve personal goals. Therefore,

repeatedly listening and replaying the audios of the recorded interviews was a crucial element of this study that helped in reducing biases and increasingly the accuracy of the data presentation. The in-depth nature of the case study method can lead to researcher bias, wherein the researcher‘s perspective and interpretation may influence the outcomes of the study (Zaidi and Ross, 2019), in this case four cases were reviewed which had varying and similar details, remaining objectives when processing case study data was important part of the study to ensure that, what was truly observed is what is contained in the case documents, whose availability and access is made known in this report by providing links.

Since well the EIAs were conducted by consultants that are hired by the project proponent, there may biases in terms of the information contained within the reports. Moreover, EIA is mainly intended to meet regulatory requirements, this limited the alignment of the data contained therewith the research objective of the case study.

4. CHAPTER 4: RESULTS

The results for the study of public participation in renewable energy projects are presented below. For the first objective information obtained from reviewing legislation, guidelines and EIA regulation was presented in a flow diagram giving a summarised view of the public participation process, a table with detailed descriptive data on requirements, process, responsibilities, methods and the activities associated with public participation., from which checklist was developed. The checklist was applied to each of the selected cases that were studied to address objective 2, here a checklist was marked with comments based on the findings obtained from the cases. Moreover, data obtained from interviews with EAPs was discussed in terms of determining the practices of EAPs in the public participation process and the challenges faced by these EAPs. Below the findings are discussed in detail to help address each objective of the study and its overarching aim.

4.1 Objective 1: Legal requirement for public participation in South Africa

The key requirements of the legislation are summarised below. A table indicating a summary of elements of public participation process in terms of NEMA EIA 107 of 1998, 2014 EIA regulations and the public participation guidelines is included. Based on this a checklist of requirements was developed and applied to the four case studies.

A flow diagram describing the requirements for conducting public participation as entailed in the reviewed documents is also provided. The general requirements for conducting public participation in EIAs in South Africa include making a notice (inviting interested and affected parties), establishing a register of interested and affected parties, making an invitation for and holding public participation meetings, offering interested and affected parties the opportunity to make comments and record those comments in a comment and respond register. These comments and responses must further be recorded in the public participation report and where possible influence the decisions made in the project plans. Results based on case studies are tabulated and marked against a checklist, which includes some comments. Results based on interviews with EAPs are tabulated and grouped into themes and verbatim responses as obtained from participants. Application of the checklist (table 5) to the case studies gives a view that practical implementation of the public participation requirements, has been successful in most of these cases.

According, to the flow diagram below (figure 1), it is determined that regulation, and guidelines (namely NEMA, EIA regulations, and the public participation process guidelines), provide a clear indication of what is required in terms of carrying out public participation in EIA and as well as how the practitioner should conduct public participation within the EIA process. The requirements as outlined in the public participation guidelines are particularly clear and concise, making it easy to follow and to carry out. It is also important to note that most parts of the above flow diagram were derived from the public participation guidelines because the guidelines give a clearer and detailed description as well as an outline of what must be done during public participation.

The flow diagram (figure 1) indicates the main activities that should be considered when conducting public participation, these activities are highlighted in grey in the flow diagram and they include: making a notice to interested affected parties, establishing a register of interested and affected parties, making an invitation to and holding public meetings, affording interested and affected parties the opportunity make comments on plans and reports and recording these comments in comments and respond register. As well as ensuring that these comments reflect in reports and plans. Outlining the key aspects of public participation within these guidelines and regulations serves to simplify the process for practitioners, by enabling them to establish a public participation plan with a clear starting and ending point. Thus, helping to foster legal compliance and effective public participation. In the case studies section although it is not obvious most of the elements of the flow diagram (figure 1) were pursued, however community empowerment proved to be lacking in all the case studies.

For the key parts that are particularly extensive, the EIA regulations and the public participation guidelines give a detailed description of how that task should be carried out. For instance, in terms of notices, it is elaborated in the reviewed documents (as per contents of the checklist in table 5) that three types of notice platforms should be used, which are notice boards, newspaper advertisements, and written notices. Furthermore, the methods of giving notice are so elaborate and yet simplified to the extent that they specify the nitty-gritty of exactly how each of these should be done. For example, these documents detail how the notices should be structured (even specifying the size of the

notice board and the location of the notice boards), the type of interested and affected parties that are entitled to receive written notices, and as well as the type of newspaper (either a local or provincial newspaper), even going as further as specifying the size of the advertisement in that newspaper. This of course makes the requirements of public participation in South African legislation unambiguous, which in turn should make the application of these requirements a less strenuous task for practitioners.

In terms of conducting public meetings, there is no specification on where and when meetings should be held (meaning that this lies at the discretion of the EAP), which can be a gap in terms of whether public participation meetings reach all those that are affected or impacted. However, in terms of public engagements meetings, the requirements does specify the type of information that should be shared by the EAP in these meetings specifically alluding to the background information document. This background information document is required to be shared with attendees in the meetings as part of the public participation process.

Moreover, the public participation guideline and the EIA regulation go further in guiding the practitioner through the public participation process. This is done by making provisions or guidelines for dealing with special circumstances, such as dealing with issues of illiteracy, language barriers, and disability. This legal documentation makes it clear that provisions must be made by the practitioner to accommodate the public through making information understandable for illiterate groups and making information easily accessible for the disabled and those that are disadvantaged in any form. Based on this it can be understood that the requirements for public participation in South Africa, take measures to ensure that there is inclusivity in public participation. This is stipulated in the reviewed legal documents in an easily implementable manner, given that they give the practitioner (EAP) the discretion to choose the specific methods to be used to ensure that this inclusivity quest is implemented, with the approval of such methods by the competent authority.

To continue addressing objective one, which is to “Review legislation and guidelines to determine the requirements for public participation in environmental management and renewable energy in South Africa”, more focus was given to the specific pieces of

legislation and regulation that make specific requirements for public participation in EIA, this information was organized in a tabular format. This table aims to provide the requirements for public participation in EIAs in South Africa. The data in the table was extracted from NEMA 107 of 1998, the EIA regulations, and the public participation guidelines.

As already mentioned, in attempting to address objective one (1), the specific pieces of the legislation and regulation that make mention of the requirements for public participation in EIA are tabulated in the first column of the table. The second column of the table specifies the specific requirement that is stipulated by the piece of legislation in column one. The third row specifies the individual who is legally responsible for making sure that the requirements stated in column two are met. Finally, the last column details how the requirements should be implemented as well as when exactly this requirement should be implemented during the public participation process.

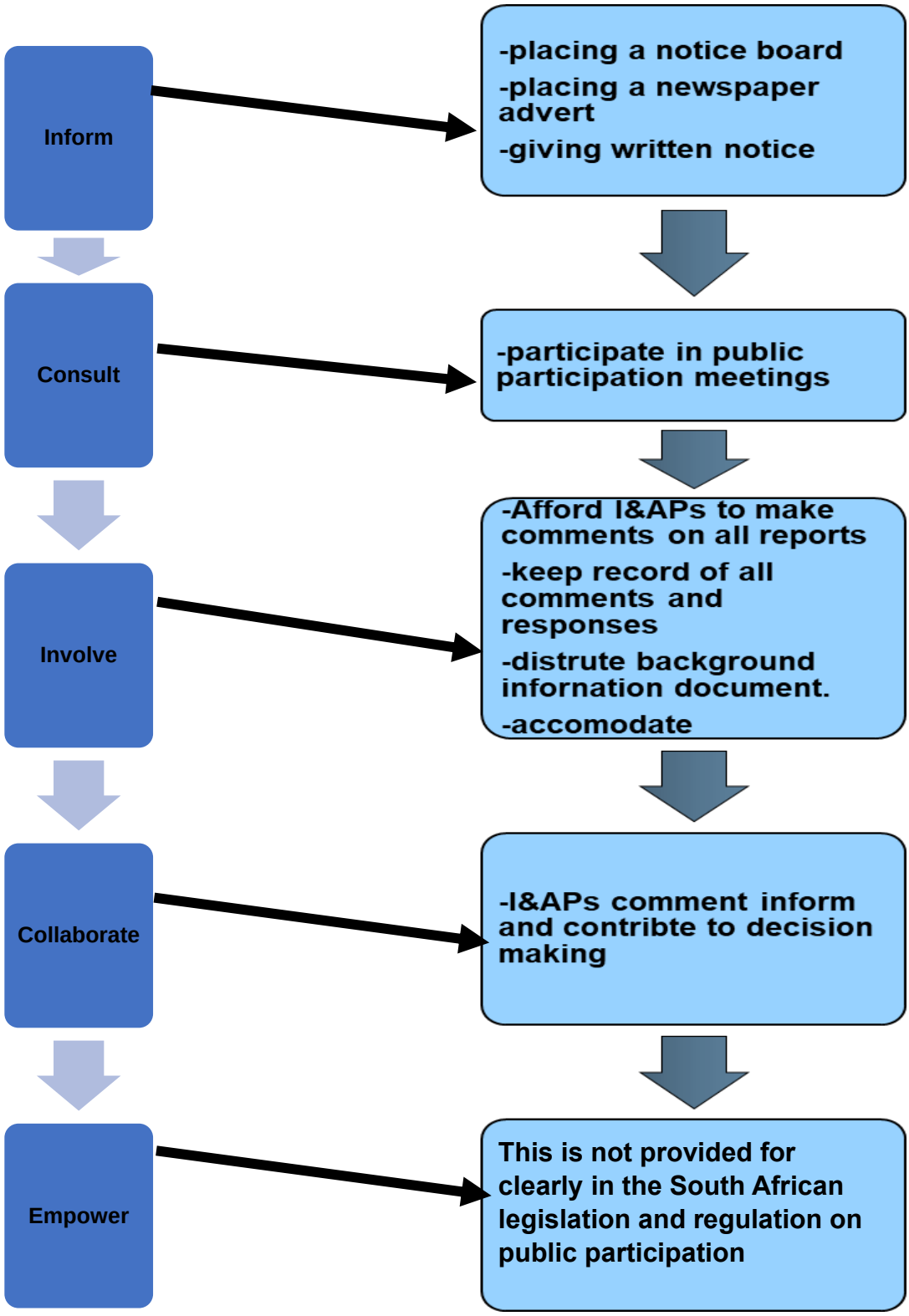


Figure 1. Flow diagram indicating the process of public participation

Table 4. Summary of elements of the public participation process in terms of NEMA EIA 107 1998, 2014 EIA regulations and the public participation guidelines

Purpose	Requirement	Responsibility	Reference
Public participation time frames	-Public participation should be not conducted during the period of 15 December to 5 January., but at any time outside of this restricted period	-the EAP is responsible for ensuring that the public participation process is conducted outside of the restricted period.	NEMA 107 of 1998 Chapter 2 section 3
	- The public participation process must be conducted for at least a period of 30 days.	-The EAP during this period is responsible for engaging the public as per the regulations and as guided by the public participation guidelines.	NEMA EIA regulations 2014 section 40(1)(b)
	- 30-day comments and review period for consultation with the public and organs of states	- similarly, the EAP facilitates this process, moreover organs of states have the responsibility to make comments and raise any issues within the 30-day comment and review period, as such I&APs are not mandated but their participation is crucial.	NEMA EIA regulation 2014 40(1)(b)
	- the competent authority must acknowledge the receipt of application with 10 days from submission	- The competent authority is responsible for the review of reports submitted. - I&APs parties have the right to make comments within the given 30-day time frame	NEMA EIA 2014 Chapter 3 (6)
Methods of public engagement	-provide access to all information that reasonably has or may have the potential to influence any decision about an application unless access to that information is protected by law.	-The EAP provide the competent authority with information that has implications on the application -the project proponent should the EAP with all information that influence the application even if not favourable to the application -the EAP must make such information available to all interested and affected parties	NEMA EIA regulai-os 2014(10)(c) NEMA EIA regulai-os 2014 (12)(b) NEMA EIA regulations section 13(f)

Purpose	Requirement	Responsibility	Reference
	- Consultation with all state organs and competent authority.	The EAP is responsible for initiating and continuing consultation with the competent authority, state department and I&APs	NEMA EIA regulation 2014 section 40 (2)
	-Fixing a notice board next to the project sites and accessible to the public (boundary, on the fence, or along the corridor), the notice board must be 60 cm by 42cm	The EAP	NEMA EIA regulations section 41 (a)
	-Placing an advertisement in at least one local newspaper or national newspaper, official gazette	The EAP	NEMA EIA regulai-os section 41(c)
	-Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of, but unable to participate in the process due to illiteracy, disability, and another disadvantage.	The EAP	NEMA EIA regulai-os 2014 section 41 (e)
	- Giving a written notice, in any of the manners provided for in section 47 D of the Act	The EAP	NEMA EIA regulations 2014 section 41 (b)
	-making use of alternative methods agreed with the competent authority to accommodate the illiterate, disabled and other disadvantage groups	The EAP	NEMA EIA regulai-os 2014 section 41 (e)
Who should be involved	-interested and affected parties (including landowners and adjacent landowners)	- I&APs are responsible for registering as interested and affected parties. -raising their consent issues -making comments on reports and other plans	NEMA EIA regulations 2014 of section41
	-the competent authority	- the competent authority is responsible for commenting as requested by the applicant within the required time frames -consult with other organs of state that administer law relating to matters relevant to the environment	NEMA EIA regulations 2014-chapter 3 section 7 (1)

Purpose	Requirement	Responsibility	Reference
		-manage the process for environmental authorization in a cooperative government-manner	
	- The project must appoint an independent EAP and provide them with the necessary information for them to carryout public participation.	-The proponent must appoint an EAP - Take all reasonable steps to verify that the EAP and specialist comply with the EIA regulations - provide the EAP with access to all information concerning the application.	THE EIA NEMA regulation 2014-chapter 3 section 12 (b)
	- state departments administering law relating to the matter when it comes to the environment	- state departments must be consulted and make comments based on the consultation	NEMA EIA regulations 2014 section 40 (b)
	-all organs of the state which have jurisdiction over the activity applied for	-must be consulted and make comments based on the consultation	NEMA EIA regulai-os 2014 section 40 (2) (c)
How I& APs issues and concerns are addressed	-all potential or registered interested and affected parties as well as the competent authority are entitled for at least 30 days to submit comments on all reports	- the EAP provide the opportunity to make comments to all stakeholders involved - The I&APs and the competent authority are responsible for making comments on these reports.	NEMA EIA regulations 2014 section 3
	- interested and affected parties are entitled to bring their issues deemed by that party to be of significance to the attention of the proponent or applicant	-the EAP is responsible for creating the platform for I&APs to raise their issues	NEMA EIA regulations 2014 section 43 (1)
	- in raising issues and comments the interested and affected party must disclose any direct business, financial, personal, or other interests that may influence their refusal or approval of the application	-The interested and affected parties are responsible for declaring conflict of interest	NEMA EIA regulation 2014 section 43(1)

Purpose	Requirement	Responsibility	Reference
	- the applicant must ensure that the comments and issues of interested and affected parties are recorded in reports and plans	The EAP	NEMA EIA regulations 2014 section 44 (1)
	the comments and responses as of meetings must be attached to the reports and plans submitted to the competent authority in terms of these regulations	The EAP	THE NEMA EIA regulations 2014 section 44 (1)
	- registered interested and affected parties are entitled to comment on reports and plans in writing that are submitted to them	The EAP	
	- The applicant must notify all interested and affected parties of the decision taken on the application (complete refusal or granting of environmental authorization), within 14 days	The EAP	THE NEMA EIA regulations chapter 2 section (4)
	- Potential interested and affected parties must be given reasonable opportunity to comment on the proposed application	The EAP	NEMA EIA regulation 43 (1)
	- The proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties - With written request to the proponent all persons must have their added in a register (including)	-the EAP	NEMA EIA regulations 2014 section 44 (1) -NEMA EIA regulations 2014 section 42(b)
	- The register must be submitted to the competent authority	The EAP	NEMA EIA regulations 2014 section 42

The South African environmental legislation makes sufficient provision for what is required legally in terms of public participation in South Africa. The National Environmental Management NEMA: EIA Regulation, 2014 acts as the key piece of legislation in the country that accounts for public participation requirements, particularly chapter 6 of the EIA regulations. The requirements as outlined in the table are detailed, they specify what practitioners need to do to fulfil the legal requirement for public participation in EIAs. The EAPs are one of the key role players in the implementation of the stipulated requirements from the EIA regulations pertaining to the public participation process. Most of the requirements are dedicated to being completed by the EAP who is responsible for conducting public the participation process in EIAs. The EAPs have the primary responsibility for conducting public participation in EIAs. They are responsible for performing and carrying out the key activities that make the essence of the public participation process. They are further urged by the law to consider any applicable guidelines for public participation. One can deduce from the above table that the successful implementation of most, if not all the requirements of the public participation process is heavily reliant on the EAPs and how well they understand and practice the stipulated requirements.

However, it is also important to note that though the EAPs are at the forefront of and the custodians of public participation in EIA, they are not the only role players. As shown in the above table there are other equally important role players, which affect the outcomes of the public participation process. These role players include the competent authority, other organs of state, and the I&APs. The cooperation and collaboration among these other role players are important to ensure that the implementation of the requirements is effective. For example, for the public participation process to be completed within the given or stipulated timelines both the EAP, the competent authority, and the registered I&APs must each fulfil their role timely. Therefore, one can deduce that the fulfilment of the public participation process is heavily reliant on the collaboration of all parties involved to help ensure that all the requirements are met.

Moreover, one may also point out the lack of specificity in some elements of the regulations and the public participation guidelines, more especially when it comes to the following clause of the regulation.

NEMA EIA regulation chapter 6 section (41) (e) requires “Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to illiteracy, disability and another disadvantage “, here it is not stated how exactly the EAP should meet this requirement, thus giving too much discretion to the EAP, which may cause confusion and a lack of uniformity, thus leading to some disadvantage to the public such as issues of exclusion, especially in cases of using online platforms for engagement, whilst not offering other alternatives.

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Table 5. The checklist developed based on table 4 in the results section.

Requirements for public participation	Yes	No	Comment
1. Activity on land owned by a person other than the proponent			
The proponent the owner of the land			
written consent was obtained from the landowner or person in control, before the application for an environmental authorisation			
2. Purpose of Public Participation			
The public participation process to which the EMPr, BARs, and S&EIR were subjected has given potential or registered interested, affected parties and competent authority a 30-day period to submit comments on each report			
The public participation process provided access to all information that may have a reasonable influence on the decision taken about the application			
3. The public participation process			
The public participation process considered the relevant guidelines that apply to the process			
The person conducting the public participation process has given notice to I&APs			
A notice board was fixed at a place close to and accessible to the public (at the boundary of a fence or along the corridor)			
A written notice was given to the landowners, occupiers of the land, adjacent landowners, municipal councillors, jurisdiction municipality, organ of state, and other parties required by the competent authority			
An advert was placed in a local newspaper, or any official gazette (polished specifically for public notice), one provincial newspaper or national newspaper (where the activity extends beyond the metropolitan or district municipality)			
Alternative methods were used to accommodate those who are illiterate, disabled and disadvantaged in other ways.			
The notice board and advertisement gave details of the proposed application subject to public participation, specify whether a BAR or the S&EIR procedure was being followed, the nature and location of the activity, contact details, and the way and the person to whom representative in respect of the application or proposed application can be made.			
The notice board was the size of at least 60cm by 42cm			
A written notice was given to registered and affected parties regarding the revised EMPr, EIR			
4. Register of interested and affected parties			
The proponent ensured opened and maintained a register of all interested and affected parties, containing their names, contact details and address.			
The register was submitted to the competent authority, and contained details of all persons who, participated in meetings with the proponent or the EAP, submitted written comments, those who requested to be to the register and organs of state with jurisdictions.			
5. Comments and responses of registered and affected parties			
Registered interested and affected parties were given the opportunity to comment on all reports and plans that is submitted to such a party			
Registered interested and affected parties were given the opportunity to raise any issues which the party believe has significance consideration on the application			
The applicant has ensured that the comments of interested and affected parties are recorded in reports and plans			
The responses, comments, records of meetings are attached to the reports and plans and submitted to the competent authority			

4.2 Objective 2: The practice of public participation in renewable energy projects in South Africa

A review of the four renewable energy cases studies in the Northern Cape indicates that there are similarities in the way EAPs conduct public participation. This is mostly because the public participation process is guided by the EIA regulations and the application of the public participation guidelines. One of the common elements is the adherence to the regulation prohibiting the conducting of public participation between the periods of (15 December - 5 January). Adherence to this restrictive time frame, serves to indicate that the EIA regulations are actively pursued by EAPs in the process of public participation. This further indicates that there is inclusivity, because it ensures that public participation is not conducted during the festive season, when most people may not be available to participate. Moreover, most of the cases went an extra mile by extending time periods for public participation, which were mostly extended and adjusted to accommodate the restrictions created by the Covid-19 pandemic.

Moreover, opportunities are made for draft reports to be reviewed by I&APs prior to submission to the competent authority, also ample time is provided for these reviews and public comments. The comments and issues raised as part of the public review process, form a part of the EIR information submitted to the competent authority, thus contributing to the final decision-making process pertaining to the environmental authorisation. Therefore, ensuring that the results of the public participation process inform and are considered in the decision-making process, pertaining to the competent authority‘s final decision on granting or denying environmental authorisation.

Language barriers were the key issues of note in the public participation process conducted within the Northern Cape Province. Given that some minority groups are non-natives (with no English and Afrikaans speaking, reading and writing capabilities), who may not be able to understand the languages of communication wholly, this may have created communication barriers and hindering meaningful public participation. However, the use of Afrikaans as the primary language of communication may also be deemed as positive, because it accommodates most of the public in the project areas/locations.

Additionally, there is generally a lack of evidence in the EIR, which maybe be because most of these reports do not contain the appendices, which have been referred to in these reports. Therefore, most of the elements such as registers, notices etc. are without the provision of evidence such as pictures, email conversations etc. Some of the supporting information such as registers are not made available on online platforms, although they are continuously referred to as appendices in the EIRs. Public participation meetings although not mandatory are the common methods of public participation amongst the four cases.

- ✓ **Case 1: Kwana Solar photovoltaic facility**

The availability of the reports for comments was widely communicated, such as through making announcements on the radio, which increased the awareness on how the public can access the information. Radios allow for widespread public awareness, which may have assisted the EAP to reach a broader audience as compared to other methods such sending out emails. Moreover, the documents were also made available at the local library, which increased the accessibility of the documents, which may have contributed to meaningful and informed public participation.

The background information document and notification letters were sent out to interested and affected parties; however, these written notifications may have led to the exclusion of illiterate members of the community. Another challenge was the restriction posed by Covid-19 regulations, which prohibited gatherings by large number of people, which meant that large public participation meetings could not be held (only focused group meetings were held, mostly with government agencies), as such this made face to face interaction with the public limited. Therefore, meaning that information sharing and understanding of the project with and among the public, will also not be as satisfactory as under normal circumstances.

The EIR included a description of the public participation process, which included an indication and description of the area which notice boards were placed, however the was no evidence in the report such as pictures of the notices in the location, as compared to the other cases in this study that included such pictures. These reverts to the lack of

evidence in the EIR reports that are made available to the public for review and comments published online on EAP websites.

English and Afrikaans were the language of communication used in the newspaper adverts , this could be positive given that majority of the public in the project area are native Afrikaans speakers , also majority of the people may have some level of understanding and knowledge of the English language, which may enhance the degree of public participation. However, minority groups who have no speaking and reading ability of both languages may be disadvantaged in their ability to contribute meaningfully to the public participation process. Additionally, a simplified notification letter also written in Afrikaans was distributed to registered I&APs, which served as crucial source of information for those I&APs who may not have prior knowledge of renewable energies, especially their technicality and how they may affect the public.

Several methods of public participation were applied to address different groups of the public or stakeholders. The following methods of public participation were especially used in consultation with the organs of states and the competent authority, these included focus group meetings, telephone consultation, Dropbox and we-transfer, mostly because organs of states have easy access and understanding of such technologies. On the other hands, methods such as feedback meetings, written, faxed and emailed responses, CDs and hardcopies were used to communicate with other groups of publics such as landowners, adjacent landowners and non-governmental organisation. Moreover, feedback addressing the issues raised was further strengthened using virtual meetings and telephone liaison. Therefore, some sort of classification of the public existed in which different methods were used to accommodate the different classes, much older methods were used to communicate with non-governmental organisations.

There is an element of visible collaboration in this case, wherein responses to issues were made in consultation with the project proponent especially those that had financial implications. However, it was apparent that majority of the comments, where made by organs of state, which may be an indication of lack of the public interest to participate, despise the palpable efforts made by the EAP to ensure that the public is made aware of the opportunity to participate.

- ✓ **Case 2: Proposed Development of a 225MW Solar PV Plant on Several Portions of Farms in the Hanover District**

Based on the results from the table in appendix D (the legal requirements of public participation compared to what is reported on the actions of public participation by EAPs in public participation reports (PPPs) and environmental impacts reports (EIRs)) indicates that the requirements for public participation were mostly met when it comes to the way EAPs conducted public participation in the 255 MW solar plant project. The requirements were mostly adequately met, when practical implementation is marked against the checklist, it is proven that majority of the checklist items have been met and implemented successfully.

According, to the EIA guidelines, it is stated that the EIA regulations constitute the minimum requirements and that depending on the facts and circumstances of each application, additional public participation measures might be required. It gives room to the extensions of the public participation process; this could be a cause for concern in terms of fulfilling's project schedules and meeting project timelines.

The minimum number of days required for conducting public participation as per the regulation is 20 days. In this case the EAP went an extra mile, the public participation period extended to 40 days, which is twice the prescribed legislative time requirement, an indication of affording amble time for I&APs to participate in the process or prolonging the process. This may become costly to the project proponent, through negatively affecting the turnaround time for the project initiation, since well environmental authorisation is a prerequisite for project initiation.

For this case the comment and respond period, given to registered interested and affected parties was 10 days more than the recommended time by the regulation, indicating that the is no distinctive period defined by the regulation for making comments on reports. The lack of a distinctive period for comments to be made on a report is a positive element of public participation, because it allows the EAPs, such as in this case flexibility to give

an appropriate amount time for to I&APs to make meaningful response and comments on reports as the specific case or project dictates.

The person conducting a public participation process must consider any relevant guidelines applicable to public participation as contemplated in section24 J of the Act. The public participation guidelines give discretion to the EAP to go beyond the recommended 30-day timeline for comments and response "Public participation process must be conducted for period of at least 20 days" as such the regulation only make a recommendation of the minimum number of days, for conducting public participation.

Most of the communication was done in Afrikaans and English (i.e. the notices in newspapers and on notice boards), this makes considerable sense in terms of constituting to effective public participation, given that Afrikaans is the majority spoken language in the project area. However, although English was the alternative language used, statistics show that Xhosa is the second most spoken language. Which may raise questions on whether all the minority groups have been catered for in this public participation. Thus, implicating a jeopardized and less effective public participation owing to misunderstandings that may emanate from language barriers.

Poor feedback mechanisms, (wherein the I&APs, were not given sufficient information and response by the EAP on the issues that they raised) were eminent in this case. On the contrary great consultation was conducted with those considered to be key stakeholder and on the project. This indicates that some sort of classification of the public existed in this case, which may have led to inferior public members (I&APs) loosing on the benefits of fully participating in the consultation process and having their raised issues addressed.

Background Information Documents (BID) which are a great starter for public participation, provide the I&APs an opportunity to acquire basic knowledge and understanding about the project. In this case the distribution of BIDs more especially to key stakeholders such as landowners and adjacent landowners offers a unique and meaningful opportunities for open and inclusive participation, which fosters transparency and build trust between the project developers, regulatory bodies and the community.

- ✓ **Case 3: the proposed development of the Merino wind farm**

The outstanding element of the briefing paper in this case is that the project was described in detail. The briefing paper which included an introductory letter, comments sheets and a relevant map, gave an opportunity for interested and affected parties to make meaningful communication (this was in addition to a notification letter provided). Additionally, distributing several sources of information was crucial for diversifying access to the information concerning the project, thus constituting informed participation by the public.

Language and illiteracy barriers in South Africa can further disadvantage marginalised communities, more especially minority groups residing within the area who may not be conversant in the language of communication used (Afrikaans and English), it is suggested that other methods such as language translation should be used to accommodate minority groups in the process of public participation.

The phrases information session and public meeting seem to be interchangeable phrases that are used in the EIR, these methods of public participation involve the sharing of information about the project with I&APs. It is important to note that these methods were particularly restricted in this case because the public participation process needed to take consideration of the restrictions imposed on public gatherings, due to the covid-19 pandemic, which prohibited mass meetings involving large numbers of people.

Therefore, the EAP had to improvise from the way they would traditionally conduct public participation meetings in previous cases. For these case three separate meetings were held with three groups I&APs, holding public participation at different settings with different stakeholders yielded unexpected results, such allowing the EAP an opportunity to address each stakeholder group in a focused and detailed manner.

A live read was done on RSG radio to announce the thirty-day review and comment period. RSG is a local radio station. Broadcasting and making communications on radio created an opportunity for establishing awareness helping to reach individuals who may not be able to read notices due to illiteracy, meaning that other people who are desirous of but are unable to participate were accommodated.

To accommodate the restriction imposed by Covid-19 regulations which prohibited the gathering of large numbers of people, communication of comments and reviews was sent on WhatsApp, SMS and emails. The availability of soft copies of the reports on the EAP website indicated the increasingly growing role of the internet in the public participation process. This created a unique situation that brought a spotlight on the positively progressive roles of the internet and social media in the public participation process.

Continuous update of the register was ensured, it is an important part of this case as it means, that the is accurate data and updated information, thus assisting in making the progress and trends identification easy. Which will help with better decision making in the EIA process. Six notice boards were placed at different conspicuous points on the site, placing an extensive number of public notices serves to increase the visibility of the boards to the affected public, which increases the public reach and enrich the public participation process in this case as envisioned to be achieved.

- ✓ **Case 4: the proposed 100 MWAC photovoltaic solar energy facility Paulputs in Khaki-Ma municipality**

Information was made available on different platforms for the public to access, also a BID was made available to registered I&APs. This provided many avenues and opportunities for the public to access the necessary information. Having these reports at communal places and open spaces such as a library is a good initiative for ensuring the accessibility of the report to the public for comments and to raise any unsatisfactory issues contained within the report. This empowers the public (I&APs) to make informed contributions and offers an opportunity to criticise and challenge any inaccuracies or biases contained in such reports. This thus allows for transparency, fostering trust through reflecting the consideration of I&APs issues.

Placing the notice boards along the access roads and busy intersection is one element that was unique about this case as compared to the other three cases. Placing the posters in public places, is a good way of alerting majority of the public about the meeting, which creates the ability to reach diverse audience, who may not have access to other media platforms. Adequately informing the public about public participation will result in better public engagement turnover. This also shows the extra efforts put by EAPs when

conducting public participation. There is increasingly lack of inclusivity within the process, especially for those individuals who may have been desirous of participating, but were restricted by disability or illiteracy. It is important to note that there was no mention of provisions made to accommodate other disabled or disadvantaged groups, however other measures were taken to accommodate the minority groups that are not conversant in Afrikaans and English. For instance, the use of focus group meetings to interact with small groups of interested and affected parties, provided conducive platforms for people to ask questions in a face-to-face setting, where the EAP could easily identify any barriers to understanding information clearly (such as language) and provide appropriate aid.

Focus group meetings were a key method of public participation in this case, which could have a positive impact on the outcomes of the public participation, through offering a platform for gathering in-depth perception. The use of focus group meetings further created an opportunity for discussion and debating of issues in detail. Giving perspective that would have not been gained with other methods of public participation, also it gives an opportunity to deal with specific concerns and develop the reasonable understanding of underlying factors behind the public reviews on draft EIRs. This may also be a good way of addressing language barriers.

The alerts to register and methods of registration for the public in the register were made on multiple platforms, which helped to reach a broader audience. Trough giving the public several channels of communication and ways of reaching the EAP. This is important for increased engagement. However, the public was requested to register their interest to participate only on the EAP's website, this could be a hindrance to those that do not have access to the internet. A detailed issues and respond register provided evidence of all issues raised and the responses by the EAP. Moreover, the submitted scoping report at the initial stages also included comments from the public, this was to give the competent authority an opportunity to consider the public raised issues and comments in the decision-making process.

4.3 Objective 3: the challenges face by EAP in conducting public participation

Discussion of results:

Practitioners responsible for public participation in South Africa indicated that there are additional activities that EAPs carryout as part of the public participation process, which

does not form part of the requirements of public participation as stipulated in the regulations and public participation guidelines. These additional activities include using tools such as social media for communicating PPP-related matters to the public and other alternative methods outside the requirements of the regulations, *some participants have stated that "recently we have also entered into the digital and social media platforms to assist with meeting the requirements of the process*", The application of these additional activities and methods is sometimes propelled by unplanned external issues such as COVID-19. It has also been indicated that the use of online platforms has become incorporated into the public participation process as methods for conducting public meetings, slowly replacing physical venue meetings. Concerning this statement, participants have stated that *"people are no longer very eager to join an in-person-to-person meeting" and "here with our discretion most people are ok with Zoom meetings".*

However, it is the opinion of some of the participants that conducting public participation should *"strictly comply with the requirements as set out in the regulation and that nothing should be added to it*" and another participant stated. That "*we make sure to adhere to the legislation for each project. It is not considered ideal to deviate from protocol* ". Therefore, this indicate that although some EAPs become innovative going an extra-mile to incorporate technology to increase effectiveness of the public participation process, other participants are adamant on only achieving the minimum requirements and perceive other efforts as unnecessary.

Concerning the table in appendix G, it is shown that EAPs make use of and follow the guidelines when conducting public participation. However, in some cases, some deviation from the requirements is done by EAPs depending on the needs of the public being engaged. Some EAPs have also alluded to the use of the minimum requirements to help ensure meaningful public participation, it is the view of one participant that "*it is important to remember the purpose of the PPP, to ensure meaningful participation of people who may be affected by the decision"*, "*listening to the I&APs is often useful*" and "*Acclimatizing the provided PP guidelines to suit a particular project circumstance*". Therefore, EAPs do recognise that application of proper guidelines is important for not only meeting the

legislative and regulatory requirements, but also for ensuring meaningful participation. Moreover, the requirements are also employed by EAPs working for competent authorities to make a review of the submitted public participation process, as a benchmark against which the quality of the public participation process is measured in terms of meeting the minimum requirements.

In terms of the legislative requirements for public participation, the results in appendix G points to the differences amongst the selected cases, although the same requirements are employed for different projects. Renewable energy projects differ from other project in terms of the public perception on renewable energy projects. Participants have shown that the public has a positive perception about renewable energy projects. This as a result makes public participation process much easier to carry out in renewable energy projects, as a result of project acceptance and public willingness to participate. Nonetheless, due to the lack of public knowledge about renewable energy projects more prolonged public in-person (physical) consultations are required as compared to other forms of projects.

As per the table in appendix G, one of the key challenges that are commonly faced by EAPs when conducting public participation in renewable energy projects is the fact that most of these projects occur in dispersed communities. In some cases, adjacent landowners' lack of interest has been quoted by EAPS as a hindrance in fulfilling the regulatory requirements, this is a major challenge as seen in this comment by participants stating that "*one thing that is a challenge though, obtaining landowners, possibly due to ANC associated "beliefs", see us as the enemy and refuse to grant permission for infrastructure development*" as seen in this comment above political affiliations can also impact on the public 's willingness to participate in the renewable energy space, therefore it is important to raise awareness on the relations between political parties and proposed projects , and to be transparent about all background information on a proposed project. Moreover, technical issues in terms of the complicated technical nature of renewable energy technology, make it difficult to implement the requirements, when it comes to ensuring meaningful participation, because the technicality of renewable energy project makes it difficult for comprehension for the layman.

There are several issues identified from the study, indicating that the nature of participants and the type of projects, influence the outcomes of the public participation process. Such influencing issues include the demographics of the participating public, and the level of social benefits of the project as perceived by the public, the same applies to perceived economic benefits.

In an area where they are existing and function renewable energy projects and operations, the process of public participation becomes less challenging, because the public has a better understanding of the renewable energy technologies, having already witnessed both the benefits and negative impacts. EAPs indicate that *"In an area where people are already familiar with the wind turbine e.g. I&APs are expected to understand the project information better from the start compared to where renewable energy is foreign to the I&APs in general*" and *'If there are existing wind or solar farm in proximity, I&APs know what to expect (the good and the bad, like noise")*. However, in cases where the renewable energies are new to the public the issue of lack of knowledge becomes a challenge, because the EAP must initially educate and help the public understand exactly how such technologies function and how it will impact their lives, therefore the type of public group that an EAP is engaging with determines the type of challenges experienced such an in EAP in conducting public participation.

The common and prevalent motivating factor for the public to participate in the public participation process is the economic and social benefits that come along with the introduction of such a project, this is also applicable when it comes to renewable energy projects. Environmental issues usually take a back seat when it comes to public concerns raised during public engagements with the public. One participant indicated that. Participants state that "*people generally want to benefit from these types of projects and renewable energy, there aren't that many direct benefits, like a job to be had*". This may hinder public interest to participate, if the projects do not offer amble social and economic benefits, it may lead to a lack of project acceptance by the public.

5. CHAPTER 5: DISCUSSION

In this study, the overarching aim was to assess the practice of public participation in South African renewable energy projects and to quantify the role of practitioners in facilitating the process. The study also sought to review legislation and guidelines to determine the requirements for public participation in environmental management and renewable energy in South Africa, to assess the practice of public participation in renewable energy projects in South Africa, and to explore the experiences of practitioners in facilitating public participation in renewable energy projects in South Africa. This chapter discusses the findings of the study and related literature, with the purpose of addressing the research aim and objectives. The findings from the study have been used to draw conclusions and provide recommendations for improved public participation in EIAs.

The most compelling challenge of public participation is that each affected and interested party, may have varying or preferred manner of communication such as language issues, representation issues, and the types of communication technology that are used to disseminate information, this may hinder the progress of the EIA process (Aregbeshola et al., 2011). The case study results indicate some key issues about the choice of language for communication in all matters relating to public participation in all cases. In all four cases, English and Afrikaans have been the chosen languages of communication, which accommodated many of the natives in the study area. However, minority groups such as the Xhosa people may have faced challenges, such as not fully understanding the information shared with them. Language barriers in South African public participation practices further marginalize minority groups (Cheyanne and Dlali, 2019).

Likewise, limited linguistically appropriate information and communication has shown to exclude such minority population from participating fully in the EIA process, thus perpetuating inequalities and injustice (Hartmann & Thornton, 2024). Hence, details from registered IA's registers, as well as comments and respond registers have shown that the is minimal participation from the public (particularly individual members of the community), and that most participants are organized groups, private organizations and government departments, this could be a result of barriers emanating from language issues.

5.1 Social media as an additional tool for public participation

Social media has been indicated by EAPs as an additional measure or tool that has been employed as part of public participation. Studies by Aaen et al, 2018, allude to the adoption and recent use of social media in public participation, stating that impact assessments are becoming part of social networks that help improve the interaction between actors of impact assessment. Although social media does not form part of the basic requirement as stipulated by the EIA regulation, it is seen as a tool that helps to improve the process of public participation by increasing the platforms upon which EAPs can create awareness about a project and interact with participants.

However, it is the view of other participants that the use of social media has led to the erosion of the more traditional methods of engaging I&APs such as public meetings. Aaen et al, (2018) state that gone are the days of relying solely on physical meetings. Online platforms like websites, social media, mobile apps, and interactive maps are bringing the EIA process to the people. This allows for wider reach, including more diverse audiences, and makes participation more convenient and flexible, it can reduce costs and streamline information sharing". Therefore, according to the results of the study and literature social media has gained traction in forming a part of the important tools that are used by EAPs to conduct public participation in EIAs. Furthermore, the (International Association for Impact Assessment, 2023, p.1). States that "social media is currently transforming public exposure and input to EIA in Australia" . Literature sustains these findings, indicating that they are perceived benefits that have been noted that comes with using social media as a tool in public participation. such benefits includes a wider reach of the I&APs and the opportunity to overcome physical meetings limitations Andre et, al.(2004). However, some studied warn against the complete reliance on social media as a tool for engagement owing to its drawbacks such as digital divide and exclusion for the less fortunate communities who may not have access to the required technologies to access social media platforms (Creighton,2005).

5.2 Reasonable alternative methods

Participants have shown that there are reasonable alternative methods that are used in public participation as guided by the public participation guidelines. The public participation guidelines make some provision for one to use a use a reasonable

alternative when carrying out public participation activities. This is wherein the person conducting PP has the discretion to state in the notice, notice board or advertisement, how representations on relevant documents should be made since the circumstances of each proposal are different, the nature and state of potential I&APs or public sensitivity of the project should determine which PP mechanisms are most appropriate to use. Moreover, reasonable alternative methods of recording comments must be provided to accommodate people who wish to, but cannot access written comments due to disability, lack of skills to read or write or any other disadvantage" This is a (Department of Environmental Affairs, 2017, p. 5).

The EIA regulations in combination with the public participation guidelines provide for discretion in the specification of some elements, as per the conditions of each project, this gives room for the EAP to apply communication methods that are suitable for the type of participants and the dynamics of the public with which they are interacting with. This is a positive element in terms of contributing positively to an effective public participation process. Previously public participation has raised concern because it was seen and implemented as a rigid "one size fits all" process (Mnengwane, 2014). However, with most EAPs implementing "reasonable alternative methods" as seen in the case studies, the public participation process is gradually transforming into an adaptable process that seeks to fit the dynamics of each unique project.

5.3 Strictly comply with minimum requirements

Most of the participants alluded to the fact that they only strictly comply with the minimum requirements of the EIA regulations and the public participation guidelines, without trying to apply any reasonable alternative methods. According to Ntsulumbana, (2020), the problem with only adhering to the minimum requirements of public participation and not applying the discretion provided for in terms of "reasonable alternative methods", is that some of the I&APs will be excluded. Studies show that weakness was found in EIA cases reviewed, where there was a lack of alternative methods to accommodate stakeholders, who could not understand English and/ or Afrikaans (Nsulumbana, 2020). Moreover, this is also evident in the cases that were reviewed as part of this study, most of the communication sent out to I&APs in notices, background information letters, and during meetings were in English and Afrikaans, which excluded other I&APS, such as the Xhosa

natives who form part of the minority population in the project area, this therefore affects the effectiveness of the public participation process. Since well effective public awareness requires dialogue, the provision of relevant information, and adequate resource allocation (Maphanga, 2022), adequate resource allocations also involve using reasonable alternative methods to deal with issues such as language barriers (Ntsulumba, 2020).

5.4 Meaningful participation

It is the perception of some of the participants that public participation should lead to meaningful participation. The public participation guidelines are used to help streamline the process of public participation, however, to ensure meaningful participation, their implementation must be suited to the type of I&APs being addressed. For example, one participant stated that "*listening to interested & affected parties is often useful*", this implies that the needs and expectations of the public are taken into consideration in the EIA process, to contribute to meaningful public participation. Meaningful participation is also a consequence of I&APs issues being addressed. In ensuring meaningful public participation, it is important to consider public comments and feedback and incorporate them into the decision-making process (Environmental Protection Agency. 2024). Strong regulations provide clarity on roles, responsibilities, and procedures. This consistency ensures that all stakeholders understand their obligations during public participation (Reiner et al, 2006).

5.5 The use of the public participation guidelines in the review of public participation reports

The public participation guidelines are also applicable to the competent authority, in the case of this study two EAPs were interviewed who were employed as representatives of the competent authority. These participants indicated that they make use of the public participation guidelines to "Ensure the minimum requirements for the public participation process stipulated by NEMA EIA regulations is followed". The public participation guidelines provide a framework for EAPS to follow, ensuring that the outcome public participation is integrated into the decision-making process (Environmental Protection Agency, 2024). Furthermore, When EAPs (Environmental Assessment Practitioners) act as the competent authority, these guidelines help ensure a robust and inclusive public

participation process (Environmental Protection Agency, 2024). Therefore, public participation guidelines are also applicable for the review process undertaken by the competent authority on the public participation reports submitted by the applicant. The EIA regulations 2014 require that to give effect to section 24 (o) of the Act, any state department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days, these comments are based on outcomes obtained from the discussed reviews. Therefore, the use and application of the public participation guidelines help to ensure that effective public participation is being employed.

5.6 Public participation for renewable energy

Some participants are of the view that the is no difference between public participation conducted in renewable energy projects and those conducted in other forms of project such as mining, most of the participants indicated that public participation remains the same since well the same public participation guidelines are being applied. Nevertheless, to some extent, the type of project does influence the specific approach to public participation, although the fundamental principles remain consistent across different contexts (International Organization of Impact Assessment, 2002). This agrees with the view of the participants, which suggests that the fundamental framework of public participation remains the same for all types of projects, however, it does not necessarily mean that the context of the project to which these guidelines are being applied remains the same. It therefore important that public participation should be contextualized in accordance with the conditions of the public being engaged.

5.7 Interested and affected parties' perspectives on renewable energy

Data, as presented in this study, shows that most of the interested and affected parties have a positive view concerning renewable energy projects, stating that “people ‘s perception of renewable energy is positive”. Individuals usually express positive perceptions towards low-carbon energy technologies (LCET), especially renewable energy technologies such as solar and wind (Farhar, 1994). Moreover, some scholars connect participation and engagement with social acceptance of energy projects and policies and define participation as the active or passive approval by the public of a certain energy project or policy (Melica et al. 2018; Stadelmann-Steffen and Dermont 2021).

According, to the perceptions of the participants public participation involving renewable energy projects is relatively easy as compared to public participation in other projects such as mining, because most I&APs have a positive perception of public participation and have high tolerance and exception towards renewable energy projects. A paper on public perceptions of energy technologies in the United Kingdom found that over 75% of respondents ranked their impressions of sun/solar power, wind power, and hydroelectric power as very or mainly favourable (Reiner, 2006). In this study, it is seen that “it is often the perception of I&APs, and their alternative towards a development or even the developer that determines I&APs participation”, thus one can deduce that the level and context of public participation is to some extent influenced by the perception of the public on that type of project.

5.8 Public knowledge

Some participants have indicated that public participation in renewable energy projects, becomes somewhat lengthy in renewable energy projects, because of the lack of public knowledge. Participants indicate that most I&APs lack understanding of the nature and technicality of renewable energy projects, this thus leads to lengthy public meeting sessions wherein the EAPs try to disseminate information in such a way that the I&APs can understand. The awareness of renewable energy in South Africa varies, but there’s room for improvement (Uhunamure and Shale, 2021). Therefore, one can deduce that the lack of public knowledge concerning renewable energy projects can become a barrier to public participation, making it time-consuming as seen by the comments made by the participant EAPs. Moreover, it is imperative for effort to be made to enhance public knowledge, as well as further education and outreach to ensure a successful transition to renewable energy, to help make public participation more effective.

5.9 Dispersed settlement

The cases studied in this project are based in the Northern Cape Province, under the REIPPP program, the Northern Cape Province is host to all the concentrated solar power (CSP) plants and 65% of photovoltaic (PV) plants in South Africa (DoE, 2019). Participants indicate that the locations of most renewable energy projects are isolated locations with dispersed settlements, which are mostly farms. This situation presents a lot of challenges for EAPs when conducting public participation. This is essentially a

challenge, especially for meeting one of the public participation requirements, which requires that the EAP must give written notice to “the owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site” and the owners and occupiers of land within 100 meters of the boundary of the site or alternative site who are or may be directly affected by the activity”. Therefore, given the issue raised by the EAPs, that most of the farm owners were not always available, communication with them proved to be difficult. Setting up public participation meetings in a location that will accommodate all participants, was also identified as a challenge, due to the dispersed nature of the settlements of the public participating in the process.

To some extent, politics also seem to influence the public‘s level of interest in public participation in renewable energy projects. The African National Congress (ANC) has been the dominant political party in the Northern Cape. It has consistently led the provincial government after the end of apartheid (Human Sciences Research Council (HSRC), 2021). Some participants have stated that resentment by the public towards the ruling party has riddled into and influenced the level of public interest in renewable energy projects, particularly those that are related to the REIPPP program. Some of the local public and communities have a negative view and are disinterested in the activities surrounding the renewable energy projects mostly due to politics. Therefore, although EAPs may be able to communicate in writing with adjacent landowners, thus meeting the requirement of public participation, they still face the challenge of getting the adjacent landowners to participate in the public about participation process actively and fruitfully. Moreover, studies show that while proponents engage with the public, renewable energy projects can still face opposition (Romero-Lankao et al., 2023)

5.10 Lack of direct benefits

Participants have alluded to the fact that oftentimes economic issues precede environmental concerns and issues during public participation meetings, and renewable energy projects are not an exception to this. It has been indicated through interviews with EAPs that most of the public’s concerns are on whether the projects will create job opportunities and not necessarily on the environmental impacts, which are essentially the motives of public participation in EIAs. Therefore, most of the participants become disinterested, when they sense that there aren’t any direct benefits for them from the

projects most renewable energy projects create short term jobs for local people in the surrounding areas during the construction phase (Nkoana, 2018). Although both skilled and unskilled labours are required during the construction and management of renewable energy projects they are mostly located in remote rural areas with unskilled labour (Nkoana, 2018). This unskilled labour can only participate during the construction phase as manual labourers on site and thereafter become redundant, being laid off during more complicated operations and maintenance of the facility. This form of job creation is unsustainable (Nkoana, 2018). Such issues thus influence poor public involvement, when it comes to public participation in renewable energy projects.

The observation that environment issues are usual kicked back, when the social and economic impacts of a project are a concern in other projects as well. This is not problem unique to renewable energy projects, this further suggest that the is a potential limitation to EIA as a prime tool for environmental protections in the face of urgent economic and social needs (Chai,2016).

5.11 Social community benefit, Perceived economic benefits

When it comes to renewable energy projects majority of the public is mostly concerned about the economic and social benefits of the project, and not much about the environmental impacts. This is mostly because it is a common perception that renewable energy is good for the environment and that it has very close to minimal negative impact on the environment. This most of the time makes public participation in renewable energy relatively easy as compared to others such as mining, wherein the public is mostly concerned about the environmental implications of the activity. If the community sees the project as a threat or waste of money, then EAPs are often faced with resistance and the types of participants play a role and affect the process too if the community sees the project as beneficial to them EAPs usually don't have any issues. Therefore, one can deduce that the economic and social implications of the project have a very critical impact on the outcomes of and the process of public participation itself. As supported by Araujo, (2014) the observation alluding to economic and social benefits taking precedence over environmental issues has proven to be a persistent issue in the process of public participation.

5.12 I&APs perception about public participation on renewable energy as compared to other forms of methods

Participant EAPs have also indicated that public perception and managing public perception varies among different public participants and becomes an issue. In this regard, participant EAPs have indicated that in communities where renewable energy projects are relatively new, the public perception around them is usually positive and there is little resistance to the public participation process because the public is open to learning and understanding how they can benefit from the public participation activities. However, interviews with EAPs have also shown that for areas where there are existing renewable energy activities, the public perception of these projects is different. This is mostly because the negative impact of this project has already been experienced by the public from previous projects. In cases where the participant has previous experience with the project public participation becomes effective, in a sense that the public can comprehend and interact with the information disseminated by the EAP. Conversely, on the other hand this may lead to a more lengthily public participation process because they are a lot of concerns and issues raised which correlate with the challenges such as noise from wind turbines that are already faced from the existing projects. Moreover, managing public expectations also becomes an integral part of public participation in renewable energy projects.

6. CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

The study sought to understand the role of EAPs in facilitating the public participation process, through a review of selected EIAs which formed cases that are a key part of this study. Focus on this study was made on renewable energy projects. The key element of the study was achieved through pursuing the following objectives: review of legislation and guidelines to determine the requirements for public participation in environmental management and renewable energy in South Africa, Assess the practice of public participation in renewable energy projects in South Africa and Explore the experiences of practitioners in facilitating public participation in renewable energy projects in South Africa. This was to help achieve the aim of the research, which is to assess the practice of public participation in South African renewable energy projects to quantify the role of practitioners in facilitating the process.

To achieve objective 1 the EIA regulations coupled with the public NEMA EIA public participation guidelines were studied and reviewed, the results from this exercise indicated the two key legislative documents that provide requirements concerning public participation in EIAs are the EIA regulations and the public participation guidelines. Moreover, the results in this regard show that these two documents provide clear and concise requirements for public participation, which are implementable. The second objective was addressed through the review of cases, here the results indicate that most of the requirements were met by EAPS when conducting public participation. However, despite this success, issues were still eminent when it came to implementation. The key concern was the discretion given to EAPs when it comes to addressing certain aspects of the public participation requirements. A key example in this was the use of language, which in most cases was identified as a barrier. This is evident where minority groups were left out due to communications only being made in Afrikaans and English.

The main findings emanating from the interviews with EAPs indicate that fulfilling the requirements as set out in the EIA regulations and the public participation guideline is a key focus for them when conducting public participation in renewable energy projects. Most EAPs indicated that they all work to fulfil these requirements in conducting public participation. However, minority indicated that they go out of their way to implement additional alternatives, the most outstanding additional alternative is social media. Social

media is seen to have gained speed in influencing public participation in EIAs, to an extent that it even overshadows traditional methods of communication such as mail and face-to-face meetings. Moreover, some of the key challenges that are faced by EAPs in carrying out their duty of ensuring public participation are public resistance and public disinterest. This is emanating from the lack of public knowledge about renewable energy projects and the perception that the are no social and economic benefits to residents.

Few recommendations are made about the findings of the study. Concerning the issue of discretion, the regulations should be revised to determine the limitations of this discretion, for example when it comes to languages the regulation should make it mandatory for EAPs to make information available in the languages that are spoken by all the I&APs so that one is left out. In terms of public knowledge, more effort should be put into schools and other platforms to educate the public about renewable energies as well as their environmental impacts. The long-term social effects and economic benefits of these renewable energy projects should be discussed openly with the public to avoid negative perceptions and impacts on future renewable energy projects. Moreover, providing information in a variety of languages to accommodate even minority groups is important for ensuring inclusivity and encouraging active public engagement in public participation.

It is suggested that future studies be employed to address some of the issues that emanated from this study, but where not thoroughly investigated, such include an investigation into the role of education coupled with awareness creation in changing the public ‘s attitude towards renewable energy projects. Additionally, an in-depth study maybe conducted that compares and contrast the different practice and regulation approach to public participation in renewable energy projects across different regions and contextual circumstances.

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APPENDIX A: INTERVIEW QUESTIONNAIRE

1. Please briefly outline the process you follow when undertaking public participation. Do you do anything in addition to what is required by legislation? If so, why?

2. Do you use the Public Participation guidelines? Why/why not?

3. Is there any difference between public participation (PP) in renewable energy projects and public participation in non-renewable energy projects? Can you give an example? If so, why do you think this may be?

4. What are some of the challenges that you face in conducting public participation in wind and solar energy projects?

5. Does the type of participants and the nature of the project affect the process and outcomes of the public participation process, and if so, how does this effect often take place

APPENDIX B: ETHICS CLEARANCE CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

SCHOOL OF ANIMAL, PLANT AND ENVIRONMENTAL SCIENCES ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: HA2402**
PROJECT TITLE	The role of practitioners in facilitating the public participation process: A review of EIA in renewable energy projects
INVESTIGATOR	Nthabiseng Pebetse Madiba
SCHOOL/DEPARTMENT OF INVESTIGATOR	School of Animal, Plant and Environmental Sciences
DATE CONSIDERED	30 January 2024
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	MINIMAL RISK
EXPIRY DATE	Date of submission of the Research Report

ISSUE DATE OF CERTIFICATE 30 January 2024 **CHAIRPERSON** _____
(Dr Justice Muvengwi)

cc: Supervisor: Dr. Ingrid Watson

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved, I/we undertake to submit an amendment of the protocol to the Committee.

Signature _____ **Date** 30/01/2024

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

APPENDIX C: KWANA CASE STUDY DATA
Kwana solar energy

The legislative and regulatory requirements	Whether the requirements were met	How the requirements were met	Whether anything was done outside the requirements
The applicant and proponent must refrain from conducting any public participation process during the period of 15 December to 5 January.	The timelines and time frames were outlined within the EIR, details of the date of start date of the day period were made public and compiled with the prohibited dates for which public participation cannot be conducted	The public participation process commenced on the 23 of April 2014 The scoping report was made available for comment from 28 May 2014 to 09 July 2014.	None
The public participation process must be conducted for at least 20 days.	The public participation process was conducted with the 30-day period. This period was mainly dedicated to make comments and responding on reports, the commencement of this period was widely announced which may have contributed to the inclusivity of the project	Submission of a draft environmental impact assessment (EIA) report for 40-day public review period, which was from 05 January 2015 to 13 February 2015 (the documents were made available at Poffader Public Library and Aggeneys Library)	None
The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision about an application unless access to that information is protected by law and must include consultation with all state organs and competent authority.	-Evidence of great time allocation and due diligence is apparent, for instance the public participation plan was submitted and approved on the 15 September 2024, which was 8 months prior to the actual imitation of the process. - For this case the allocated period took into consideration the public movement and access created by the Covid 19 pandemic.	The background information document was emailed on the 30th of September. A notification letter was also sent through registered post on the 20th of February to the owner or person in control of the land.	None
The person conducting a public participation public process must consider any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application which is subjected to public participation.	A background information document was made available and distributed, however this document was not attached to the EIR report, moreover a notification letter was sent out to notify I&APs to register, the inclusivity of the method is however	A letter was sent out as a notification to the occupiers of the affected properties.	None

The legislative and regulatory requirements	Whether the requirements were met	How the requirements were met	Whether anything was done outside the requirements
	questionable considering the illiterate population, other methods of notification should have been used at this initial stage to try and reach all those affected, to allow all parties sufficient information to be engaged in the process		
Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor	The description of where and when the notice was placed was included in the EIR, however there was no pictures to ascertain the dimensions of the notice as required by the regulations.	Three notice boards advertising the applications were fixed along the property boundary on the, 5th October 2016.	Unfortunately, due to prevailing weather conditions shortly after the notices being displayed, they were damaged, and they had to be replaced (the notice boards were fixed along the property on the 10th of January 2017)
Giving a written notice, in any of the manners provided for in section 47 (D) of the Act.	The written notice was given to those that are key stakeholders, mostly those that are registered, other I&APs may be left out by this practice.	Key stakeholders and identified I&APs were notified in writing concerning the commencement of the EIA process. The key stakeholders include the affected landowners, neighbouring landowners, and organs of state with jurisdiction.	None
Place an advertisement in one local newspaper or any local official gazette that is published specifically to provide public notice of applications or other submissions made in terms of these regulations.	Only two languages of communication were used in the communication with the public, as such interested parties who struggle with these languages may be excluded to some extent.	-An advertisement was placed in the Gemsbok and Volksblad local newspapers on the 23rd of April 2014 (the adverts were publicized in both English and Afrikaans)	None
Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or	The advert was sufficient because it was placed in what is a popular newspaper, thus it is most likely to give more participants a chance	An advertisement was placed in a provincial newspaper, namely the Northern Cape Express, on the 05th of October 2016	The advertisement was placed in more than one provincial newspaper i.e. an advertisement was placed in a provincial

The legislative and regulatory requirements	Whether the requirements were met	How the requirements were met	Whether anything was done outside the requirements
district municipality in which it is or will be undertaken, provided that this paragraph need not be complied with if an advertisement has been placed in an official gazette referred in paragraph (c)(ii)	to be aware of the public participation process.		newspaper the Noordkaap Newspaper on the 22nd of February 2017.
Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to illiteracy, disability and another disadvantage	Give written notice that send the essential message through without using complex language, making this public participation process more inclusive.	A simplified notification letter, removing unnecessary and conflicting technical and legal content translated into Afrikaans (the local language) was distributed to the occupiers of the different affected properties.	None
When complying with this regulation. the person conducting the public participation process must ensure that: a. Information containing all relevant facts in in respect of the application or proposed application is made available to potential interested and affected parties, and b. Participation by potential or registered interested and affected parties is facilitated such a manner that all potential or registered and affected parties are provided with a reasonable opportunity comment on the application or proposed application.	Several platforms of engagement also create room for increased inclusivity.	-Focus group meetings with stakeholders -public feedback meeting (the public was invited to attend) -telephone consultation sessions -written, faxed or email correspondence - a public meeting was held on 21 January 2015 at the Pomander community hall (to provide overview of the EIA findings)	None

The legislative and regulatory requirements	Whether the requirements were met	How the requirements were met	Whether anything was done outside the requirements
A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, the register must contain the names, contact details, and addresses of: a. all persons who, because of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent or EAP ball persons who have requested the proponent or applicant, in writing, for their names to be placed on the register Call organs of state which have jurisdiction in respect of the activity to which the application relates.		Issues and comments raised by interested and affected parties during the public participation process have been synthesized into a comment and response report	None
A registered interested and party is entitled to comment, in writing on all reports or plans submitted to such party during the public participation process contemplated in these regulations and bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, finance, personal or other interest which that party may have in the approval or refusal of the application ,	-The comment to the scoping report were made available to the public and the point within which they may be found were specified in terms of an appendix, which was separated from official comments a respond register, this may be of disadvantaged to I&APs who may have to read several documents, perhaps a single comprehensive document will be easy to access and read.	Opportunity to review the EIA Report for a 30-day review and comment period from 13 May 2022 to 13 June 2022.	Additionally, an information session was held in the project area during the 30-day review and comment period of The EIA Report. This took the format of a poster display.
To give to give effect to section 24 (o) of the act, any state department that administers a law relating to a matter affecting the environment must be requested, subject to	The requirement was met	The EIA report Was circulated to organs of state via electronic transfer (Dropbox, we	None

The legislative and regulatory requirements	Whether the requirements were met	How the requirements were met	Whether anything was done outside the requirements
regulation 7(2), to comment within 30 days		transfer, etc.), or cd and/or Hardcopy as per individual request, for the 30-day review and comments period.	

Checklist for the Kwana photovoltaic (PV) facility

Requirements for public participation	Yes	No	Comments
1. Activity on land owned by a person other than the proponent			
The proponent the owner of the land	x		No mention of the owner of the land was made in the public participation and EIA reports
written consent was obtained from the landowner or person in control, before the application for an environmental authorisation		x	The is no evidence of consent being obtained or information on who the owner of the land is within the available reports
Purpose of Public Participation			
The public participation process to which the EMPr, BARs, and S&EIR were subjected has given potential or registered interested, affected parties and competent authority a 30-day period to submit comments on each report	x		The scoping report was made available for comment for a 30-day period, on several platforms to increase access and visibility.
The public participation process provided access to all information that may have a reasonable influence on the decision taken about the application		X	The availability and accessibility of this information documents was limited to only a few I&APs and the online alternative platform may not be reachable by all involved.
2. The public participation process			
The public participation process considered the relevant guidelines that apply to the process	X		In most part the process followed the minimum requirements of the public participation process, however the was lack in the availability of reports for comment, therefore this is not a yes or no kind of answer
The person conducting the public participation process has given notice to interested and affected parties	x		
A notice board was fixed at a place close to and accessible to the public (at the boundary of a fence or along the corridor)	x		No picture s of the notice board was included in the report; however, the placing of a notice board was noted to in the EIR report

A written notice was given to the landowners, occupiers of the land, adjacent landowners, municipal councillors, jurisdiction municipality, organ of state and other parties required by the competent authority	x		This was in the form of a notification letter to adjacent landowners and organs of state, other I&APs were not given a written notice, however they had access to the BID document of the EAP consulting company website
An advert was placed in a local newspaper, or any official gazette (polished specifically for public notice), one provincial newspaper or national newspaper (where the activity extends beyond metropolitan or district municipality)	x		Adverts were placed in two locals' newspapers these adverts were in a single language (English)this may hinder inclusivity for non-English speakers
Alternative methods were used to accommodate those who are illiterate, disabled and disadvantaged in other ways.	x		Other individuals with other difficulties were accommodated through the announcement (live read) on the local radio for those that are illiterate
The notice board and advertisement gave details of proposed application subject to public participation, specify whether a BAR or the S&EIR procedure being followed, the nature and location of the activity, contact details and the way and the person to whom representative in respect of the application or proposed application can be made.	x		Notice board of the correct size was place on the fence of the development area, evidence was shown in the form of pictures and GPS coordinates
The notice board was the size of at least 60cm by 42cm			This was unclear in the report, because a description of the dimension of the notice board was omitted.
A written notice was given to registered and affected parties regarding the revised Empire, EIR	x		Notice was not given on the availability of the revised Empire only on the availability of the draft documents
3. Register of interested and affected parties			
The proponent ensured opened and maintained a register of all interested and affected parties, containing their names, contact details and address.	x		A register was kept and made availability online, this however was a comments and response register and not a register of all Interested parties, the existing of this register was however alluded to in the EIR, but the actual register was not available online
The register was submitted to the competent authority, and contained details of all persons who, participated in meetings with the proponent or the EAP, submitted written comments, those who requested to be to the register and organs of state with jurisdictions.	x		Proof of the submission of such register was found in the public participation report.
4. Comments and responses of registered and affected parties			
Registered interested and affected parties were given the opportunity to comment on all reports and plans that is submitted to such a party	x		Comments were made on scoping report, the commencement the commenting period was made known to the public on radio. comments on other reports were not noted or recorded in the report

Registered interested and affected parties were given the opportunity to raise any issues which the party believe has significance consideration on the application	x		Opportunities to raise issues were made available through multiple platforms, which included virtual meetings, email and telephone liaison. Thus, giving participant able chance to meaningfully participate through raising issues.
The applicant has ensured that the comments of interested and affected parties are recorded in reports and plans	x		The respond was alluded to be recorded and submit as an appendix in the EIR, the comments were responded to in consultation with the project proponent especially those with financial implications
The responses, comments, records of meetings are attached to the reports and plans and submitted to the competent authority	X		As indicated above the comments were document in a separate report and submitted, on a few comments were raised, which are mostly from state organs and adjacent landowners, most of this are the registered IA's.

APPENDIX D: A 225MW SOLAR PLANT OF SEVERAL FARMS DATA

The requirement	Whether the requirement was met	How the requirements were met	Whether anything was done outside of the requirement
The applicant and proponent must refrain from conducting any public participation process during the period of 15 December to 5 January.	The process was initiated in compliance with the timeframe in respect to the restrictions within the regulations.	The public participation process commenced on the 5th of October 2016	None
Public participation process must be conducted for period of at least 20 days	Early and meaningful engagement through diversified methods of communication can help identify and address concerns before they escalate into conflicts, saving time and resources in the long run Poor feedback mechanisms wherein participants are not given sufficient information and response on the issues they have raised.	The public participation process was initiated in October 2016 to February 2017	None
The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision about an application unless access to that information is protected by law and must include consultation with all state organs and competent authority.	Yes (The requirement was met) Open and inclusive participation fosters transparency and builds trust between the project developers, regulatory authorities and the community	A background information document (BID) was emailed to the different stakeholders as required by the Act	None

The person conducting a public participation public process must consider any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application which is subjected to public participation.	Sending BID documents and notification letters to only selected minority this does not include a representative sample of the community, focusing on certain groups of the public, such as community leaders or landowners, may result in biased feedback that does not reflect the broader community 's views	A registered mail was sent with a notification letter to a selected few of the registered interested and affected parties.	None
Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor	Weather conditions can be a form of hindrance to the process of public participation.	-Three (3) notice boards were fixed along the property boundary on the 5th of October 2016 (got damaged by weather conditions) -New notice boards were placed again around the property on the 10th of January 2017	-At some point due to harsh weather conditions the notice boards were damaged, and they were replaced with more robust alternatives -Additional site notices were place on the property detailing the potential water uses (on the 31 March 2017)
Giving a written notice, in any of the manners provided for in section 47 (D) of the Act.	A written notice helps diversify the methods through which information is shared with the I&APs, moreover it offers the public a tangible point of reference, were they can always do a fact check against the project as it progresses, unlike newspaper articles and notice boards which can get destroyed.	A written notice in the form of a notification letter through a registered mail was sent to interested and affected parties on the 22nd of February	

Place an advertisement in one local newspaper or any local official gazette that is published specifically to provide public notice of applications or other submissions made in terms of these regulations	Provincial newspapers have a wider spread as compared to local newspapers. They can acquire the attention of individuals who might not have access to a local publication, thus warranting more inclusive participation.	An advertisement was only placed in two provincial news papers	None
Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken, provided that this paragraph need not be complied with if an advertisement has been placed in an official gazette referred in paragraph (c)(ii)	Placing the adverts in two provincial newspapers, allows increased reach and awareness to the public.	-An advertisement was placed in a provincial newspaper, the Northern Cape express, on the 5th of October 2016. (proof of advertisement was attached in the report) -An advertisement was place in another provincial newspaper, the Noordkaap Newspaper, on the 22nd of February 2017 (proof of placed advertisement attached in the report)	-The advertisement was place in two different newspapers
Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to illiteracy, disability and another disadvantage	The removal of the use of technical jargon and the provision of information in a language and format that is accessible to all stakeholders enables meaningful participation	-A simplified notification letter has been made available, through removing unnecessary and confusing technical and legal contented, moreover the letter has been translated into Afrikaans (the local language). This letter has been distributed to the occupiers of the affected properties.	None
When complying with this regulation. the person conducting the public participation process must ensure that: a. Information containing all relevant facts in in respect of the	The two public participation meetings form an essential parts of public participation meeting. Through the provision of platform for open dialogue, where issues can be raised and responded to on	Two public meetings were held both on the 19th of September at the multipurpose hall (De Aar) and Kwezi community hall (Hanover), this provided a platform for I&APs to raise issues and gain deeper insight into the nature of the project. The meetings were an open debate forum.	None

application or proposed application is made available to potential interested and affected parties, and b. Participation by potential or registered interested and affected parties is facilitated such a manner that all potential or registered and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.	the spot. It's a chance to build trust and consensus while ensuring that decisions reflect the community's needs and interests		
A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, the register must contain the names, contact details, and addresses of a. All persons who, because of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent or EAP b. All persons who have requested the proponent or applicant, in writing, for their names to be placed on the register c. All organs of state which have jurisdiction in respect of the activity to which the application relates.	It also helps in transparently showing the level of engagement and commitment from the community	A register was opened and kept for the interested and affected parties.	None

A registered interested party is entitled to comment, in writing on all reports or plans submitted to such party during the public participation process contemplated in these regulations and bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, finance, personal or other interest which that party may have in the approval or refusal of the application,	The review period on all reports created for I&APs is crucial allowing an opportunity for public scrutiny, which balances situations where regulators may Favour commercial interest over public interest	The EIA Report was made available for review to I&APs for a 30-day review and comment period from 13 May 2022 to 13 June 2022. The EIA Report has been made available on the Savannah Environmental website (https://savannahsa.com/public-documents/energy-generation/the-great-karoo-cluster-ofrenewable-energy-facilities/) and all registered I&APs have been notified of the availability on 13 May 2022.	None
To give effect to section 24 (o) of the Act, any state department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days.	Using a variety of methods to communicate or reach out to key parties in the public participation broadens the horizon for sharing information and ensuring that the information reaches the intended audience, despite communication barriers.	The EIA Report has been circulated to Organs of State via electronic transfer (Dropbox, We Transfer, etc.), or CD and/or hardcopy as per individual request, for the 30-day review and comment period.	None

Checklist for A 225mw solar plant of several farms

Requirements for public participation	Yes	No	Comments
1. Activity on land owned by a person other than the proponent			
The proponent the owner of the land	x		
written consent was obtained from the landowner or person in control, before the application for an environmental authorisation	x		
2. Purpose of Public Participation			
The public participation process to which the Empire, BARs, and S&EIR were subjected has given potential or registered interested, affected parties and competent authority a 30-day period to submit comments on each report	x		

The public participation process provided access to all information that may have a reasonable influence on the decision taken about the application	X		Information was shared through public participation meetings, emailing of a BID document, notification
3. The public participation process			
The public participation process considered the relevant guidelines that apply to the process	x		
The person conducting the public participation process has given notice to interested and affected parties	x		
A notice board was fixed at a place close to and accessible to the public (at the boundary of a fence or along the corridor)	x		
A written notice was given to the landowners, occupiers of the land, adjacent landowners, municipal councillors, jurisdiction municipality, organ of state and other parties required by the competent authority	x		
An advert was placed in a local newspaper, or any official gazette (polished specifically for public notice), one provincial newspaper or national newspaper (where the activity extends beyond metropolitan or district municipality)	x		
Alternative methods were used to accommodate those who are illiterate, disabled and disadvantaged in other ways.		x	The EIR states that there was no need to use reasonable alternative methods to accommodate such individuals.
The notice board and advertisement gave details of proposed application subject to public participation, specify whether a BAR or the S&EIR procedure being followed, the nature and location of the activity, contact details and the way and the person to whom representative in respect of the application or proposed application can be made.	x		
The notice board was the size of at least 60cm by 42cm	X		
A written notice was given to registered and affected parties regarding the revised Empire, EIR	X		
4. Register of interested and affected parties			
The proponent ensured opened and maintained a register of all interested and affected parties, containing their names, contact details and address.	x		
The register was submitted to the competent authority, and contained details of all persons who, participated in meetings with the proponent or the EAP, submitted written comments, those who requested to be to the register and organs of state with jurisdictions.	X		
5. Comments and responses of registered and affected parties			
Registered interested and affected parties were given the opportunity to comment on all reports and plans that is submitted to such a party	x		
Registered interested and affected parties were given the opportunity to raise any issues which the party believe belief has significance consideration on the application	X		Opportunity was given through public meetings for I&APs to raise their issues, this was recorded in form of meeting minutes.
The applicant has ensured that the comments of interested and affected parties are recorded in reports and plans	x		
The responses, comments, records of meetings are attached to the reports and plans and submitted to the competent authority.	x		

APPENDIX E: MERINO WIND FARM DATA

The requirement	Whether the requirement was met	How the requirements were met	Whether anything was done outside of the requirement
The applicant and proponent must refrain from conducting any public participation process during the period of 15 December to 5 January.	The requirement was met, to accommodate the business and working days, because some functions of state organs may not be active during the restricted period.	The public participation process commenced on the 23 September 2021	None
The public participation process must be conducted for at least 20 days.	These makes allowance of sufficient time for meaningful input; however, the public should still be allowed to engage with the project even beyond the 30-day period set out in the regulation, and to allow for continues public consideration in the project.	30 days review and comment period were conducted from Friday November 2021 up to 13 December 2021.	None
The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision about an application unless access to that information is protected by law and must include consultation with all state organs and competent authority.	Language and literacy barriers in south Africa can further marginalizes communities, more especially minority groups residing within the area who may not be conversant in the languages used. However, distributing several sources of information was crucial for diversifying access to information concerning the project, thus fostering informed participation.	A notification letter was sent out to all registered parties, notifying them of the availability of the EIA report for review and comment An information session was conducted at the Richmond town hall on the 26 May 2022, where information about the project was presented to the interested and affected parties.	In addition to the briefing paper, an introductory letter, a comments sheet, and a relevant map were sent to identified stakeholders and interested and affected parties through post and email.

The person conducting a public participation process must consider any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application that is subjected to public participation.	The use of pamphlets is one of the methods alluded to in the public participation guidelines to help in ensuring targeted messaging, wherein information can be tailored to specific audience, thus ensuring relevant information and engaging different community groups at their level of comprehension. Furthermore, pamphlets can be in small size which make them easy to distribute in different places, thus increasing accessibility to information.	The public participation was conducted in accordance with the EIA regulations and public participation guidelines and took consideration the restriction due to the Covid-19 pandemic.	Additionally focus group meetings, were held virtually with registered I&APs, landowners, Authorities and other organs of sate. Another meeting was held with at the Rondawel guest farm with landowners and occupiers on 02 December 2021. Additionally, an information session was conducted at the Richmond shows grounds on 02 December 2021.
Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence, or along the corridor	Strategically Placing notice boards in in many places and in areas that re frequented and easily accessible to the public helps to ensure that a wide range of people are reached, even those who may not have access to the internet and other methods of communication. It allows for reaching the public where they are. Thus, this strategy as used applied in this project help maximize visibility.	Site notices were placed at the project sites and in the town of Richmond as well on the 28-30 September 2021, Furthermore the is indication of proof of site notice included as appendix C3	The site notices were placed in many locations which is beyond the requirement of the regulation
1. Giving a written notice, in any of the manners provided for in section 47 (D) of the Act.	The use of only two languages, may create issues associated with language barriers for minority non-natives groups, where it can prevent people from fully understanding the issues at hand and from voicing their opinions effectively. This may also result in miscommunication and confusion.	Written, faxed and email correspondence, such as notification letters that were distributed to state organs, government departments and registered interested and affected parties, to alert them of the availability of the EIR	None

		for comment and review	
Place an advertisement in one local newspaper or any local official gazette that is published specifically to provide public notice of applications or other submissions made in terms of these regulations.	The issue of language barrier in this case may lead to skewed feedback, wherein the opinions of those struggling with Afrikaans maybe less heard or lost altogether. People may ignore the advert altogether because it written in a language they cannot understand.	An advertisement alerting the public about the availability of the EIA report for comment and review in the De Aar Echo Newspaper (in English) on 13 May 2022	None
Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken, provided that this paragraph need not be complied with if an advertisement has been placed in an official gazette referred in paragraph (c)(ii)	An advertisement in a local newspaper is sufficient for public reach, because the outcomes of the project will have an impact on a local level.	The reason given by the EAP for the lack of advertisement in a provincial or a national newspaper was that "only an advertisement in the Echo newspaper was required because only the De Aar town was located within the Echo newspaper 's distribution area.	None
Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to illiteracy, disability, and another disadvantage	Broadcasting and make communication on radio will give an opportunity to those who may not be able to read notices and other disabled people with deafness.	A live read was done on RSG radio on to announce the 30-day review and comment period. (RSG is a local radio stations).	None
2. When complying with this regulation. The person conducting the public participation process must ensure that: a. Information containing all relevant facts in respect of the application or proposed application is made available to potential interested	Advertising the availability of the draft reports for comment was crucial, in that it will increase the chances of people being aware of the report, which will increase participation, project understanding, and feedback and may boost public acceptance of the proposed project.	The I&APs have been notified using a notification litterer about the availability of the EIR for public review and comment. Copies of the IER report had been made available to I&APs as soft copies (hardcopy [pies were not made available, but could be	None

and affected parties, and Participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.		requested on the condition of the Covid -19 pandemic), these soft copies were mad available on the EAP, s website. Opportunities for I&APs to comment were created were given several platforms to send their comments such as on WhatsApp, via SMS and through an information session and telephonic discussions.	
3. A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, the register must contain the names, contact details, and addresses of: a. All persons who, because of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent or EAP b. All persons who have requested the proponent or applicant, in writing, for their names to be placed on the register	Continuously updating the register, is an important part of this case as it means that they accurate data, and updated information, thus assisting in tracking progress and trends identification, which will help better decisions in the EIA process.	The comments were recorded in a comment and respond report, this report is included as part of the final EIA report, which is submitted to the CA.	- All I&AP information (including contact details) together with dates and details of consultations and a record of all issues raised is recorded within a comprehensive project database. This database was continuously updated throughout the different stages of the project, this database acted as a record of the communication / public involvement process.

4. All organs of state which have jurisdiction in respect of the activity to which the application relates.			
5. A registered interested and affected party is entitled to comment, in writing on all reports or plans submitted to such party during the public participation process contemplated in these regulations and bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, finance, personal or other interest which that party may have in the approval or refusal of the application,	The feedback from the EAP on the issues raised by the I&APs only addressed the comments raised by registered I&APs mainly on email, it is not clear from the public participation report on whether the was any follow-up issues following EAP responses, EAP feedback and its complete documentation is essential for transparency in the process.	The I&APs were given the opportunity to comment and make a review on the EIA report for a period of 30 days from 13 May 2022 to 13 June 2022. The EIA has been made available on EAP website.	- None
6. To give effect to section 24 (o) of the Act, any state department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days.	Allowing the public to review the reports is keystone to public participation. It helps in allowing the public to hold developers accountable and encourages transparency, through allow the public to see the information and data that will affect decision making.	Consultation with the competent authority was ensured during the scoping phase and throughout the EIA process as well. A pre- application meeting request and the PPP plan was sent to the competent authority (DFFE) through an email. On 02 September 2021	- None

		and approval of the plan by the DFFE through email on 15 September. The application form for environmental authorisation and scoping report was submitted on the DFFE website on 12 November 2021. The EIA was distributed to organs of state using electronic transfers such as Dropbox, We Transfer and through hardcopies and CD as requested by individuals.	

Merino wind farm checklist

Requirements for public participation	Yes	No	Comments
1.Activity on land owned by a person other than the proponent			
The proponent the owner of the land	x		
written consent was obtained from the landowner or person in control, before the application for an environmental authorisation		x	
1. Purpose of Public Participation			
The public participation process to which the Empire, BARs, and S&EIR were subjected has given potential or registered interested, affected parties and competent authority a 30-day period to submit comments on each report	x		The information was shared to stakeholders, I&APs who have been identified through post and email.
The public participation process provided access to all information that may have a reasonable influence on the decision taken about the application	x		
2. The public participation process			
The public participation process considered the relevant guidelines that apply to the process	x		
The person conducting the public participation process has given notice to interested and affected parties			

A notice board was fixed at a place close to and accessible to the public (at the boundary of a fence or along the corridor)	X		Six notices were places at the conspicuous points, with coordinates provided as proof.
A written notice was given to the landowners, occupiers of the land, adjacent landowners, municipal councillors, jurisdiction municipality, organ of state and other parties required by the competent authority			
An advert was placed in a local newspaper, or any official gazette (polished specifically for public notice), one provincial newspaper or national newspaper (where the activity extends beyond metropolitan or district municipality)	X		The case study states that the aim of the newspaper advert is to ensure that the widest group of I&APs were informed of the project.
Alternative methods were used to accommodate those who are illiterate, disabled and disadvantaged in other ways.	X		There is no indication of accommodation of the disabled.
The notice board and advertisement gave details of proposed application subject to public participation, specify whether a BAR or the S&EIR procedure being followed, the nature and location of the activity, contact details and the way and the person to whom representative in respect of the application or proposed application can be made.	x		
The notice board was the size of at least 60cm by 42cm		X	The sizes of the notice board were not specified in the report
A written notice was given to registered and affected parties regarding the revised Empire, EIR			
3. Register of interested and affected parties			
The proponent ensured opened and maintained a register of all interested and affected parties, containing their names, contact details and address.	X		
The register was submitted to the competent authority, and contained details of all persons who, participated in meetings with the proponent or the EAP, submitted written comments, those who requested to be to the register and organs of state with jurisdictions.			
4. Comments and responses of registered and affected parties			
Registered interested and affected parties were given the opportunity to comment on all reports and plans that is submitted to such a party	x		The scoping report was made available for 43 days to make comments to two departments (DEA and the NCDENC), to I&APs that have been registered on the database through email and post, and physical copies were made available in various locations around town.
Registered interested and affected parties were given the opportunity to raise any issues which the party believe has significance consideration on the application	X		Through public participation meetings. And stakeholder focus group meetings

The applicant has ensured that the comments of interested and affected parties are recorded in reports and plans	X		Comments were recorded in reports as seen in the report appendix.
The responses, comments, records of meetings are attached to the reports and plans and submitted to the competent authority	X		All comments received from the scoping report were submitted together with the final report to the competent authority

APPENDIX F: THE PROPOSED 100 MWAC PHOTOVOLTAIC SOLAR ENERGY FACILITY PAULPATS PV1 IN THE KHAI-MA LOCAL MUNICIPALITY DATA

The requirement	Whether the requirement was met	How the requirements were met	Whether anything was done outside of the requirement
6. The applicant and proponent must refrain from conducting any public participation process during the period of 15 December to 5 January.	The requirement was met.	The first meeting was held with DEA on 24 May 2018. However, the public participation was initiated on the 22nd of August 2018.	None
The public participation process must be conducted for at least 20 days.	This a basic requirement of the public participation process in South Africa, which has been achieved this case, meaning that participants will be given able time to participate.	The public participation process was initiated from 22 August 2018 to 22 September 2018. Public participation at the scoping stage was initiated in August 2018. Moreover, the draft EIA report (including the EMPr) was released for public review for the period of 22 January 2019 to 25 February 2019.	None
The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision about an application unless access to that information is protected by law and must include consultation with all state organs and competent authority.	Information was made available on different platforms for the public to access, also a background information document was made available to register I&APs. This provided many avenues and opportunities for the public to access necessary information.	The draft EIA report was made available for comments and review on several platforms which included the Poffadder library, the Khaki-MA municipal offices and online on a website created for the project	None
The person conducting a public participation process must consider any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected	Making use of the public participation guidelines is important for referencing a clear framework on the way the public should be engaged in the legally required public participation process.	The public participation process was conducted in reference to the Guideline four (4) of the EIA regulations.	None

parties of an application that is subjected to public participation.			
Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence, or along the corridor	placing posters in public places, is a good way of alerting majority of the public about the meeting, which creates the ability to reach diverse audience, who may not have access to other media forms. adequately informing the public about public participation will result in high engagement	Notice boards were placed along the fence of the proposed project site, as well as along the main access road leading to the proposed site and on the intersection with regional roads.	Placing the notice boards along the roads, may have helped increasing their visibility and thus may lead to increased public participation (it is stated in the report that the notices were clearly visible from the road to the public.
Giving a written notice, in any of the manners provided for in section 47 (D) of the Act.	The is no prove of large-scale written notice distribution, this may hinder poor feedback, because other forms notices such as newspaper and notices may be perceived by participants as generic, which may hinder public interest to participate.	All the registered I&APs were notified using emails or letters of all the key stages of the EA and PPP process, such as the submission of the final scoping reports to the DEA.	None
Place an advertisement in one local newspaper or any local official gazette that is published specifically to provide public notice of applications or other submissions made in terms of these regulations.	Limited access to culturally and linguistically appropriate information and communication channels can exclude this communities from participating fully in the EIA process, perpetuating inequalities and injustices	An advertisement was placed in the Gemsbok newspaper, which is a local newspaper, this advert was written in both English and Afrikaans.	None
Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken, provided that this paragraph need not be complied with if an advertisement has been placed in an official gazette referred in paragraph (c)(ii)	This may not serve as failure to meet the requirement since well the proposed development only had impact at a local level.	There was not any advert placed in a national newspaper, only in a local newspaper, mainly because the project did not have a potential impact on the wider provincial area.	None

Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to illiteracy, disability, and another disadvantage	There is not any mention of provisions made to accommodate other disabled or disadvantaged groups; however other measures were taken to accommodate the native public in terms of communicating more in Afrikaans. Focus groups are important for gathering in-depth perception. They further create opportunity for discussion and debating issues in detail, giving perspective that would have not been gained in other forms of participation, also it gives an opportunity to deal specific concerns and develop the reasons behind public reviews, and this may be a good way of addressing language barriers.	The draft EIA report was made available both online (on a website) and with physical copies, placed at the library of Pofadder and at the Khaki-Ma municipality.	None
7. When complying with this regulation. The person conducting the public participation process must ensure that: a. Information containing all relevant facts in in respect of the application or proposed application is made available to potential interested and affected parties, and Participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.	It serves as an ongoing update for interested and affected parties, keeping everyone informed about the project's progress, findings, and any changes that might happen. It's a tool for transparency, ensuring that people have access to the latest information and can continue to engage in the process. Plus, it helps maintain trust and accountability by showing that the organizers are committed to open communication.	The draft scoping report was available from a website and at the Pofadder library and the municipality office for the purpose of public review and comment. All I&APs that were registered on the database as registered and interested parties were provided with background information document.	None
8. A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to	Using multiple methods ensures you're casting the widest net possible. People consume information in different ways—some through newspapers, others	A register of I&APs was created (labelled as project database in the report)	None

the competent authority, the register must contain the names, contact details, and addresses of c. All persons who, because of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent or EAP d. All persons who have requested the proponent or applicant, in writing, for their names to be placed on the register 9. All organs of state which have jurisdiction in respect of the activity to which the application relates.	online, some via community meetings, others on social media. By diversifying your methods, you make sure that no one is left out. It also increases the chances that people will engage and participate, since they're getting the message in a way that's most convenient for them.	The comments and statements that were received during the review period were captured and recorded in the comments and response report. This report was further included as part of the final EIR and the initial scoping report's submission to the competent authority.	
10. A registered interested party is entitled to comment, in writing on all reports or plans submitted to such party during the public participation process contemplated in these regulations and bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, finance, personal or other interest which that party may have in the approval or refusal of the application,	It also empowers the public (I&AP's) to make informed contributions and an opportunity to criticize and challenge any inaccuracies or biases, which may be contained in the reports. It allows for transparency, fostering trust through showing that I&APs issues are considered.	The draft EIR was made available for review from the following venues from the 22 January 2022 to the 25 February 2019, which is at the Pl public library. The draft scoping report was made available for public review from 22 August 2018 up to 22 September 2018.	Additionally, selected stakeholders were sent copies of the report, and a round of telephone calls were undertaken in March 2012 to determine if any comments would be received from these stakeholders.
11. To give effect to section 24 (o) of the Act, any state department that administers a law relating to a matter affecting the environment must be requested, subject to	Think of them as the bridge that connects the community with the information and tools they need to actively participate	All documents were made available for review by the competent authority, this included the final scoping report (on 3 October 2018).	In addition to make these documents available for review a site visit was organised

regulation 7(2), to comment within 30 days.	They provide a neutral, accessible space where everyone, regardless of background, can access information and resources They serve as information hubs, making important documents and reports available to the public		with DEA for better understanding of the environment where the project is going to be carried out.

Checklist for the proposed 100 MWAC Photovoltaic solar energy facility Paulpats PV1 in the Khaki-Ma local Municipality

Requirements for public participation	Yes	No	Comments
1. Activity on land owned by a person other than the proponent			
The proponent the owner of the land	X		
written consent was obtained from the landowner or person in control, before the application for an environmental authorisation		X	There was no mention of landowners in the report, however adjacent landowners were notified and participated in the process.
2. Purpose of Public Participation			
The public participation process to which the Empire, BARs, and S&EIR were subjected has given potential or registered interested, affected parties and competent authority a 30-day period to submit comments on each report	X		Sufficient time was given to all parties involved to make comments on all reports. Reports were made available at the local library.
The public participation process provided access to all information that may have a reasonable influence on the decision taken about the application	X		Through stakeholder workshops, focused groups, and public meetings
3. The public participation process			
The public participation process considered the relevant guidelines that apply to the process		x	This was not mentioned nor was there proof of the guidelines being used in the case study,
The person conducting the public participation process has given notice to interested and affected parties	X		Public meetings were held.
A notice board was fixed at a place close to and accessible to the public (at the boundary of a fence or along the corridor)	X		Compliance with the regulations and guidelines was ensured as the notices were placed along the fence of the site or the corridor.
A written notice was given to the landowners, occupiers of the land, adjacent landowners, municipal councillors, jurisdiction municipality, organ of state, and other parties required by the competent authority	X		Written notice was given to adjacent business owners and farmers.
An advert was placed in a local newspaper, or any official gazette (polished specifically for public notice), one provincial newspaper or national newspaper (where the activity extends beyond metropolitan or district municipality)	X		Advertisements were placed in a local newspaper, and the newspaper was made available at the local library, thus making accessibility to the public easier.

Alternative methods were used to accommodate those who are illiterate, disabled and disadvantaged in other ways.		x	There is no proof of such initiatives in the report.
The notice board and advertisement gave details of proposed application subject to public participation, specify whether a BAR or the S&EIR procedure being followed, the nature and location of the activity, contact details and the way and the person to whom representative in respect of the application or proposed application can be made.	X		The notice board were visible to the public from the roads, and regional intersections where they were placed.
The notice board was the size of at least 60cm by 42cm		X	A description of the size of the notice board was not specified, and the appendices to which it was referred to was not available in the report.
A written notice was given to registered and affected parties regarding the revised Empire, EIR	X		Written notices were given, and their availability were communicated
4. Register of interested and affected parties			
The proponent ensured open and maintained a register of all interested and affected parties, containing their names, contact details, and addresses.	X		The alert to register and methods of registration for the public into the register were varied, meaning it gave I&APs multiple ways of communicating with the EAPs.
The register was submitted to the competent authority and contained details of all persons who participated in meetings with the proponent or the EAP, submitted written comments, those who requested to be to the register and organs of state with jurisdictions.		x	The public was requested to register their interest on the consultant website, this could be a hindrance to those that do not have access to the internet.
5. Comments and responses of registered and affected parties			
Registered interested and affected parties were given the opportunity to comment on all reports and plans that is submitted to such a party	x		
Registered interested and affected parties were given the opportunity to raise any issues which the party believes have significance The report states that the information from the issues and response register was used in the evaluation of all specialist studies. consideration of the application	X		An issues and response report provides evidence of all issues raised and how they were responded to.
The applicant has ensured that the comments of interested and affected parties are recorded in reports and plans	X		
The responses, comments, and records of meetings are attached to the reports and plans and submitted to the competent authority	X		The submitted scoping report at the initial stages also included comments from the public, which were considered by the competent authority in decision-making.

APPENDIX G: VERBATIM RESPONSES DERIVED FROM INTERVIEWS WITH PARTCIPANTS

Theme	Verbatim responses
Social media	“Of recent we have also entered the digital and social media platforms to assist with meeting the requirements of the process”
Strictly comply with minimum requirements.	“Follow the legislative public participation process requirements” “We make sure to adhere to the legislation for each project. It is not considered ideal to deviate from protocol” “It is very important to ensure that the public participation process meets the minimum legal requirements”
Unplanned external issues (Covid-19)	“During Covid-19, however, all in-person public meetings were prohibited”
Disinterest in physical meetings	“People are no longer very eager to join an in-person meeting” “Here we use personal discretion most people are ok with Zoom meetings, and only if deemed necessary will arrange an in-person meeting”
Reasonable alternative methods	“The regulation requires a reasonable alternative to be implemented to notify the public and undertake public consultation” “Legislation does not specifically require meetings for example, but meetings can be an effective means of communication, to identify issues of concern and communicate potential solutions” “Planning for the public participation process for any project is very specific to the project and depends on various factors”
Follow PPP guidelines	“For EIAs, we adhere to NEMA protocols” “But also remember that certain guidelines published in terms of section 24J of NEMA also become a requirement (like the DFFE public participation guidelines)” “Public participation guidelines are used as they help streamline the process”
Additional activities	“Public open days are also used rather than public meetings”
Meaningful participation	“It is important to remember the purpose of the PPP, to ensure meaningful participation of people who may be affected by the decision” “Listening to the I&APs is often useful” ‘Acclimatize the provided PP guidelines to suit a particular project circumstance.
Review	“Ensuring the minimum requirements for the public participation process stipulated is followed by NEMA EIA regulations”
No difference	“For most renewable energy it remains the same per the legal requirements”

	“The minimum legal requirements of course remain the same”
I&APs perception	“people ‘s perception of renewable energy is positive” “People have learned that even renewable energy projects have impacts on the environment” “It is often the perception of I&APs, and their alternative towards a development or even the developer that determines I&APs participation”
Increased in-person consultation	“More person consultation is required for most of the renewable energy projects”
Public knowledge	“The level of public knowledge about renewable energy projects is low compared to others e.g. mining:” “Technical nature of the matter”
Dispersed settlement (interested parties)	“Connecting with neighbours and owners on the adjacent farms due to the vast areas covered by most of the farms and owners not always staying on the farm” “Most of them are in remote areas where the persons are located very far from each other”
Disinterested adjacent landowners	“One thing that is a challenge though, obtaining landowners, possibly due to ANC associated “beliefs”, see us as the enemy and refuse to grant permission for infrastructure development”
Technical issues	“Lack of understanding in technicalities involved in designing renewable energy project or the impacts associated with the project”
Lack of direct benefits	“People generally want to benefit from these types of projects and renewable energy, there aren’t that many direct benefits, like a job to be had”
Dispersed settlement (interested parties)	“Connecting with neighbours and owners on the adjacent farms due to the vast areas covered by most of the farms and owners not always staying on the farm” “Most of them are in remote areas where the persons are located very far from each other”
Disinterested adjacent landowners	“One thing that is a challenge though, obtaining landowners, possibly due to ANC associated “beliefs”, see us as the enemy and refuse to grant permission for infrastructure development”
Technical issues	“Lack of understanding in technicalities involved in designing renewable energy project or the impacts associated with the project”
Lack of direct benefits	“People generally want to benefit from these types of projects and renewable energy, there aren’t that many direct benefits, like a job to be had”
Dependent on demographics	“To some extent, it does depend on the demographics of the area”

Social community benefit	“Types of participants play a role and affect the process too, if the community sees the project as beneficial to them then we usually don’t have any issues”
Perceived economic benefits	“If the community sees the project as a threat or “waste of money”, then we are often faced with resistance”
Public expectation	“In an area where people are already familiar with the wind turbine e.g. I&APs are expected to understand the project information better from the start” “Where renewable energy is foreign to the I&APs in general” ‘If there are existing wind or solar farms in proximity, I&APs know what to expect (the good and the bad, like noise)” “Managing expectations become very important”
Hostile participants	“of course, people tend to be hostile and try to frustrate the process such that sometimes the process does not yield intended results”

APPENDIX H: SOURCES FOR ALL THE FOUR (4) CASES

Kwana Solar PV facility and associated infrastructure Northern Cape Province: Environmental Impact Assessment Report
https://www.bing.com/ck/a?!&&p=23c405282a8aebc8d846e4a9ff30ad47825c013d1afd3f339ecb2455e46338daJmltdHM9MTczNDA0ODAwMA&ptn=3&ver=2&hsh=4&fclid=037c858a-e017-6fd2-2500-9100e1346ef9&psq=kwana+solar+photovoltaic+(PV)+facility+EIA+&u=a1aHR0cHM6Ly9zYWhyaXMuc2FocmEub3JnLnphL3NpdGVzL2RlZmF1bHQvZmlsZXMvYWRkaXRpb25hbGRvY3MvMDEuJTIwS3dhbmElMjBQViUyMERyYWZ0JTIwRUlBUl9jb21wcmVzc2VkJTIwJTI2JTIwcHJvdGVjdGVkLnBkZg&ntb=1

https://www.bing.com/ck/a?!&&p=23c405282a8aebc8d846e4a9ff30ad47825c013d1afd3f339ecb2455e46338daJmltdHM9MTczNDA0ODAwMA&ptn=3&ver=2&hsh=4&fclid=037c858a-e017-6fd2-2500-9100e1346ef9&psq=kwana+solar+photovoltaic+(PV)+facility+EIA+&u=a1aHR0cHM6Ly9zYWhyaXMuc2FocmEub3JnLnphL3NpdGVzL2RlZmF1bHQvZmlsZXMvYWRkaXRpb25hbGRvY3MvMDEuJTIwS3dhbmElMjBQViUyMERyYWZ0JTIwRUlBUl9jb21wcmVzc2VkJTIwJTI2JTIwcHJvdGVjdGVkLnBkZg&ntb=1

Environmental Impact Assessment Report: 225 MW Solar PV plant on several Portions of farms in Hanover district
https://www.bing.com/ck/a?!&&p=23c405282a8aebc8d846e4a9ff30ad47825c013d1afd3f339ecb2455e46338daJmltdHM9MTczNDA0ODAwMA&ptn=3&ver=2&hsh=4&fclid=037c858a-e017-6fd2-2500-9100e1346ef9&psq=kwana+solar+photovoltaic+(PV)+facility+EIA+&u=a1aHR0cHM6Ly9zYWhyaXMuc2FocmEub3JnLnphL3NpdGVzL2RlZmF1bHQvZmlsZXMvYWRkaXRpb25hbGRvY3MvMDEuJTIwS3dhbmElMjBQViUyMERyYWZ0JTIwRUlBUl9jb21wcmVzc2VkJTIwJTI2JTIwcHJvdGVjdGVkLnBkZg&ntb=1

Environmental Assessment Report: Proposed development of Merino wind farm
https://sahris.sahra.org.za/sites/default/files/additionaldocs/0.Merino%20WEF%20%20Revised%20EIA%20Report_0.pdf

https://www.google.co.za/search?q=merino+wind+farm+environmental+impact+assessment+++&sca_esv=5e35d2333b8f2d4f&sxsrf=ADLYWIJRv8T38-E_FwcgW6M7zW4aNVd79w%3A1734768154598&source=hp&ei=GnZmZ56EIqinhbIPl4qsmAs&iflsig=AL9hbdgAAAAAZ2aEKkWAKLgQwOC6QjqsB9e4bq7Y9VhU&ved=0ahUKEwie-fr8sriKAxWoU0EAHRcFC7MQ4dUDCBg&uact=5&oq=merino+wind+farm+environmental+impact+assessment+++&gs_lp=Egdnd3Mtd2l6IjNtZXJpbm8gd2luZCBmYXJtIGVudmlyb25tZW50YWwgaW1wYWN0IGFzc2Vzc21lbnQgICAyBRAhGKABMgUQIRigATIFECEYoAEyBRAhGKABSKAOUABYAHAAeACQAQCYAb8CoAG_AqoBAzMtMbgBA8gBAPgBAvgBAZgCAaAC0gKYAwCSBwMzLTGgB-4F&sclient=gws-

Environmental Assessment Report: proposed development of 100 MWAC photovoltaic solar energy facility
https://www.google.co.za/search?q=for+the+proposed+100+MWac+photovoltaic+solar+energy%0D%0Afacility+Paulputs+PV1+in+the+Kh%C3%A2i-Ma+Local+Municipality%0D%0Aof+the+Northern+Cape+Province&sca_esv=068d2c6be4a01bb2&sxsrf=ADLYWIJKmtDv605mZsUC9Khk8UYYkdqVlw%3A1734763750091&source=hp&ei=5mRmZ4v1AquihbIP7MjtgAM&iflsig=5AL9hbdgAAAAAZ2Zy9vbDxnFFXv7C0X7geJ9vxbtMARYt&ved=0ahUKEwiLgN3IoriKAxUrUUEAHWxkGzAQ4dUDCBg&uact=5&oq=for+the+proposed+100+MWac+photovoltaic+solar+energy%0D%0Afacility+Paulputs+PV1+in+the+Kh%C3%A2i-Ma+Local+Municipality%0D%0Aof+the+Northern+Cape+Province&gs_lp=Egdnd3Mtd2l6IooBZm9yIHRoZSBwcm9wb3NlZCAxMDAgTVdhYyBwaG90b3ZvbHRhaWMgc29sYXIgZW5lcmd5CmZhY2lsaXR5IFBhdWxwdXRzIFBWMSBpbiB0aGUgS2jDomktTWEgTG9jYWwgTXVuaWNpcGFsaXR5Cm9mIHRoZSBOb3J0aGVybiBDYXBlIFByb3ZpbmNlSABQAFgAcAB4AJABAJgBAKABAKoBALgBA8gBAPgBAvgBAZgCAKACAJgDAJIHAKAHAA&sclient=gws-wiz

https://sahris.sahra.org.za/sites/default/files/additionaldocs/FINAL%20EIAr_PAULPUTS%20PV1_1088.pdf