In pursuit of 'sustainable development': the role of regulation in balancing goals of environmental protection and increased electricity production in South Africa

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Dedication

This mini-dissertation is wholeheartedly dedicated to Jabob Kolokolo, Elizabeth Mamoleleki, and Patronella Motshabi **Ramodibe.**

Robalang ka khotso Bakwena ba mare a Phogole, duma. Pheleu e boko bothata. Lefukumetse ngwana phata bolele. Ke motho a'bo Mantate Lekonate. Lefukumetse la mafolo a Phogole. Batho ba ke Bakwena ba mare. Khotso!!!

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Abstract

From the year 2008 to date, South Africa has experienced serious power (electricity) problems in which the country began to witness frequent power-cuts commonly referred to as 'load shedding'. The courts in South Africa have held that the right of access to electricity is a basic human right as it is indispensable to people's daily survival. Furthermore, South Africa is a party to international treaties that advance the protection of the environment, including adapting to climate change impacts. Climate change is an unprecedented global environmental phenomenon that is affecting livelihoods and humanity in general.

Currently, in South Africa electricity is generated through the extraction and subsequent burning of coal. This type of energy production has over the past years received heavy criticism from the international community and scientists as a major trigger for climate change problems; while Africa, collectively and as the least developed continent, is said to contribute less to this climate problem. South Africa; individually ranks amongst the major emitters of greenhouse gases (GHGs) which makes it one of the major contributors to climate change.

The *National Environmental Management Act* (NEMA), which is the primary environmental framework law in South Africa, provides for the principle of 'sustainable development'. This principle requires the government or any other party to, where any development that may harm the environment is sought, integrate social and economic considerations with environmental considerations primarily for the protection of the environment. This principle feeds from other environmental managerial principles such as (however not limited to) the precautionary principle, the intergenerational principle and the environmental justice principle. All these principles find effect through section 24 of the *Constitution of the Republic of South Africa*, 1996.

Accordingly, this study aims to investigate the role of environmental regulation in finding a balance between increased electricity generation and environmental

protection as informed by section 24 of the *Constitution*, and the subordinate environmental legislative framework.

Key words: Sustainable development, energy production, electricity, balancing of interests, environmental protection

Abbreviations

ACPC	African Climate Policy Centre
AMCEN	African Ministerial Conference on the Environment
AU	African Union
CBRD-RC	Common but differentiated responsibilities and respective capabilities
CDAP	Climate for Development in Africa
COP	Climate Change Conference of Parties
DMRE	Department of Mineral Resources and Energy
DMRE-SP	Department of Mineral Resources and Energy Strategic Plan
EIA	Environmental Impact Assessment
ERA	Electricity Regulation Act
IPCC	Intergovernmental Panel on Climate Change
IRP 2019	Integrated Resource Plan 2019
IUCN EPLP	IUCN Environmental Policy and Law Paper
JEL	Journal of Environmental Law
JENRL	Journal of Energy and Natural Resources Law
JEEPL	Journal for European Environmental & Planning Law
MJIL	Melbourne Journal of International Law
NDP	National Development Plan – Vision 2030
NERA	National Energy Regulator Act

NERSA	National Energy Regulator of South Africa
NEMA	National Environmental Management Act
NEM: AQA	National Environmental Management: Air Quality Act
NEPAD	New Partnership for African Development
PAJA	Promotion of Access to Administrative Justice Act
PELJ	Potchefstroom Electronic Law Journal
SAJELP	South African Journal on Environmental Law and Policy
SALJ	South African Law Journal
SAJHR	South African Journal on Human Rights
SAMJ	South African Medical Journal
SDGs	Sustainable Development Goals
STELL LR	Stellenbosch Law Review
UNFCCC	United Nations Framework Convention On Climate Change
UNISDR	United Nations Office for Disaster Risk Reduction

Contents

Chapter 1
Introduction

1.1 Background and Problem Statement

Electric power production plays a vital role both in rural and modern societies, but it also gives rise to negative impacts on the environment such as excessive use of water and fossil fuels such as coal.[1] In recent years, South Africa has witnessed a decline in electricity supply throughout the Republic, which arguably results in severe negative consequences.[2] Recently, Andre de Ruyter, who is the Chief Executive Officer of Eskom,[3] has encouraged citizens to brace themselves for the next five or more years of a life with constant power cuts. He further made the following statement:

> We all want an economy that is not constrained from growing due to a lack of available electricity generation capacity and, therefore, we believe that bringing forward new generation capacity as soon as possible will be positive for the economy and will avoid a downside risk of further shortfalls in generation capacity.[4]

This statement depicts a state of energy crisis in the country, not only for financial sustainability purposes, but also for socio-ecological sustainability purposes. The current state of energy affairs and the impacts of load-shedding on the people's rights as protected by the *Constitution*,[5] are detrimental. These impacts can be demonstrated through consequences like extreme economic losses in businesses;[6]

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1 Thopil and Pouris 2016 *Renewable and Sustainable Energy Reviews* 1106: "South Africa being a semi-arid country with limited fresh water resources and also a fossil fuel based energy intensive country, it encounters an added pressure of allocating limited water resources. Roughly 90% of electricity in South Africa is generated from coal fired power plants that are located in semi-arid areas and use a combination of wet and dry cooling techniques".

2 Du Plessis *IUCN EPLP* 103.

3 Section 2 of the *Electricity Act* 41 of 1987 (hereafter *Eskom Act*): refers to Eskom as a juristic person deemed to be a public company which is sole entity of the government; See also ss 1-4 of the *Eskom Conversion Act* 13 of 2001.

4 BusinessTech 2021 https://businesstech.co.za/news/energy/475990/expect-5-more-years-ofload-shedding-for-south-africa-these-charts-show-why/; See also Eskom Websites 2021 https://www.eskom.co.za/eskom-remains-focused-on-recovering-its-operational-performance/.

5 *Constitution of the Republic of South Africa*, 1996 (hereafter the *Constitution*).

6 Goldberg *The economic impact of load shedding: The case of South African retailers* 92: "The most significant loss of revenue occurs when the stores trading during load shedding. There are

fatalities in health facilities especially in intensive care units;[7] the rise in the generation of food waste as food gets spoilt because the means of keeping food fresh are lost with power cuts.[8]

Arguably, rights such as the right to life, health care, food, environment, and housing, are impacted.[9] This situation demands that sustainable and environmentally friendly solutions for electricity generation and supply be explored promptly. Currently, South Africa's energy generation, demand and supply is sustained by the production of coal-oriented energy.[10] The effects of this type of energy production are known to be severe to the physical and atmospheric environment and to the aforementioned people's basic rights.[11]

There are calls for a global transition from this type of energy production to a cleaner and more sustainable energy production,[12] mainly due to the effects felt through climate change. Over recent years, the effects of climate change have been; witnessed in a devastating manner to humans, ranging from heavy floods to severe droughts.[13] South Africa remains no exception.[14] In 2015, South Africa ratified the Paris Agreement,[15] in an effort to reduce the amount of emissions released to the atmosphere.[16] Arguably, this is a positive step because it indicates that the

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a variety of reasons for a store to stop trading during load shedding. The most frequent cited reasons are a lack of lighting, inability to process payments and security concerns".

7 Laher *et al* 2019 *SAMJ* 899-900.

8 Bazilian and Nussbaumer "Energy Services" 1.

9 See ss 11, 27, 24 and 26 of the *Constitution*.

10 Murombo 2015 *JENRL* 321.

11 Barnard 2012 *PELJ* 207.

12 See the discussions below. See also Kanak 2020 https://www.weforum.org/agenda/2020/05/how-to-replace-coal-and-accelerate-the-energy-transition-in-developing-countries/; Barnard 2012 *PELJ* 208.

13 Ngwenya, Khambule and Schubert *South Africa's International Climate Obligations: The Domestication of the Paris Agreement* 1.

14 For example, Cape Town experienced its first drought in 2015.

15 United Nations Paris Agreement (2015) (hereafter Paris Agreement); Streck, Keenlyside, and von Unger 2016 *JEEPL* 4.

16 See for example United Nations Framework Convention On Climate Change (1992) (hereafter UNFCCC): which aimed to "stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

government realises the reality and urgency of climate change, and seeks to address its challenges for the benefit of, not exclusively South Africa, but the entire world.[17]

South Africa is a democratic state and is governed through the supremacy of the *Constitution*.[18] Chapter 2 of the *Constitution* embodies the Bill of Rights, which makes provision for justifiable socio-economic rights.[19] It has been argued that the constitutional setup that the *Constitution* envisages is transformative and egalitarian in nature,[20] which implies that substantive equality is a focal point of the pursuit of social and economic goals by sufficiently and equally providing those who are impoverished with basic necessities such as access to housing, food, water, healthcare and electricity.[21]

However, the *Constitution* does not explicitly provide for a right of access to electricity. The provision for this right is rather read by implication in other rights in the *Constitution*,[22] and in secondary legislation.[23] The Constitutional Court have previously held that the government (municipalities) are "obliged to provide water and electricity to the residents in their area as a matter of public duty",[24] and that "electricity is one of the most common and important basic municipal services and has become virtually indispensable".[25] Therefore, it will be argued in affirmation that access to electricity enjoys similar status to, for example, the right to housing,[26] and must therefore be progressively realised within the state's available resources.

Section 24 of the *Constitution* provides for the environmental right.[27] It provides that the environment must be protected, for the benefit of present and future

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17 See Montini "Sustainable Development within the Climate Change Regime" 524.
18 See s 1(c) of the *Constitution*.
19 Liebenberg Socio-economic rights 22.
20 See Klare 1998 *SAJHR* 153; Justice Langa 2006 *Stell LR* 353.
21 *Soobramoney v Minister of Health, KwaZulu-Natal* 1998 1 SA 765 (CC), 1997 12 BCLR 1696 (CC) para 8.
22 See ss 11, 24, 26, 27, 152, 153 and 237 of the *Constitution*.
23 See *National Energy Act* 34 of 2008 (hereafter *Energy Act*); *Housing Act* 107 of 1997.
24 *Mkontwana v Nelson Mandela Metropolitan Municipality* 2005 (2) BCLR 150 (CC) para 38.
25 *Joseph and Others v City of Johannesburg and Others* 2010 (4) SA 55 (CC) para 34.
26 *Government of the Republic of South Africa and Others v Grootboom and Other* (CCT11/00) 2000 (11) BCLR 1169 (4 October 2000) (hereafter *Grootboom* case) para 35.
27 Section 24 provides: "(a) Everyone has the right to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: i. prevent pollution

generation and secure "*ecologically sustainable development*" and use of natural resources while "*promoting justifiable economic and social development*".[28] This provision rightly requires the state to balance progressive realisation of socio-economic rights with the protection of the environment, because arguably these rights cannot be sustained if the environment is degraded.[29]

Currently, in South Africa, energy production, demand and supply are regulated by the *National Energy Act*,[30] read with the *Electricity Regulation Act*,[31] which promulgated the Integrated Resource Plan (hereafter IRP) in terms of the Regulations on New Generation Capacity.[32] Revision of this regulation is supposed to take place every two years,[33] however, this has not been the case since 2011. Nonetheless, the *Energy Act's* main objectives include:

> Ensuring uninterrupted supply of energy to the Republic; Provide for optimal supply, transformation, transportation, storage and demand of energy that are planned, organised and implemented in accordance with a balanced consideration of security of supply, economics, consumer protection and a sustainable development; Provide for certain safety, health and environment matters that pertain to energy; Facilitate energy access for improvement of the quality of life of the people of Republic; Contribute to sustainable development of South Africa's economy.[34]

The *Energy Act* further places an obligation on the Minister of mineral resources and energy to annually review and publish an Integrated Energy Plan (hereafter IEP) in the *Government Gazette*.[35] Similar to the failure to revise the IRP every two years, this obligation has not been fulfilled, which means an IEP has never been published since the enactment of the *Energy Act*, and the latest published Integrated Resource Plan (hereafter IRP 2019),[36] provides no indication as to when will the IEP

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and ecological degradation; ii. promote conservation; and iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development".

28 Section 24(b) of the *Constitution*. (Emphasis added).

29 Feris 2010 *PELJ* 85.

30 *Energy Act* 34 of 2008.

31 *Electricity Regulation Act* 4 of 2006 (hereafter *ERA*).

32 *Electricity Regulations on New Generation Capacity* GN R721 in GG 32378 of 5 August 2009.

33 See *Integrated Resource Plan for Electricity* - Final Report 7.

34 Section 2 of the *Energy Act*.

35 Section 6 of the *Energy Act*.

36 *Integrated Resource Plan* (hereafter *IRP* 2019) 17 October 2019 read with *Electricity Regulations on the Integrated Resource Plan* 2010-2030 GN R400 in GG 34263 of 6 May 2011.

be published. Surprisingly enough, the IRP 2019 defines the IEP to mean the "over-arching, co-ordinated energy plan combining the constraints and capabilities of alternative energy carriers to meet the country's energy needs".[37]

From this definition, it can be deduced, in line with the provision of the *Energy Act* that the IEP must consider, amongst other things, sustainable development: i.e., a balance between supply and demand, environmental, health, safety and socio-economic impacts.[38] This implies that one cannot achieve the successful implementation of alternative energy measures to meet energy demands and supply without considering 'sustainable development' and factors that may either enhance or impact it.

The *Energy Act* does mandate the 'yet to be codified and promulgated' IEP to observe sustainable development. However, it does not highlight a detailed solution for sustained energy without much reliance on continued coal-fuelled energy production.[39] Perhaps the IEP's implementation will envisage a detailed path for sustained energy; although, presently it remains unclear whether sustained energy, in the trajectory of the current law, is something observed.

It will be argued that 'free basic electricity' is possible if the government makes some serious efforts to explore alternative means of energy generation such as solar panels, which arguably may adequately meet the standards of a constantly changing supply and demand trajectory in South Africa. Feasibility of free basic electricity must be viewed through the lens of "everyone's…well-being" and "ecological sustainability" as guaranteed in section 24 of the *Constitution*. In the context of this study, well-being is a concept, which refers to the enjoyment of basic needs, such as electricity, and if they are met, an individual or community may enjoy a certain degree of quality of life.[40]

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37 See the glossary of the IRP 2019 5.
38 Section 6(4) of the *Energy Act*.
39 Murombo 2015 *JENRL* 332.
40 Du Plessis and Du Plessis "Striking the sustainability balance in South Africa" 428-429.

Ecological sustainability refers to sustained environmental mechanisms which through measures of "technological innovations and social cohesion" impacts of such measures on the environment and the biosphere enhance the ability to absorb the effects of human activities.[41] Thus, it will be argued that in line with the constitutional setting and the jurisprudence established in socio-economic rights cases, access to free basic electricity is an attempt to sufficiently meet human basic needs and alleviate poverty.[42]

The reality is that the use of non-renewable resources such as coal cannot sustain the well-being of both the people and the environment. Utilisation of renewable resources must be explored for sustainability. "Renewable energy" is defined to mean:

> energy generated from natural non-depleting resources including solar energy, wind energy, biomass energy, biological waste energy, hydro energy, geothermal energy and ocean and tidal energy.[43]

The non-depletion element referred to above and the conservative use of these measures with regard to the environment are a summation of what 'sustainability' could be about. From this, it becomes apparent that the promotion and implementation of renewable resources must be directly relied on, in an effort to mitigate the effects of climate change, while appreciating the realisation of socio-economic rights.

1.2 Motivation

The study is firstly encouraged by the decision taken in the ground-breaking case of *Earthlife Africa Johannesburg and Another v Minister of Energy and Others*.[44] The facts of *Thabametsi* are that Earthlife, a non-profit organisation, requested the High

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41 Currie and De Wall *The Bill of Rights Handbook* 524.

42 See *Beja and Others v Premier of Western Cape & Others* 2011 (10) BCLR 1077 (WCC) para 39:"It is unquestionable that the State is obliged to take positive action to meet the needs of those living in extreme conditions of poverty and intolerably inadequate housing"; See also Fuo *Pursuit of the Transformative Constitutional Mandate* 130.

43 Section 1 of the *Energy Act*.

44 *Earthlife Africa Johannesburg and Another v Minister of Energy and Others* [2017] 3 All SA 187 (WCC); 2017 (5) SA 227 (WCC) (hereafter *Thabametsi* case).

Court to review and set aside the decision by the Department of Environmental Affairs (DEA) to grant approval for the construction of a 1200-MW coal-fired power station,[45] without considering climate change impacts of the proposed power station.[46] This study begs for a critical reflection on the *Thabametsi* case, precisely because coal-fired power stations are an unsustainable means of generating electricity and are huge contributors to environmental degradation and climate change.[47]

Secondly, the study is necessitated by the conundrum in which the South African government finds itself, put in another way, can South Africa delay its constitutional socio-economic obligations in view of its global commitments to reduce greenhouse gas emissions (GHGs emissions) and promote sustainability? Therefore, it will be argued in subsequent chapters that ecological sustainability should inform social and economic developments.

Thirdly, the study is necessitated by the need to balance service delivery (electricity in this instance) with sustainability. Realisation of satisfactory service delivery must be at the fore while inevitable linkages between human economic and social systems and the environment are considered.[48]

1.3 Research question

Within the limits of sustainable development to mitigate the impacts of climate change, how could the South African environmental legal framework be used to strike a balance between environmental protection and electricity production?

1.4 Research aim and objectives

The aims of the study are to:

1. Define the notion of sustainable development in the South African context;

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45 *Thabametsi* case para 2.
46 *Thabametsi* case para 4.
47 *Thabametsi* case para 23.
48 Currie and De Wall *The Bill of Rights Handbook* 524.

2. Analyse the world's and specifically South Africa's position in relation to climate change;
3. Review the realisation of electricity generation and supply in a sustainable manner;
4. Critically analyse and unpack the interconnectedness of the relationship between the human economic, social systems and the environment;
5. Explore and critically investigate the relevance of integrated environmental plans as an operational tool in establishing and maintaining sustainability.

1.5 Research methodology

This study will be characterised by a literature review, made up of an investigation of relevant primary sources, such as case law and legislation. For the purposes of answering the question posed in this study, critical synthesising of the primary sources will be supported by auxiliary sources, such as journal articles, textbooks and electronic sources.

1.6 Framework

1. Introduction
2. International framework on climate change
3. South African constitutional right to electricity
4. Just transition through the lens of environmental justice
5. Conclusion

Chapter 2
International framework on climate change

2.1 Introduction

The failure to efficiently regulate the balance between the progressive realisation of service-delivery of electricity and its source of production may give rise to environmental injustice or harm.[49] Arguably, different levels of environmental harm or environmental complexities which a country may be required to address depend on a particular context. For example, climate change effects can be sufficiently addressed in a domestic or regional context,[50] because challenges faced by one region may differ from challenges faced by another region.[51] Over the years, efforts have been employed to address varying complex setups within different regions or countries.[52]

This chapter aims to explore the role, which the South African government could play in progressively realising its electricity delivery obligations while enforcing environmental regulations that are in line with its global commitments to mitigate the effects of climate change. The previous chapter drew a picture of a crisis in electricity affairs of the country. This chapter will discuss efforts taken at the international and African regional level to address climate change impacts. Theoretical perspectives underpinning "climate change" are discussed in part 2.2, while part 2.3 analyses international and African regional instruments that mitigate climate change. The last part will summarise the discussions of this chapter.

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49 Molaiwa *Municipal Courts and environmental justice in South African local government* 8.

50 Du Plessis "Climate governance in South African municipalities" 353; Boyd *The Environmental Rights Revolution* 12, submits that "societies have responded to the environmental crisis with initiatives at every scale, from global to the local".

51 See Special Report of the Intergovernmental Panel on Climate Change (2012) (hereafter IPCC) *Managing the risks of Extreme Events and Disasters to Advance Climate Change Adaptation*.

52 For example, the adoption of the UNFCCC (1992); See also the Sixth Assessment Report of IPCC 2021.

2.2 Theoretical perspectives underpinning climate change

Today, very few scientists, governments or lawyers doubt the reality of climate change and perhaps as to whether its urgency is greatly exacerbated directly or indirectly by human activities.[53] However, what remains a reality is that changes in the global climate are undeniably occurring.[54] Importantly, what is meant by the term "climate change"?. The definition of climate change adopted here is that provided by UNFCCC, that:

> "Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.[55]

This definition creates two layers of negative properties with regard to the adverse changes that are occurring to the global climate, in that the impact is created either directly or indirectly.[56] The minimum scientific knowledge and uncertainty surrounding how complex the source of these negative properties to the ever-changing climate are, is what calls for the interplay between sustainable development and climate change.[57] For example, in the context of energy production and supply-demand trajectory, it is certain that the burning of larger quantities of fossil fuels to meet ever-growing needs for energy is simply unsustainable.[58] Thus, there exists a dilemma of uncertainty as to what sort of consequences will be triggered in the future if the burning of fossil fuels continues.[59]

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53 Bassewitz "International Climate Change Policy: Where do we stand?" 101.

54 Humphreys "Introduction: Human rights and climate change" 1; Jegede *The climate change regulatory framework and indigenous peoples' lands in Africa: Human rights implications* 29.

55 A 1 of the UNFCCC (1992).

56 Jegede *The climate change regulatory framework and indigenous peoples' lands in Africa: Human rights implications* 97: "direct impacts refer to documented effects of a changing climate on the physical environment, whereas indirect impacts refer to measures in response to the adverse impacts of climate change".

57 Ruppel "Intersections of Law and Climate Governance"-Challenges in the Anthropocene" 37.

58 Bugge "Our Common Future" Revisited 14.

59 See the Report of the World Commission on Environmental and Development – *Our Common Future* (1987) (hereafter Brundtland Report 1987) "Chapter 7: Energy: Choices for Environment and Development" para 5: "A generally acceptable pathway to a safe and sustainable energy future has not yet been found".

Moreover, the concept contains the term change,[60] which arguably in an ordinary sense would require a particular community or region to change its way of life to mitigate and adapt to the emerging change.[61] Usually scientists and world leaders use the recent phenomenon of devastating natural disasters which are occurring at an alarming rate in the current epoch called the Anthropocene,[62] as a primary reference to assess how the far-reaching changes occurring in the earth systems are impacting different regions.[63] Furthermore, despite the lack of scientific proof that climate change is certainly the only cause of disasters,[64] Ruppel, argues that in light of the witnessed extreme events and in consideration of the future generations, there is "no right to presuppose that the effects of climate change will be far from being catastrophic".[65]

As a matter of fact, human interactions with the environment have significant changes or impacts on the ecological systems of the earth.[66] It is for this reason that climate change must not be viewed insolation but rather be assessed right from

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60 Bank and Karsten *Climate change and South Africa* 2: "UNFCCC differentiates between climate change that exists because of human activities, which alters the atmospheric composition and climate variability that is caused by the natural environment".

61 See Bassewitz "international Climate Change Policy: Where do we stand?" 104: "Mitigation tackles the very cause of climate change, while adaptation deals with unavoidable effects of global warming".

62 Kotzé 2014 *JENRL* 121: "The word Anthropocene describes a new geological epoch that follows the Holocene epoch"; Ruppel "Intersections of Law and Climate Governance-Challenges in the Anthropocene" 39: Disastrous events are among others Indian Ocean Tsunami (2004), Hurricanes Katrina (2005) Sandy (2012) Ida (2021), Typhoon Bopha in the Phillipines (2012), and earthquakes in Pakistan (2005), Haiti (2010) and Fukushima (2011).

63 See the United Nations Office for Disaster Risk Reduction (2009) (hereafter UNISDR) 9, which defines a disaster as "a serious disruption of the functioning of a community or society involving widespread human, material, or environmental losses and impacts, which exceeds the ability of an affected community to cope using its own resources".

64 Van Niekerk "Disaster risk reduction and climate change adaptation and resilience" 861.

65 Ruppel "Intersections of Law and Climate Governance-Challenges in the Anthropocene" 40; See also McKinnon 2009 *Journal of Social Philosophy* 200: "the nature of climate change 'catastrophes' requires us to take drastic 'precautions' against further climate change that could lead us to pass the tipping points that cause them. This is the case notwithstanding the fact that we are in a state of strong uncertainty with respect to these events; indeed, our strong uncertainty with respect to them—given their nature—makes the case for action to prevent them even more persuasive".

66 Van Niekerk "Disaster risk reduction and climate change adaptation and resilience" 855: "earth systems can be described as four main sub-systems (geosphere, atmosphere, hydrosphere and biosphere) whom are tightly interconnected and integrated as one system of the earth".

its causes and effects to adaptability and sustainability.[67] For the past three decades, internationally coordinated research has been conducted and has concluded that humans now live in a new geological era, the Anthropocene, which is associated with humanity's existence and which has resulted in "devastating and overwhelming impact on the earth and its systems".[68] Kotzé, has described the concept of the Anthropocene as:

> the new context in which we are going to have to consider how we should deal with the effects of global human-induced ecological change, which is mostly as a result of our energy-intense processes and consumer-driven, neo-liberal economies. Such considerations will include, among others: how we value and regulate the world's limited and dwindling natural resources; how we approach issues of unsustainable energy use and future options for energy security; how the world would ensure environmental and human security.[69]

The Anthropocene notion thus requires us to change or adapts our relationship with the planet. It challenges us to develop mechanisms of resilience,[70] and to mitigate the impact felt on a vulnerable and finite planet, so we can "respond adequately to the many anthropogenic ecological changes that will severely affect earth and life on earth as we know it".[71] However, it must not be mistakenly concluded that climate change and the Anthropocene are two inseparable concepts.

Perhaps it must be questioned whether in the absence of "human-made climate change or human-induced activities", the existence of the anthropogenic era would still be spoken of. The summation is that the Anthropocene must be viewed as the manifestation or result of human behaviour, and not a manifestation of nor cause of climate change.[72] This is because the Anthropocene era is also underpinned by the social and economic factors which are backed by the rise of a global society

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67 Van Niekerk "Disaster risk reduction and climate change adaptation and resilience" 856-861: "Climate change must amongst other things be considered with the interrelation between causes and impacts of climate change, disaster risk reduction, adaptation and sustainability".

68 See Murcott 2017 *SALJ* 444.

69 Kotzé 2014 *JENRL* 123.

70 Nakicenovic, Rockström, Gaffney and Zimm "Global Commons in the Anthropocene: World Development on a Stable and Resilient Planet" 8.

71 Kotzé 2014 *JENRL* 123.

72 Thomas 2019 https://www.asiaglobalonline.hku.hk/anthropocene-climate-change/.

sustained by mass production and consumption.[73] Therefore, climate change is merely one problematic aspect in an unpredictable era, the Anthropocene.[74] What is rather not disputed here is that the Anthropocene and climate change are interlinked; and both cover and impact the entire earth system, and are both, arguably, a result of human behaviour and their choices.[75]

2.3 International and African regional responses

For purposes of this paper, it becomes important to make it clear that although the importance of spotting the root cause of climate change is crucial and noted, the purview and purpose of this work do not include an analysis of such causes. This work would rather focus on the mechanisms to address climate change impacts.

Climate change as a common concern to humankind must be addressed through collective efforts from all nations.[76] It is here that the intrinsic relationship between climate change actions, impacts and responses taken, must be considered in relation to an equitable access to sustainable development and poverty eradication.[77]

2.3.1 International responses on climate change and sustainable development

It is widely known that since the release of the report of Gro Herlem Brundtland in 1987,[78] the concept of 'sustainable development' has accumulated immense interest

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73 Ellis 2019 https://inhabitingtheanthropocene.com/2019/01/23/climate-change-and-the-anthropocene/.

74 Raupach and Canadell "Carbon and the Anthropocene" 216: "Anthropocene changes in the earth system, including changes in the carbon cycle, climate and other aspects, are a fundamental outcome of the evolutionary advantage acquired by humankind through its use of exosomatic energy flows".

75 Kotzé 2014 *JENRL* 125; Ruppel "Intersections of Law and Climate Governance-Challenges in the Anthropocene" 40: "With climate change we choose how to dictate our future because, for example, not reducing GHG emissions means subjecting future generations to the risk of severe harm".

76 See the Brundtland Report (1987) "Chapter 7: Energy: Choices for Environment and Development" para 24: "No nation has either the political mandate or the economic power to combat climatic change alone".

77 See Paris Agreement (2015).

78 Brundtland Report (1987), associated global environmental issues with great lengths of poverty in developing countries and non-sustainable patterns of consumption and production in developed countries, thus, its purpose was to direct all governments and the entire international community towards a goal of sustainable development, which must urgently be pursued for human's survival. (Own emphasis).

for debate and research in different fields, and the legal field is no exception. The Brundtland Report in relation to sustainable development encompasses specific policy areas such as the international economy, food and biodiversity.[79] It is noted that all these specific policy areas are interconnected. However, clearly the discussion here has to focus on interlinkages between sustainable development, energy and climate change. Arguably, chapter 7 (*Energy: Choices for Environment and Development*) of the Brundtland Report is the most foresighted chapter that enabled a pathway for subsequent international official documentation, which primarily aims to address the effects of energy-climate change realistically and with more caution.[80]

The conundrum faced in relation to the much-needed energy production is the ability to meet the overriding priorities (such as social and economic development and poverty eradication) of developing countries while recognising that a low-emission development strategy is indispensable for sustainable development and climate change mitigation.[81] A positive step in addressing this challenge was taken at the UN Conference on Environment and Development,[82] with the aim to create a bridge to address the gap between developmental needs and environmental protection.[83]

2.3.1.1 Evolving international meaning of 'Sustainable Development'

The notion of sustainable development is the centre-piece of the intersection between environmental and developmental considerations. The concept embodies the precautionary element,[84] and thus it is a concept closely linked to the concept of intergenerational equity.[85] Explicit expression of this interlink is vested in the Brundtland Report's definition of sustainable development which is stated to mean the ability to "meet the needs of the present without compromising the ability of

79 Bugge "Our Common Future" Revisited 10.
80 See many declarations of the UN Climate Change Conference of Parties (COP).
81 Bugge "Our Common Future" Revisited 14.
82 UN Conference on Environment and Development (1992) (hereafter Rio Declaration).
83 Winter "A Fundament and Two Pillars" 25.
84 A 15 of the Rio Declaration (1992).
85 Brunnee "The Stockholm Declaration" 48.

the future generations to meet their own needs".[86] The linkage is further expressed in the Rio Declaration, which states that "the right to development must be fulfilled so as to equitably meet developmental and environmental needs of the present and future generations".[87]

Despite the vivid expressions of the concept of sustainable development, its precise content is argued to remain elusive.[88] Lowe, has argued that the lack of precise normative content of the concept can be highlighted by asking: How can one determine the needs of the present generations, are these needs also rights or entitlements? And how can one predict what will be the needs of generations to come?.[89] Segger, has argued that a more acceptable definition of the concept is one found in *Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific*,[90] which provides:

> "Sustainable development" means the process of progressive change in the quality of life of human beings, which places it as the centre and primordial subject of development, by means of economic growth with social equity and the transformation of methods of production and consumption patterns, and which is sustained in the ecological balance and vital support of the region. This process implies respect for regional, national and local ethnic and cultural diversity, and the full participation of people in peaceful coexistence and in harmony with nature, without prejudice to and ensuring the quality of life of future generations.[91]

The above definition emphasises that sustainable development is a concept concerned with equitable balance between contemporary environmental and developmental interests.[92] Birnie and Boyle, suggest that equitability elements in the sustainable development concept as encroached in international legal instruments is often expressed by:

> Substantive elements (such as sustainable utilisation of natural resources, the integration of environmental equity and the polluter-pays principle), as well as its

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86 Brundtland Report (1987) "Chapter 2: Towards Sustainable Development" para 1.
87 Principle 3 of the Rio Declaration (1992).
88 Brunnee "The Stockholm Declaration" 48.
89 Lowe "Sustainable Development and Unsustainable Arguments" 27.
90 Segger "Sustainable Development in International Law" 115.
91 Art 3(1)(a) of the *Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific* (2002).
92 Brunnee "The Stockholm Declaration" 49.

procedural elements (such as public participation in environmental decision-making and environmental impact assessments).[93]

Although the sustainable development notion remains a vague concept,[94] its crucial role as a guiding tool of action for many states and perhaps its legal achievements to this end cannot be downplayed because it is a concept that calls upon us to pay attention to future needs.[95] In essence, the concept recognises the need for development but it encompasses greatly cautionary measures that such development must remain within the "carrying capacity of the environment, and the protection of such environment must be considered, promoted and integrated as part of the development process".[96] In the context of this work, if the governments are serious about the pursuit of sustainable development and consistent global fight against global warming then, a view that all nations, regardless of any intended economic aspirations, "can afford to downscale on coal and immediately upscale to renewable energy",[97] is correctly held.

2.3.1.2 The common but differentiated responsibilities principle

Above, it is alluded that climate change is a common concern to humankind and it must be addressed through collective efforts from all nations.[98] This is because climate change impacts cover the entire earth irrespective of whether one is categorised as a developed or a developing country, thus the impact of climate change affects all sectors and levels of the global society.[99] The impact is, however, argued to be felt intensively by the developing countries,[100] and perhaps this is

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93 Birnie and Boyle *International Law and the Environment* 86-95.

94 King, Strydom and Retief *Fuggle and Rabbie's Environmental Management in South Africa* 131, they argue that the concept due to the distinction between an outcome-orientated meaning and the process-orientated meaning, the concept is concerned with "the manner in which the decision was taken" and thus primarily concerned with the latter meaning".

95 Brunnee "The Stockholm Declaration" 49.

96 Brunnee "The Stockholm Declaration" 48; See the judgement of the South African Constitutional Court in *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province, and Others* 2007 (6) SA 4 (CC) (hereafter *Fuel Retailers* case) para 44: "Promotion of development requires the protection of the environment, simply because development cannot subsist upon a deteriorating environmental base".

97 Murombo 2015 *JENRL* 332.

98 See para 2.3 above.

99 Bank and Karsten *Climate change and South Africa* 2.

100 Bank and Karsten *Climate change and South Africa* 2.

where the need for the principle of common but differentiated responsibilities and respective capabilities (CBRD-RC) finds application. What is clear from the application of 'equal norms' to all states is that international environmental law not only focuses on the current environmental injustices but seeks to consider past environmental injustices as well by trying to determine the extent to which developed countries must pay or contribute.[101]

The CBRD-RC is argued to be an international environmental law principle that possesses a common responsibility of all states to collectively address global environmental destruction but yet such responsibility should not be equally carried out.[102] The principle is a composite of two fundamental cycles of components in that it seeks on the one hand, to drive home the need for all states to take responsibility for global environmental problems, while on the other hand, it seeks to drive home the need for recognition of the wide differences in levels of economic development and capabilities between states.[103]

Brunnee has argued that the evident differences are the linkages between global environmental protection and demands for equity between the South and the North which in turn are linked to the states' contributions to these problems, as well as their abilities to address these problems.[104] These linkages were formally enunciated in 'principle 7' of the Rio Declaration and refer to the notion of 'common concern' by calling on states to "co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem". And then it proceeds as follows:

> In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.[105]

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101 Brunnee "The Stockholm Declaration" 47.
102 Epstein "date unknown" https://www.britannica.com/topic/common-but-differentiated-responsibilities.
103 Barnard 2012 *PELJ* 215.
104 Brunnee "The Stockholm Declaration" 46-47.
105 Principle 7 of the Rio Declaration (1992).

The CBRD-RC was also crystallised in the UNFCCC preamble as well as the preamble to the Paris Agreement.[106] The practical implications of the common but differentiated principle is that the extent of differentiation[107] is often referenced to each developed state's level of commitment in terms of timelines to provide technical and financial assistance to developing states',[108] subject to the level of commitment from the developing states' compliance and implementation of international environmental law provisions upon receiving technical and financial assistance from the developed states.[109]

The retrospective effect of international environmental law warrants this principle, as Barnard puts it, to be concerned with the promotion of "substantive equality among developing and developed States, rather than to impose mere formal equality".[110] The practical implementation of the principle is that it recognises the historical environmental development and associated environmental degradation, in that developed countries, which had been able to develop for longer times unimpeded by environmental restrictions, now need to take a greater share of responsibility.[111] Therefore, developed and developing states have different responsibilities imposed upon them in order that they may exercise the common responsibility of protecting shared environmental resources such as water and air.[112]

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106 See UNFCCC (1992) preamble: "Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind…that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions"; Paris Agreement (2015).

107 See Barnard 2012 *PELJ* 215, she argues the differentiation consists of a range of factors including "the future economic development of countries and their historic contributions to the creation of any given environmental problem".

108 See art 4(2) of the UNFCCC (1992).

109 See arts 4, 7, 10 and 11 of the UNFCC (1992).

110 Barnard 2012 *PELJ* 215.

111 Epstein "date unknown" https://www.britannica.com/topic/common-but-differentiated-responsibilities.

112 Barnard 2012 *PELJ* 215.

2.3.1.3 Sustainable energy within climate change regime

Undoubtedly, the concept of sustainable energy stems directly from the principle of sustainable development and projects as an integration of the latter principle into energy law. Banet, has described sustainable energy as energy that is sustainably generated, refined and consumed.[113] This presents the twofold elements addressing the concept of sustainability, in a sense that where consumption focuses more on the efficiency of energy then production of such energy must explore sources of energy which are renewable.[114] Chapter 7 (*Energy: Choices for Environment and Development*) of the Brundtland Report embodied the concept of sustainable energy and the Commission recognised that future development crucially depends on the long-term availability of energy stemming from sources that are "dependable, safe, and environmentally sound".[115] The Commission thus identified key elements of sustainability that have to be reconciled into energy law or policies, as follows:

i. sufficient growth of energy supplies to meet human needs;
ii. energy efficiency and conservation measures, such that waste of primary resources is minimised;
iii. public health, recognising the problems of risks to safety inherent in energy sources;
iv. protection of the biosphere and prevention of more localised forms of pollution.[116]

The build-up so made on sustainability by the Brundtland Report reflects the interdependence between energy law and sustainable development and thus seeks to integrate three pillars of the latter into the field of energy.[117] Energy production and consumption are indispensable to human life, hence an agreed view by the international society that sustainable energy is a *sine qua non* for poverty alleviation

113 Banet "Bioenergy as Integration of the Sustainable Development Principle in Energy Policy" 445.
114 Banet "Bioenergy as Integration of the Sustainable Development Principle in Energy Policy" 445-446.
115 Brundtland Report (1987) "Chapter 7: Energy: Choices for Environment and Development" para 1.
116 Brundtland Report (1987) "Chapter 7: Energy: Choices for Environment and Development" para 4.
117 Murombo 2015 *JENRL* 326-327:"International recognition of the connection between energy and sustainable development shows that fossil sources of energy are part of the problem of unsustainable patterns of development".

and sustainable development.[118] This means that mechanisms explored to address impacts of climate change demand a global 'energy revolution' promoting low-carbon energy sources.[119]

In line with the above, the UNFCCC, the Kyoto Protocol,[120] and now the Paris Agreement solidified accords made by nations to consider the urgency for mitigation and adaptation through reduction of global emissions.[121] The Kyoto Protocol was an instrument which created a legally binding obligation for developed countries to reduce their GHGs emissions by 5% below the 1990 levels by 2012.[122] The Paris Agreement slightly differs from the Kyoto Protocol, in that although it is also a binding legal instrument, it binds all nations who are party to it, into a common cause of acting collectively to address the threat of climate change within the context of sustainable development and efforts to eradicate poverty.[123] Furthermore, in pursuance to a goal of keeping the rise of 2°C, the Paris Agreement not only seeks to mitigate climate change impacts, but it seeks also to adapt to it and its related losses and damage that it could cause.[124]

2.3.1.3.1 Sustainable Development Goals

Energy has been an essential aspect to the progressive realisation of the economic and social components across the globe especially in developing regions. The inclusion of energy in the Sustainable Development Goals (hereafter SDGs) is an expression of the interconnectedness element and a firm attainment of all SDGs as an integrated, indivisible set of global priorities.[125] SDG 7 provides for access to

118 Murombo 2015 *JENRL* 326.
119 Bruce 2013 *MJIL* 1.
120 See the Kyoto Protocol to the UNFCCC (1998) (hereafter Kyoto Protocol).
121 Ngwenya, Khambule and Schubert *South Africa's International Climate Obligations: The Domestication of the Paris Agreement* 1.
122 See art 3 of the Kyoto Protocol (1998).
123 Art 6(8) of the Paris Agreement (2015).
124 See 4(2) and 4(8) of the Paris Agreement (2015); Ngwenya, Khambule and Schubert *South Africa's International Climate Obligations: The Domestication of the Paris Agreement* 1.
125 *Transforming our world: the 2030 Agenda for Sustainable Development*, UNGA Res. 70/1, UN Doc. A/RES/70/1 seventieth session (2015), hereafter *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 18.

affordable, reliable, sustainable and modern energy services for all.[126] It aims also to increase the share of renewable energy,[127] improve energy efficiency,[128] and enhance cooperation which facilitates access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology.[129] Furthermore, SGD 7 aims to expand infrastructure and upgrade technology for sustainable energy services for all in developing countries, in particular the least developed countries "in accordance with their respective programmes of support".[130]

Within the climate change regime, although renewable energy is not expressly mentioned in the UNFCCC and its Kyoto Protocol as a relevant measure, however, energy efficiency is noted in the UNFCCC preamble as a potential measure to counteract unsustainable energy consumption,[131] which is one of the mechanisms to strive for the achievement of sustained economic growth and the eradication of poverty. Bruce and Stephenson, have argued that these international instruments have advocated for SDG 7 by firstly setting objectives for the international framework and rules related to emissions reductions, and secondly, they establish obligations for States to cooperate, share and transfer low-carbon energy technologies and knowledge, as well as financial assistance.[132] Thus, the Paris Agreement in its preamble explicitly acknowledges that "sustainable lifestyles and sustainable patterns of consumption and production, with developed-country parties

126 *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 7.1.
127 *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 7.2.
128 *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 7.3.
129 *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 7.a.
130 *Transforming our world: The 2030 Agenda for Sustainable Development* (2015) para 7.b.
131 See UNFCCC (1992) preamble: "Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial"; Arts 2(1)(a) and 10(b)(i) of the Kyoto Protocol (1998).
132 Bruce and Stephenson *SDG 7 on Sustainable Energy for All: Contributions of International Law, Policy and Governance* 3.

taking the lead, play an important role in addressing climate change",[133] which arguably echoes unanimous support for SDG 7 and its targets in 7.1 and 7.2.[134]

2.3.2 African regional responses to climate change

One would assume that a region that is categorised as a relatively low contributor to the world's total GHGs emissions such as Africa stands to be less impacted by climate change. Unfortunately, this is not necessarily the case; if anything, Africa is argued to be one of the continent's most vulnerable to climate change.[135] Africa emits relatively little carbon compared to other continents. The entire continent has contributed just 3% of historical emissions,[136] with South Africa being the 12th major emitter of carbon in the world and the first in the continent.[137] About 640 million people living in Africa currently have no access to electricity.[138] In the same token, it is recognised that Africa's vulnerability to climate change is owed to a range of socio-economic stresses such as poverty.[139] This emphasises that climate change stands to hinder the economic growth of African countries through its "harmful effects on its natural systems and resources",[140] thus, climate change variability and its impacts are likely to impede the achievement of SGDs and sustainable development in Africa.[141]

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133 See the preamble of Paris Agreement (2015).

134 Bruce and Stephenson *SDG 7 on Sustainable Energy for All: Contributions of International Law, Policy and Governance* 4; See also the preamble of the Adoption of the Paris Agreement, Draft decision -/CP.21, FCCC/CP/2015/L.P/Rev.1 twenty-first session (2015): "Acknowledging the need to promote universal access to sustainable energy in developing countries, in particular in Africa, through the enhanced deployment of renewable energy".

135 Kotzé and du Plessis *A bird's eye view of climate change litigation* 618: "Africa is among the regions of the world projected to suffer most from the impacts of climate change while being the least able to adapt to its impacts and to bolster the resilience of people and ecosystems to changing climatic conditions".

136 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 412.

137 Mashinini 2021 https://africacheck.org/fact-checks/factsheets/factsheet-understanding-greenhouse-gas-emissions-and-how-africa-compares.

138 African Development Bank Group *Light up & power Africa* 3.

139 Kotzé and du Plessis *A bird's eye view of climate change litigation* 618.

140 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 412.

141 See Kotzé and du Plessis *A bird's eye view of climate change litigation* 619, provide that "In response to climate change on the continent, a considerable number of African countries has ratified the Paris Climate Agreement, and numerous African countries have developed

2.3.2.1 African Charter on Human and Peoples' Rights

The African Charter,[142] is a pivotal human rights instrument on the African continent. It recognises individual and peoples' rights, duties, justifiable socio-economic rights in addition to civil and political rights.[143] The African Charter in its preamble considers freedom, equality, justice and dignity as essential objectives for the achievements of the 'legitimate aspirations' of the African people.[144] The African Charter makes no explicit mention of the right to access to electricity, however, due to the intrinsic connection of this right to other rights, provision could be deduced through the necessary implication of other rights in the African Charter.[145]

In line with the preceding section, Kotzé and Du Plessis, correctly argue that law has a central role in global climate mitigation, adaptation, and resilience governance.[146] However, whether the central role of the law at the regional level has been adequate in addressing the interaction between climate change and human rights stands to be investigated.[147] Perhaps, arguably it is not the existing laws that are inadequate but rather the lack efficient political will to implement such laws.[148] Laws are only adequate if they are effectively enforced. To this end, it must be clear that it is impossible to speak of electricity (production and consumption) and sustainable development without reflecting on the environmental impacts

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environmental and climate change policies and laws, suggesting that at least some public and private sector legal obligations do exist regarding climate change".

142 African Charter on Human and Peoples' Rights OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982) (hereafter the African Charter).

143 Heyns and Killander *Compendium of key human rights documents of the African Union* 29; *Social and Economic Rights Action Centre (SERAC) and Another v Nigeria* (2001) AHRLR 60 (hereafter *SERAC* case) para 68: "Clearly, collective rights, environmental rights, and economic and social rights are essential elements of human rights in Africa. The African Commission will apply any of the diverse rights contained in the African Charter. It welcomes this opportunity to make clear that there is no right in the African Charter that cannot be made effective".

144 See the preamble of the African Charter (1982).

145 See arts 16, 21, 22 and 24 of the African Charter (1982); *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya* (2009) AHRLR 75 para 155: "The African Commission wishes to emphasise that the Charter recognizes the rights of the people. The complainants argue that Endorois are a people, a status that entitles them to benefit from provisions of the African Charter that protect collective rights".

146 Kotzé and du Plessis *A Bird's Eye View of Climate Change Litigation* 620.

147 Jegede *Climate Change in the Work of the African Commission on Human and Peoples' Rights* 137.

148 Bruce 2013 *JENRL* 332.

associated with climate change. In the African context, the African Charter embodies environmental-oriented rights in qualitative terms, as Ruppel puts it:

> The recognition of the African Charter of a right to a satisfactory environment and progressive jurisprudence take up the issues of environmental protection from human rights perspective, and underline the linkage between climate change and human rights in a modern, holistic approach to one of today's burning issues.[149]

The African Charter protects the rights of peoples to both the "best attainable state of physical and mental health",[150] and to a "general satisfactory environment favourable to their development".[151] The CBRD-RC is also embodied in the African Charter and can be deduced from article 22,[152] while 'principles of international law' including sustainable development can be inferred from article 21,[153] respectively.

The landmark decision in the *SERAC* case, although it is a decision not directly addressing climate change or access to electricity, led to effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment.[154] The African Commission,[155] in the *SERAC* case, held amongst other things, that:

> Article 24 of the African Charter imposes clear obligations upon governments. It requires the state to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources…Government compliance with the spirit of Article 16 and Article 24 of the African Charter must also include ordering or at least permitting independent scientific monitoring of threatened

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149 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 416.

150 Art 16 of the African Charter (1982).

151 Art 24 of the African Charter (1982).

152 Art 22(1) and (2) of the African Charter (1982): "All peoples shall have the right to their economic, social and cultural development with due regard to their freedom and identity and in the equal enjoyment of the common heritage of mankind. States shall have the duty, individually or collectively, to ensure the exercise of the right to development".

153 Art 21(3) of the African Charter (1982): "The free disposal of wealth and natural resources shall be exercised without prejudice to the obligation of promoting international economic cooperation based on mutual respect, equitable exchange and the principles of international law".

154 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 418.

155 African Charter created supervisory mechanisms and established the African Commission on Human and Peoples' Rights in 1987, which is now supplemented by the African Human Rights Court, and both enforces compliance with the Charter on states which have ratified the Protocol.

environments, requiring and publicising environmental and social impact studies prior to any major industrial development.[156]

At the regional level, it is known that there is no one single framework in relation to climate change with the exception of a range of institutions and initiatives as well as their enabling instruments.[157] However, this landmark judgement was futuristic in encompassing all issues from the need for poverty eradication, balancing of interests (environmental and developmental) and by implication climate change impact assessment, mitigation and adaptation since well impacts of climate change hampers negatively both environmental and developmental interests.

2.3.2.2 Umbrella response to climate change, can it be an answer?

Jegede, correctly points out that the African Commission's means of exploring the link and application of human rights in the climate change context, must be through collaboration with structures and programmes which already have climate change as part of their focus.[158] This point of departure finds validity when one considers the lack of quality in the content of the already passed Resolutions (AU Resolution 153,[159] AU Resolution 271,[160] and the AU Resolution 342[161]) on climate change and human rights.[162] Nevertheless, the structures and programmes include the African Ministerial Conference on the Environment (hereafter AMCEN), the African Climate Policy Centre (hereafter ACPC), the Climate for Development in Africa (hereafter CDAP) and the New Partnership for African Development (hereafter NEPAD).

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156 *SERAC* case paras 52 and 53.

157 Jegede *The Climate Change regulatory framework and indigenous peoples' lands in Africa: Human rights implications* 338.

158 Jegede *Climate Change in the Work of the African Commission on Human and Peoples' Rights* 148.

159 African Commission: "Resolution on Climate Change and Human Rights and the Need to Study its Impact in Africa" 46th Ordinary Session ACHPR/Res.153(XLVI)09 (2009).

160 African Commission: "Resolution on Climate Change in Africa" 55th Ordinary Session ACHPR/Res.271(LV)2014 (2014).

161 African Commission: "Resolution on Climate Change and Human Rights in Africa" 58th Ordinary Session ACHPR/Res. 342(LVIII) (2016).

162 Jegede *Climate Change in the Work of the African Commission on Human and Peoples' Rights* 145: "There is little doubt that the adoption of resolutions is a starting point, but it is not acceptable that since the adoption of the African Commission's first resolution in 2009, a detailed analysis of the impact of climate change is not yet available".

Due to the already exhausted scope of discussion in this chapter, these structures and programmes will not be discussed in detail.[163] However, they will be summarised by highlighting crucial aspects thereof. AMCEN, is a permanent forum composed of Ministers responsible for environmental affairs of AU Member States and has played a critical role in climate change negotiations.[164] Its mandate is to provide advocacy for environmental protection, to ensure that basic human needs are met adequately and in a sustainable manner and to ensure that social and economic development is realised at all levels.[165] Due to climate change being a core aspect of the programme of the AMCEN, it strives to align its strategies with national and regional strategies for the development of resilient mechanisms confronting physical impacts of climate change.[166] For example, in 2016 it expressed a commitment to addressing the environmental dimension of the Paris Agreement on Climate Change through dialogues and public meetings organised at sub-regional levels.[167]

CCDAP is a joint initiative of the AU Commission, the African Development Bank and the United Nations Economic Commission for Africa. It was developed to offer a concrete response to climate change through mechanisms of expanded knowledge to effectively address climate change impacts in Africa and assist member states to enhance mandates adopted in their programmes and strategies.[168] The main focus of CCDAP includes, amongst other things, action integration for climate change, the development of science, and strong working partnerships with the AU Commission and its member states.[169]

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163 For a more detailed discussion on the role of these structures in the context of indigenous peoples' land rights and climate change, see Jegede *The Climate Change regulatory framework and indigenous peoples' lands in Africa: Human rights implications* 238-239.

164 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 428.

165 UNEP 1985 http://web.unep.org/africa/amcen.

166 Ruppel "Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries" 429.

167 See for example UNEP 2016 "AMCEN Sixth Special Session" http://drustage.unep.org/sites/.

168 AU "Decision on Climate Change and Development in Africa" Doc. Assembly/AU/12(VIII) (2007).

169 Jegede *Climate Change in the Work of the African Commission on Human and Peoples' Rights* 149.

NEPAD was conceived in 2001 as the blueprint for Africa's ownership of its development and its mandate is to, amongst other things, eradicate poverty and promote sustainable growth and development.[170] NEPAD has six main thematic areas which it focuses on, but the following two are of particular relevance to this work:

1. Agriculture and food security; and
2. Climate change and natural resource management.[171]

These two themes aim to firstly assist member states to integrate climate change responses with national developmental processes; secondly it strives to strengthen mechanisms of mitigation, technology, finances and adaptation in order to combat anthropogenic changes.[172] Based on the inevitable human rights connection to climate change, all of these structures and programmes are laudable and must be seen to be in the interests of the African region because they could be effective in developing both the nexus and application of human rights to climate change.[173]

2.4 Chapter summary

This chapter analysed and investigated the international framework on climate change. The investigation aimed to explore the intrinsic connection between climate change, energy production-consumption and sustainable development. The chapter commenced by unpacking the concept of climate change and its fragmented premise in an anthropogenic era. Here, the researcher highlighted the intertwined aspects of these two issues. However, it was established that climate change, although it encompasses aspects of the anthropogenic era, is only part of a far wider issue which is the anthropogenic era.[174]

The discussion also highlighted the fact that climate change is a threat to energy production globally. This threat is urgently serious for impoverished regions because

170 NEPAD 2017 https://www.nepad.org/content/our-work.
171 NEPAD 2017 https://www.nepad.org/content/our-work.
172 NEPAD 2017 https://www.nepad.org/content/our-work.
173 See Scholtz 2010 *AHRLJ* 13.
174 See para 2.2 above.

the impacts of climate change are argued to be more harshly felt by developing regions rather than developed regions.[175] The discussion was based on various adopted international instruments both at the UN-level and the regional level, irrespective of whether they have a binding or non-binding effect on member states.[176]

Sustainable development (including sustainable energy) takes centre stage in an attempt to address climate change.[177] The researcher established that it is impossible to speak of sustainable energy production without due consideration being given to the nexus between climate change, environmental protection and social and economic interests.[178] The researcher argues that the facilitation of energy, environmental and climate change laws, without effective political will stands to hinder, amongst other things economic growth, progressive efforts towards improving implementation, monitoring and enforcement of all above discussed instruments.[179] In view of this foundational basis, the South African constitutional right to electricity will be discussed in the next chapter.

175 See paras 2.3.1.1-2.3.1.2 above.
176 See paras 2.3.1-2.3.2 above.
177 See para 2.3.1 above.
178 See para 2.3.1.3 above.
179 See para 2.3.2.1 above.

Chapter 3

South African constitutional right to electricity

3.1 Introduction

This chapter seeks to explore the need for access to electricity in South Africa pursuant to sustainable development.[180] The chapter critically investigates the *Constitution* and the national legislative and policy framework relating to electricity.[181] The overarching regulatory framework creates an essential nexus specifically between environmental law and energy law, in which the government is challenged to ensure sustained service delivery of electricity through the so-called 'just transition'. Therefore, the importance and challenges relating to this nexus will be investigated in relation to environmental justice.

3.2 The right of access to electricity in South Africa

3.2.1 Is access to electricity a socio-economic right?

The established jurisprudence by courts on the justiciability of socio-economic rights, arguably warrants access to modern energy, in particular access to electricity as a justiciable socio-economic right.[182] Khoza has argued that socio-economic rights are those rights that:

> give people access to certain basic needs (resources, opportunities and services) necessary for human beings to lead a dignified life. Government and, in certain circumstances, private individuals and bodies, can be held accountable if they do not respect, protect, promote and fulfil these rights…Socio-economic rights are especially relevant for vulnerable and disadvantaged groups in society. They are important tools for these groups, who are often most affected by poverty and who experience a number of barriers that block their access to resources, opportunities and services in society.[183]

Therefore, an argument by Sarkodie and Adam is correctly held, that access to electricity is a "condition for economic development and poverty alleviation" which

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180 See para 1.1 above.

181 Para 3.2.

182 Odeku and Gundani *Ensuring affordable electricity as a vital socio-economic right in South Africa* 337.

183 Khoza *Socio-economic rights in South Africa* 20.

also reduces inequalities.[184] Considering the current high levels of inequality and poverty in South Africa,[185] access to electricity and its reliability cannot be undermined. Earlier it is alluded that access to electricity guarantees an improved livelihood and a certain degree of quality of life, hence it is an essential aspect to the well-being of an individual or a community.[186] In this regard, Oyuke, Penar, and Howard, highlighted the 'must have' effect of electricity as follows:

> Access to electricity is fundamental to opportunity in this age. It's the light that children study by; the energy that allows an idea to be transformed into a real business. It's the lifeline for families to meet their most basic needs. And it's the connection that's needed to plug Africa into the grid of the global economy. You've got to have power.[187]

However, it is worth noting that the mere presence of electricity will not contribute much to sustainable development, thus, it becomes quite a 'mountain to climb' to ever imagine any sort of development without access to electrification.[188] This is more evident in urbanised areas, where energy services are arguably present. One would often learn that improved access and adequate supply are in reality two different things.[189] The availability of and accessibility to electricity are a pivotal component towards realising other socio-economic rights,[190] and ensuring sustainable development.[191] For example, lack of improved access to electricity impacts on several development indicators such as health, education, food security, gender equality, climate change and right to a clean environment.[192]

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184 Sarkodie and Adams 2020 *Energy strategies reviews* 2.

185 Sarkodie and Adams 2020 *Energy strategies reviews* 1: "energy deprivation is a leading contributor to morbidity, political unrest, and environmental instability".

186 See para 1.1 above.

187 Oyuke, Penar, and Howard *Off-grid or 'off-on': Lack of access, unreliable electricity supply still plague majority of Africans* 1.

188 Sarkodie and Adams 2020 *Energy Strategies Reviews* 3.

189 Oyuke, Penar, and Howard *Off-grid or 'off-on': Lack of access, unreliable electricity supply still plague majority of Africans* 8: "Firstly, not all citizens with access to an electric grid are actually connected. Secondly, not all households connected to an electric grid enjoy a reliable supply of electricity from that connection".

190 Tully 2006 *North-western Journal of International Human Rights* 530.

191 Tully 2006 *North-western Journal of International Human Rights* 531: "An individual entitlement to access energy self-evidently offers the potential to further the integration of human rights within the sustainable development agenda. Incorporating the norms, standards and principles of human rights into energy plans, policies, and programs is similarly warranted and justifiable".

192 World Bank 2018 https://www.worldbank.org/en/news/feature/2018/04/18/access-energy-sustainable-development-goal-7.

Tully, has argued that there is a legitimate expectation that governments must satisfy basic human needs irrespective of their financial or technical capacity.[193] The *Constitution* itself provides that the satisfaction of such basic human rights is an obligation imposed upon the state to realise the socio-economic rights progressively, however, within its available resources.[194] The Constitutional Court in the *Grootboom* case enunciated this obligation perfectly as follows:

> The goal of the *Constitution* is that the basic needs of all in our society be effectively met and the requirement of progressive realisation means that accessibility should be progressively facilitated: legal, administrative, operational and financial hurdles should be examined and, where possible, lowered over time…There is a balance between goal and means. The measures must be calculated to attain the goal expeditiously and effectively but the availability of resources is an important factor in determining what is reasonable.[195]

Therefore, despite lack of vivid expressions of the right of access to electricity in the Bill of Rights, its interconnectedness to other socio-economic rights, qualifies the access, availability and reliability of electricity as a basic human right.[196] Unfortunately, power cuts that have been occurring rapidly for over 12 years to date threaten the security of electricity supply and its accessibility,[197] and this points out that the realisation of access to electricity for 'all' remains a gloomy dream for others, especially for those in the rural areas, who are poor, vulnerable and marginalised.[198]

3.2.2 Constitutional mandate

Since the inception of a democratic South Africa in 1994, the *Constitution* and the Bill of Rights serve as the legal foundation of the Republic in that it outlines the

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193 Tully 2006 *North-western Journal of International Human Rights* 532.

194 See ss 26(2), 27(2) and 29(1)(b) of the *Constitution*; *Grootboom* case para 20.

195 *Grootboom* case paras 45-46.

196 Odeku and Gundani *Ensuring affordable electricity as a vital socio-economic right in South Africa* 337-338.

197 See Department of Mineral Resources and Energy (2020-2025) Strategic Plan (hereafter DMRE-SP 2020-2025) 12, this Strategic Plan provides that issues to electricity supply are often associated to "lack of skills development, lack of power stations, municipal debts, financial management constraints, illegal connections, electricity theft, high electricity tariffs rate, and poor strategic plans".

198 Moshoeu *Critical Analysis of the Right to Access Electricity for the Destitute in South Africa: Issues and Challenges* 10.

rights of citizens, duties imposed upon the state and defines the composite structure of the government. The *Constitution* imposes positive and negative obligations upon the state to respect, protect, promote and fulfil the rights in the Bill of Rights.[199] South African courts, in particular the Constitutional Court, had many opportunities to adjudicate in most, if not all, varying socio-economic rights in the Bill of Rights and subsequently establish responsive jurisprudence to realities of poverty in the society.[200] Although, many of these socio-economic rights are expressed in the constitutional text and were interpreted and enforced as such, the Constitutional Court have warned that it must not be misconstrued that where a right is not expressed in the Bill of Rights, such as the right of access to electricity, it does not enjoy protection under the *Constitution*.[201]

The duties imposed require that all spheres of government work together,[202] and amongst other things, secure the well-being of the people of the Republic.[203] Local government as one of the spheres of government is obligated by the *Constitution* to provide and account for specific functions. In line with the scope of this paper, these include ensuring provision of community services in a sustainable manner, promotion of social and economic development, promotion of a safe and healthy environment, etc.[204] Municipalities,[205] as autonomous entities,[206] possess an

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199 S 7(2) of the *Constitution*; Du Plessis *Fulfilment of South Africa's constitutional environmental right* 98: "By the term 'respect' for rights one may understand that states should refrain from interfering with the enjoyment thereof. A negative duty is hence implied".

200 Moyo "The jurisprudence of the South African Constitutional Court on socio-economic rights" 37; *Beja* case para 5: "The marginalisation of poor and vulnerable groups in our society remains an obstacle in the realisation of our national goals. It must be emphasised that the entrenchment of a Bill of Rights, enforceable by a judiciary, is designed, in part, to protect those who are the marginalised, the dispossessed and the outcasts of our society. They are the test of our commitment to a common humanity and cannot be excluded from it".

201 *Mazibuko & Others v City of Johannesburg & Others* 2010 (4) SA 1 (CC) para 46 (hereafter *Mazibuko* case): "As with all rights, to understand the nature of the right, we need to understand the nature of the obligations imposed by it. What obligations does it impose and upon whom?".

202 See s 40 of the *Constitution*.

203 See s 41(1)(c) of the *Constitution*.

204 S 152(1)(b)-(d) of the *Constitution*.

205 S 2 of the *Local Government: Municipal Systems Act* 32 of 2000 (hereafter *Systems Act*): "A municipality is an organ of state within the local sphere of government exercising legislative and executive authority within an area determined in terms of the Local Government: Municipal Demarcation Act, 1998 and it consists of political structures, administration of the municipality and the community of the municipality".

206 *City of Cape Town v Robertson* 2005 2 SA 323 (CC) para 60.

exclusive mandate and powers to facilitate regulation within their jurisdictional overreach.[207] Therefore, as Mosdell puts it, municipalities do not have the freedom to deviate from national legislation, irrespective of whether it's through their local by-laws or in their activities and undertakings.[208] Hence, only under exceptional circumstances may the national and provincial governments be permitted to interfere in the affairs of a municipality.[209]

The concept of 'provision of services' in section 152(1)(b) of the *Constitution* is not described. Schedules 4B and 5B prescribed in the *Constitution* extend executive powers to the local governments in respect of matters listed therein.[210] These include, for example, regulating the nexus between environmental protection and increased electricity production, air pollution, building regulations, electricity and gas reticulation, municipal planning, municipal public transport,[211] and street lighting.[212] It can thus be easily inferred that 'provision of services' is accrued to matters in the schedules. According to Freedman, municipalities share the power to pass legislation on the matters listed in schedules 4B and 5B with the national and provincial governments; however, the power to administer or implement matters in the schedules must solely be exercised by municipalities themselves.[213]

It has been argued that lack of specifically mentioning 'energy' in the schedules of the *Constitution* may suggest that energy is an area that rests with national competence,[214] and perhaps this is evident through key decisions being taken by the national executive. For example, the sluggish transition from coal-produced

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207 Snijman and Petterson "Environmental law compliance and enforcement" 293: "Municipalities, being closest to the people they govern, usually they have the advantage of local knowledge over their provincial and national counterparts".

208 Mosdell *The Role of Municipalities in Energy Governance in South Africa* 10; See also s 156(3) of the *Constitution*.

209 *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* 2010 6 SA 182 (hereafter *Gauteng Development Tribunal* case) para 59: "Neither the national nor the provincial spheres of government can, by legislation, give themselves the power to exercise executive municipal powers or the right to administer municipal affairs"; See also ss 154(1) and 155(6)(a)-(b) of the *Constitution*.

210 S 156(1)(a)-(b) of the *Constitution*.

211 See schedule 4B of the *Constitution*.

212 See schedule 5B of the *Constitution*.

213 Freedman 2014 *PELJ* 6-7.

214 du Plessis and Murombo "Energy" 879.

energy to clean energy generation is a decision that rests with the Department of Mineral Resources and Energy (DMRE) instead of municipalities.[215] However, it can always be argued that the DMRE derives its mandate from the legislative and executive power to see through the effective performance of municipalities and regulate the exercise of executive authority of municipalities.[216]

The *Constitution* further provides that all obligations set out in the *Constitution* must be performed diligently and without delay.[217] This provision prompts the timeous execution of specific functional areas allocated to each sphere of government which can also be executed through the exercise of cooperative governance.[218] This is urgently crucial, especially because the effects of Eskom-monopolised service delivery of electricity continues to be a horror for the nation.[219] However, to this effect, there seems to be a glimmer of light at the end of the tunnel, in that the DMRE is in the process of developing regulations to ensure regulatory certainty, which are aligned with the *ERA*,[220] for municipalities to procure or develop their own power generation.[221]

3.2.3 Legislative framework

3.2.3.1 Electricity production and environmental regulations

The environmental provision enshrined in the *Constitution*,[222] similarly to many other rights in the *Constitution*, is not absolute,[223] but it is a cardinal right.[224] In the *Fuel Retailers* case the court held that "development requires the protection of the

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215 DMRE-SP 2020-2025 12: "South Africa should not sterilise the development of its coal resources for purposes of power generation. Instead, the planning framework for energy and environment must support a just transition".

216 See s 155(7) of the *Constitution*.

217 S 237 of the *Constitution*.

218 See ss 40-41 of the *Constitution* read with schedules 4 and 5.

219 DMRE-SP 2020-2025 12: "Eskom remains the sole provider of electricity and prices are high in terms of affordability. Reliability and security of supply are not guaranteed, and load shedding is crippling the economy".

220 4 of 2006.

221 See Department of Mineral Resources and Energy (2021-2022) Annual Performance Plan 15.

222 S 24 of the *Constitution*.

223 See s 36 of the *Constitution*.

224 Ramodibe *The effect of poor stormwater management by municipalities on water and sanitation services* 7-9.

environment".[225] Therefore, it is in that context that developments relating to increased electricity generation must be informed by the notion of sustainable development embodied in the *Constitution*, importantly because it will be illusory to ever imagine a zero environmental impact method that will assist to generate energy capacity while sustaining the nation's energy needs.[226] The fact that all of the rights in the Bill of Rights are interrelated and mutually supporting,[227] implies that rights entrenched in the *Constitution* continuously require a balancing act.[228] For a developing country such as South Africa, this balance is certainly not easily achievable. In the context of the environmental right provision, this balance is expressed by placing 'human intergenerational needs' at a focal point,[229] in that developments must aim to ensure accessibility to the present and future generations.[230]

The anthropocentric nature of environmental rights[231] prompts the government to equate the progressive provision of social needs, the intended economic aspirations, and the promotion and protection of the environment to synchronise with the recognition that long-term impacts may cause irretrievable damage to the environment or ecosystems.[232] For example, the government cannot, pursuant to the promotion and accessibility of increased electricity production through the lens of sustainable development, promote one aspect and ignore other essential aspects of the intended energy-generating project by commencing on an economic part of a proposed project without considering the health or well-being of both the community and the environment.[233]

It bears repeating that section 24 of the *Constitution* as a central right in the Republic's environmental governance bestows on every person inside the Republic

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225 *Fuel Retailers* case para 44.
226 The researcher believes that wind energy, for example, has negative environmental impacts such as noise pollution and disturbances to biodiversity, especially for birds and bats.
227 *Grootboom* case para 86.
228 Liebenberg *Socio-Economic Rights* 65.
229 See s 24(b) of the *Constitution*.
230 Taylor *Intergenerational justice: a useful perspective for heritage conservation* 1.
231 Kidd 2008 *SAJELP* 85; Kotzé 2014 *JENRL* 256.
232 Du Plessis and Du Plessis "Striking the sustainability balance in South Africa" 416.
233 King, Strydom and Retief *Fuggle and Rabbie's Environmental Management in South Africa* 8.

the right to an environment that is not harmful to health and well-being,[234] while, section 24(b) of the *Constitution* bestows on every person inside the Republic, a right:

> to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.[235]

This provision arguably provides citizens with a right to demand that the state, Eskom or Independent Power Producers (IPPs) refrain from subjecting their health or well-being to environmental harm emanating from harmful electricity-generating mechanisms such as the burning of fossil fuels.[236] Therefore, failure on the part of the above-mentioned actors to address and explore mechanisms to ensure sustained electricity in the Republic, arguably infringes upon citizens' environmental right in section 24 of the *Constitution*.

Given the fact that coal-fired power plants dominate the South African electricity market,[237] with about 82% of energy mix relying on coal as its primary source,[238] and South Africa being one of the world's major GHGs emitter,[239] the *National Environmental Management Act*,[240] is of utmost relevance. The *NEMA* was enacted to give effect to the environmental provision enshrined in the *Constitution*.[241] It is the primary environmental framework legislation which endorses the sustainable development principle,[242] and outlines how it must be complied with, where the

234 S 24(a) of the *Constitution*.
235 S 24(b)(i)-(iii) of the *Constitution*.
236 Mosdell *The Role of Municipalities in Energy Governance in South Africa* 11.
237 Grange *Electricity regulation in South Africa: overview* 4.
238 Calitz and Wright *Statistics of utility-scale power generation in South Africa* 9.
239 See para 2.3.2 above.
240 *National Environmental Management Act* 107 of 1998 (hereafter *NEMA*).
241 King, Strydom and Retief *Fuggle and Rabbie's Environmental Management in South Africa* 8.
242 See s 1 of *NEMA*; See also *MEC for Agriculture, Conservation, Environment and Land Affairs, Gauteng v Sasol Oil and Another* [2006] 2 All SA 17 (SCA) para 15: "The principle of 'sustainable development' requires organs of state to evaluate the 'social, economic and environmental' impacts of activities".

state or any other entity seeks to undertake activities that may be gravely harmful to the environment.[243]

Electricity generation is subject to the ambit of the *NEMA* primarily because it is an activity that is specifically listed and thus a number of environmental authorisations are required before it may commence.[244] Sustainable development is a guiding tool to regulate the manner in which socio-economic developments take precedence.[245] A number, if not all, of prescribed managerial principles in *NEMA* pursuant to the sustainable development principle are of significant relevance to electricity generation. *NEMA* provides that the development, for example, of electricity power plants must be socially, environmentally and economically sustainable.[246] Section 2(4)(a) of *NEMA* provides that sustainable development requires the consideration of all relevant factors, and factors relevant to electricity generation include the following:

> that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied; that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource; that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.[247]

Furthermore, as all elements of the environment are considered, decisions must pursue a selection of best practicable environmental options,[248] and international responsibilities relating to the environment must be discharged in the national interest.[249] Owing to the binding effect of directive principles in section 2 of the *NEMA*, most of these principles find application when it concerns electricity generation. In affirmation with arguments advanced by Mosdell, the reading of

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243 See s 2 of the *NEMA*, principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment.
244 S 24(2)(a) and (d) of the *NEMA*.
245 *Fuel Retailers* case para 58.
246 See s 2(3) of the *NEMA*.
247 S 2(4)(a)(i), (ii), (v) and (viii) of the *NEMA*.
248 S 2(4)(b) of the *NEMA*.
249 S 2(4)(n) of the *NEMA*.

these principles in a unified way places obligations upon the state and other entities to deal with energy matters, including electricity generation, in a manner that "both prevents pollution domestically and upholds the international commitments to reduce its GHG emissions".[250] Electricity generation is an activity that may affect specific areas such as water resources[251] and the atmosphere,[252] thus, electricity generation is warranted to be an activity prone to legislation regulating the quality of these specific areas. Eskom's coal-fired power plants such as the Lethabo power station (Sasolburg) or Kusile power station (Delmas) emit tons of chemicals out to the atmosphere through its smokestacks which are higher than 200m above ground level.[253] This leads to atmospheric pollution. The *National Environmental Management: Air Quality Act* (hereafter *NEM:AQA*),[254] is the primary legislative piece regulating issues concerned with air pollution and air quality. *NEM:AQA* provides for reasonable measures for the prevention of air pollution and ecological degradation, and secures ecologically sustainable development while promoting justifiable economic and social development.[255]

According to *NEM:AQA*, the state is under a general duty to protect and enhance air quality in the Republic,[256] thus in chapter 4 the *NEM:AQA* provides for air quality management measures. Similar to the *NEMA*, combustion installations are a listed activity in terms of the national list of industrial air pollution sources,[257] which means

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250 Mosdell *The Role of Municipalities in Energy Governance in South Africa* 13.

251 See for example the *National Water Act* 36 of 1998 preamble: "the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all"; See also van den Berg and Young "Water services provision and the protection of water resources" 34: "Water quantity is regulated by authorities ensuring that all users have licences and that no licence volumes are exceeded, while, water quality is regulated by authorities ensuring that there is limited pollution in South Africa's rivers and water streams, by controlling water-related activities and the effluent discharged by water users".

252 Engelbrecht and Kornelius "Air quality management" 7. "Coal combustion for electricity generation produces significant quantities of emissions including Sulphur oxide, nitrogen and particulates in addition to GHGs, various organic compounds a heavy metals".

253 Engelbrecht and Kornelius "Air quality management" 8.

254 *National Environmental Management: Air Quality Act* 39 of 2004 (hereafter *NEM:AQA*).

255 S 2(a)(ii)-(iii) of the *NEM:AQA*.

256 S 3(a) of the *NEM:AQA*.

257 S 23 of the *NEM:AQA* read with *List of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage* GN R248 GG 33064 31 March 2010.

no person (municipalities, IPPs or any entity) may conduct an activity listed on the national list without an atmospheric emissions licence.[258] Furthermore, factors which the licensing authority must consider when deciding to grant a licence or not,[259] reflect the close nexus between air quality and energy issues,[260] which can be argued to present actors in the energy sector with an opportunity to align these two issues and enhance mechanisms of governance to address climate change impacts and contribute towards a transition towards a low-carbon society.[261]

3.2.3.2 Electricity production and energy regulations

The scope of this work will not be able to cover all aspects addressing energy regulations in detail, thus a blanket approach in relation to electricity is adopted. In South Africa, the legislature divided energy laws to specifically pertain to electricity, renewable energy, nuclear energy, petroleum, and gas.[262] Eskom is the major provider of electricity in South Africa,[263] and its operational capacity to generate electricity rests with the national government. However, an analysis of the body of energy laws, read in line with the schedules provided for in the *Constitution*,[264] highlights the situation that local government also has a role to play, especially in ensuring that "electricity is available, accessible and affordable for all including the poor households".[265] It has been argued that in South Africa, municipalities can execute such a role either as a regulator, custodian of people's health, safety and the environment, or as the regulated[266] or the communicating authority.[267] However, despite all the constitutional mandates and powers,[268] municipalities are

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258 S 22 of the *NEM:AQA*.
259 See s 39 of the *NEM:AQA*.
260 *IRP* 2019 15.
261 Mosdell *The Role of Municipalities in Energy Governance in South Africa* 14.
262 du Plessis and Murombo "Energy" 880.
263 DMRE-SP 2020-2025 12.
264 See schedules 4B and 5B of the *Constitution*.
265 Moshoeu *Critical Analysis of the Right to Access Electricity for the Destitute in South Africa: Issues and Challenges* 17.
266 du Plessis and Murombo "Energy" 880.
267 BusinessTech 2021 https://businesstech.co.za/news/energy/536142/eskom-ceos-outlook-for-load-shedding-in-south-africa-here-are-the-new-schedules/: "A recent new challenge that has reared its head, which is quite unfortunate, is that some municipalities have not played their role in introducing load shedding".
268 See para 3.2.2 above.

presently powerless to execute any role except being regulated; for example, municipalities do not have any powers with regard to the implementation of load-shedding stages across the country.

South Africa's electricity is greatly regulated by three main pieces of legislation, namely, *Energy Act*,[269] *National Energy Regulator Act*,[270] and *ERA* read with its regulations.[271] *ERA* is the primary legislative instrument governing the operation, generation and distribution of electricity,[272] and it further provides that the National Energy Regulator of South Africa (NERSA) is the custodian and enforcer of the national electricity regulatory framework.[273] *ERA* embodies a number of objectives, and amongst those are to achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure;[274] through the efficiency of governance, ensure that the interests and needs of present and future electricity customers and end-users are safeguarded and met;[275] and to promote the use of diverse and efficient energy sources.[276] In the South African energy sector, the distribution of electricity is a shared responsibility between Eskom, municipalities and IPPs. However, in order for municipalities and IPPs to distribute electricity to end-users, they must apply or register with NERSA for compliance to be a distributor.[277] To this effect, Grange has argued that the competency to distribute electricity by municipalities is, subject to some exceptions, such as "municipalities must purchase electricity from Eskom or an IPP at a regulated price and on-sell the same at a regulated margin to the municipal customers".[278]

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269 *Energy Act* 34 of 2008.
270 *National Energy Regulator Act* 40 of 2004 (hereafter *NERA*).
271 *ERA* 4 of 2006 read with *Electricity Regulations on New Generation Capacity* GN R721 in GG 32378 of 5 August 2009 and *Electricity Regulations on the Integrated Resource Plan* 2010-2030 GN R400 in GG 34263 of 6 May 2011.
272 Grange *Electricity regulation in South Africa: overview* 3.
273 S 3 of the *ERA*.
274 S 2(a) of the *ERA*.
275 S 2(b) of the *ERA*.
276 S 2(e) of the *ERA*.
277 See s 10 of the *ERA*; The researcher believes that this provision perpetuates the argument that municipalities are presently powerless concerning electricity generation up to its distribution, and advances monopolised service delivery of electricity.
278 Grange *Electricity regulation in South Africa: overview* 5.

To this end, it must be clear that the linkage between electricity generation and the environment cannot be overlooked. Their interconnectedness makes it imperative for an Environmental Impact Assessment (EIA) to be conducted where any electricity generation facility is to be installed.[279] Any actor aiming to procure such a facility must comply with the provisions informing environmental authorisations as a prerequisite prior to the issuing of any licences.[280] Therefore, with an activity that poses harm to the environment, it is essential that licences be issued subject to specified conditions,[281] or licences must be issued in a bundle so as to ensure full compliance, accountability and transparency.[282] Furthermore, as the DMRE puts it, there must be a balance between energy security and, the adverse environmental and health impacts emanating from, for example, poor air quality.[283] This balance is the basis of the sustainable development principle. Accordingly, the so-called 'just transition' to cleaner and greener energy generation requires the transition be made steadily, in the sense that supply and accessibility of electricity are sustained (social), the cost associated with the closing of coal-fired power plants is considered to include job losses in the coal sector (economy), and extreme reliance on coal-fired electricity generation is lowered promptly in an effort to mitigate climate change impacts (environment), as a *sine qua non* through collective efforts of all the actors in the energy sector (governance).

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279 du Plessis and Murombo "Energy" 7.

280 See *Environmental Impact Assessment Regulations* GN R983 GG 38282 of 4 December 2014 as amended GN R706 GG 41766 of 13 July 2018 (hereafter *EIA regulations*).

281 For example, in terms of s 14 of the *ERA*, the Regulator may set specific conditions in the process and finalisation to granting a licence.

282 For example, requirements for compliance and granting of licences to cut protected trees must be considered; See *Long Beach Home Owners Association v Department of Agriculture, Forestry and Fisheries* (South Africa) & another (865/2016) [2017] ZASCA 122 para 18: "Land uses which transform natural habitat and which are not of national or provincial strategic importance (including residential development and agriculture), do not constitute exceptional circumstances…The term "exceptional circumstances" indicates situations that are unusual or rare. These exceptional circumstances are confined to strategic public projects such as national roads, dams and bulk service infrastructure, but exclude ordinary urban or residential development".

283 *IRP* 2019 15.

3.3 Chapter summary

This chapter investigated the need for access to electricity in South Africa pursuant to sustainable development. The researcher highlighted how access to electricity is a basic human right. This right as a socio-economic right must be realised progressively and within available resources of the state. The environmental right provision in the *Constitution* is a cardinal right, in the sense that it is a provision that informs the progression of developmental indicators including the right of access to electricity. The central theme is inevitably sustainable development because the nexus between energy-environmental regulatory framework highlights that sustained service delivery of electricity must be ensured through the integration of all factors being the social, economic, and environmental pillars, and governance as an additional pillar.

Chapter 4

Just transition through the lens of environmental justice

4.1 Introduction

This chapter builds up upon the previous chapter. The *Thabametsi* case[284] is triumphal for environmental protection and in possibly addressing climate change impacts. Despite South Africa's efforts to address climate change diplomatically, its atmospheric emissions of GHG's increasingly remain a concern.[285] This means the daily increase of GHG's in the atmosphere poses threats to the government's relentless efforts, if any,[286] to balance the pillars of sustainable development.[287] Therefore, this chapter seeks to investigate the South African perspective of a just transition through environmental justice by critically reflecting on the *Thabametsi* case, precisely because coal-fired power stations are an unsustainable means of generating electricity and are huge contributors to climate change. This chapter will highlight the factual background and the court's ruling.[288] The chapter will also investigate what could be said to be environmental justice in view of the government's *IRP* 2019 and sustainable development principle.[289]

4.2 Thabametsi case

4.2.1 Factual background and ruling

The matter was concerned with environmental impacts following a decision to build the 1200MW coal-fired power station near Lephalale in the Limpopo Province.[290] In South Africa, anyone seeking to construct a coal-fired power station needs an

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284 [2017] 3 All SA 187 (WCC); 2017 (5) SA 227 (WCC).
285 See para 2.3.2 above.
286 See para 3.2.2 above.
287 Feris 2010 *PELJ* 85.
288 Para 4.2.1.
289 Para 4.3.
290 See Department of Energy, *Integrated Resource Plan for Electricity* 2010–2030 GN R400 GG 34263 of 6 May 2011 (now read with updated *IRP* 2019); See also Humby 2018 *JEL* 147: "The construction of new coal-fired electricity generation is mandated by the Cabinet-approved Integrated Resource Plan (IRP) for Electricity 2010–30 and its updates".

environmental authorisation,[291] granted by a relevant environmental authority. Earthlife, an NGO seeking to advance the constitutional right to a healthy environment, requested the High Court to review and set aside the decision of the Chief Director to grant approval for the construction of a 1200-MW coal-fired power station and also set aside the Minister's decision to dismiss an appeal made by Earthlife.[292] The Chief Director had granted the approval for the construction of the coal-fired power station without considering the climate change impacts of the proposed power station.[293] Earthlife based their application upon various grounds of review in terms of the *PAJA*[294] and section 24(O) of the *NEMA*, which require competent authorities when considering applications to consider 'all relevant factors'.[295] The NGO in its application maintained that the Department of Environmental Affairs (DEA) or the Chief Director before granting authorisation of the proposed power station failed to act as per their obligations to consider climate change impacts.[296]

Furthermore, the NGO argued that every development decision must be based on its contribution to both mitigation and adaptation aimed at maximising reduction in direct and indirect GHG emissions.[297] In order to advance this goal, according to the NGO international and national legislative and policy requirements must be met, in that the EIA process as a matter of policy should include climate change considerations in full as part of "climate change screening".[298]

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291 See s 24 of the *NEMA* read with *EIA regulations* GN R983 GG 38282 of 4 December 2014.

292 *Thabametsi* case para 2.

293 *Thabametsi* case para 4.

294 *Promotion of Administrative of Justice Act* 3 of 2000 (hereafter *PAJA*).

295 *Thabametsi* case para 79; See s 24O of the *NEMA*, all relevant factors, which may include "any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused".

296 *Thabametsi* case paras 5-6, A climate change impact assessment required would consist of the following assessment "(i) the extent to which a proposed coal-fired power station will contribute to climate change over its lifetime, by quantifying its GHG emissions during construction, operation and decommissioning; (ii) the resilience of the coal-fired power station to climate change, taking into account how climate change will impact on its operation, through factors such as rising temperatures, diminishing water supply, and extreme weather patterns; and (iii) how these impacts may be avoided, mitigated, or remedied".

297 *Thabametsi* case para 55.

298 *Thabametsi* case para 55: "climate change screening must tackle both mitigation (potential contribution to further GHG emissions) as well as adaptation measures".

Following Earthlife's appeal against the decision by the Chief Director to grant an environmental authorisation approval, on the 7th of March 2016, the Minister decided to uphold the decision to grant such an environmental authorisation.[299] What prompted the NGO's application for irregularity review,[300] was the fact that the Minister conceded[301] that a detailed climate impact study needed to be conducted,[302] in particular to assess the impacts of climate change, the water resources estimated to be available, and the impacts that would emanate from GHG emissions and adaptation to a changed climate.[303] However, the Minister decided to uphold the environmental authorisation subject to a condition, that Thabametsi undertook a climate change impact assessment prior to the commencement of the project.[304]

The High Court granted the judicial review sought by Earthlife,[305] however, it refused to set aside the authorisation already granted,[306] although arguably this might have been just and equitable in the circumstances of this case.[307] In granting the review favourable to Earthlife, the High Court framed its decisions by linking climate change impacts to sustainable development, the precautionary principle and intergenerational justice principle.[308] These principles which serve as binding directives are embodied in the environmental provision in the *Constitution* and the *NEMA*. Therefore, the High Court relied on the *Fuel Retailers* case judgement, and

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299 *Thabametsi* case para 62.

300 *Thabametsi* case para 67.

301 *Thabametsi* case para 65, the Minister agreed with Earthlife that "climate change impacts of the proposed development were not comprehensively assessed and/or considered prior to the issuance of the EA".

302 *Thabametsi* case para 65: "Minister accepted that a climate change assessment was a relevant factor in deciding whether to grant the authorisation".

303 *Thabametsi* case para 62.

304 *Thabametsi* case paras 65-66.

305 *Thabametsi* case paras 89-91.

306 See s 43(7) of the *NEMA*: "An appeal under this section does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister or an MEC directs otherwise".

307 *Thabametsi* case paras 121-122, the High Court, however, in line with section 8 of *PAJA* decided to "set aside the Minister's ruling on the fourth ground of appeal and to remit the matter of climate change impacts to her for reconsideration on the basis of the new evidence in the climate change report. The appeal process must be reconstituted, not the initial authorisation process, furthermore, the intrusion of 'unless the Minister directs otherwise' in s 47 of the *NEMA* operates to suspend the environmental authorisation pending the finalisation of the appeal".

308 *Thabametsi* case para 82-83.

appreciated the need for balance between environmental protection and socio-economic considerations through the ideal of sustainable development.[309] The High Court held as follows:

> Climate change poses a substantial risk to sustainable development in South Africa. The effects of climate change, in the form of rising temperatures, greater water scarcity, and the increasing frequency of natural disasters pose substantial risks. Sustainable development is at the same time integrally linked with the principle of intergenerational justice requiring the state to take reasonable measures protect the environment "for the benefit of present and future generations" and hence adequate consideration of climate change. Short-term needs must be evaluated and weighed against long-term consequences.[310]

The High Court also considered international law as empowered by the *Constitution*,[311] to afford proper interpretation of section 24O(1)(b) of *NEMA*.[312] South Africa, as a party to the UNFCCC and the Paris Agreement, has international commitments which it must observe and uphold.[313] Therefore, it is mandated to take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects,[314] and obligated to take climate change considerations into account, feasible to their relevant social, economic and environmental policies and actions by employing appropriate mechanism such as impact assessments.[315]

Following an analysis of all relevant legislation and policy instruments, the High Court held that a climate change impact assessment must be undertaken during the processes of EIA,[316] so as to allow authorities to consider how to prevent, mitigate or remedy the environmental impacts that would have adverse effects now and in the future.[317] The High Court further stated that the argument that the lack of

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309 See *Fuel Retailers* case paras 44-45.
310 *Thabametsi* case para 82.
311 See ss 39(1)(b) and 233 of the *Constitution*.
312 *Thabametsi* case para 83.
313 See paras 1.1 and 2.2 above.
314 A 3(3) of the UNFCCC (1992).
315 A 4(1)(f) of the UNFCCC (1992).
316 *Thabametsi* case para 90: "A climate change impact assessment is necessary and relevant to ensuring that the proposed coal-fired power station fits South Africa's peak, plateau and decline trajectory as outlined in the NDC and its commitment to build cleaner and more efficient than existing power stations".
317 *Thabametsi* case paras 78 and 80: "The environmental impact assessment process is a key means of promoting sustainable development, by ensuring that the need for development is

explicit references, in the *NEMA* or its regulations, to climate change impact assessment being a requirement to be complied with, does not hold water,[318] as it does not imply authorities are not duty bound to consider climate change as considerable a factor,[319] informing the development of a coal-fired power station.

4.3 Just Transition through environmental justice: Thabametsi contextual reflection

The *Thabametsi* case indeed established a much-needed jurisprudence in relation to climate-change litigation in the country.[320] For example, the current government's plans to build about 1500 MW of a new coal-fired power plant,[321] has already attracted environmental civil organisations to institute court proceedings against the government in the interest of the public and in order to vindicate constitutional rights.[322] What is clear in relation to the government's intentions is that the government is not prepared to halt its coal reliance on coal, despite its international commitments to reduce GHG emissions.[323]

In the *IRP* 2019, the DMRE provided for what it considers as key considerations and actions.[324] What the DMRE is saying here, in so many words, is that it is currently unfavourable for the country to cut off its reliance on coal,[325] however, it supports

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sufficiently balanced with full consideration of the environmental impacts of a project with environmental impacts. The directive principles caution decision-makers to adopt a risk-averse and careful approach especially in the face of incomplete information".

318 *Thabametsi* case para 89: "an environmental impact assessment process is inherently open-ended and context specific. The scoping process that precedes an environmental impact assessment provides opportunity for delineating the exercise and guidance on the nature of the climate change impacts that must be assessed and considered".

319 *Thabametsi* case para 88.

320 Kotzé and du Plessis *A bird's eye view of climate change litigation* 636.

321 See *IRP* 2019 42.

322 See Centre of Environmental Rights 2021 https://cer.org.za/news/youth-led-cancelcoal-climate-case-launched-against-governments-plans-for-new-coal-fired-power.

323 It is worth noting that at the time of writing this paper, COP26 conference was underway in Glascow. Therefore, the work does not highlight much of the developments after to the COP26 conference.

324 See *IRP* 2019 43.

325 See *IRP* 2019 46, the DMRE took the following decision "South Africa should not sterilise the development of its coal resources for purposes of power generation, instead all new coal power projects must be based on high efficiency, low emission technologies and other cleaner coal technologies".

the idea of an energy mix that endorses a 'just transition'.[326] The DMRE relied on the non-binding guidelines complied by the *International Labour Organisation Governing Body* to advocate for the idea of a "just transition towards environmentally sustainable economies and societies".[327] For the development of a just transition, these guidelines provides for, amongst other things:

1. Coherent policies across the economic, environmental, social, education/training and labour portfolios need to provide an enabling environment for enterprises, workers, investors and consumers to embrace and drive the transition towards environmentally sustainable and inclusive economies and societies.
2. These coherent policies also need to provide a just transition framework for all to promote the creation of more decent jobs, including as appropriate: anticipating impacts on employment, adequate and sustainable social protection for job losses and displacement, skills development and social dialogue, including the effective exercise of the right to organize and bargain collectively;
3. Social dialogue as an integral part of the institutional framework for policymaking and implementation at all levels;
4. Policies must respect, promote and realize fundamental principles and rights.[328]

The DMRE further argues that the achievement of a 'just transition' lies at the commencement of putting plans and interventions in place in order to effectively mitigate adverse impacts of the plant retirement programme on people and local economies.[329] For example, there must be socio-economically driven solutions that cater for the potential job losses in the coal sector, by introducing mechanisms to reskill employees in the coal sector or by installing greener electricity generators that will be closer to where the soon-to-be-phased-out, coal-powered generators are situated.

The idea of a 'just transition' must be implemented by advancing sustainable development, for instance, through environmental justice. The discussions in the preceding chapters suggest that energy-related solutions required to address climate change impacts and unacceptable health impacts caused by air and water pollution must be appropriate enough to the enormity of these crisis while seeking

326 See *IRP* 2019 44.
327 See *IRP* 2019 45.
328 See International Labour Organisation 2015 https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf.
329 See *IRP* 2019 44.

to be 'just and sustainable'.[330] Thus, according to Satgar, a 'just transition' from fossil fuels cannot be delayed, in that a steep decrease from extractivism must be explored as a process of transformation.[331] Therefore, unnecessarily prolonging the delay to shift to mechanisms of generating electricity through renewable sources, arguably perpetuates climate change impacts on various developmental indicators and people.[332]

According to Toxopeus, environmental justice may mean various things depending on varying economic, social, political and environmental circumstances.[333] This is in line with the argument that, for example, effects of climate change can only be addressed based on a particular domestic context.[334] Therefore, it is not surprising that the High Court in the *Thabametsi* case appreciated the links between impacts of climate change and sustainable development and associated managerial principles.[335] Arguably, as Moilwa puts it, environmental justice is concerned with the "total living environment of both the present and future generations".[336] Therefore, it is in that context that the idea of 'just transition' must be endorsed. The idea must be informed by efforts aiming to preserve the environment for the unborn while presently benefiting the living,[337] primarily because the continued extraction and subsequent burning of coal bears great social and environmental costs.

According to Molaiwa,[338] an appropriate definition of environmental justice translates to the meaning of 'justice', which is defined here to mean the "fair and

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330 Satgar "The Anthropocene and Imperial Ecocide: Prospects for Just Transitions" 39.

331 Satgar "The Anthropocene and Imperial Ecocide: Prospects for Just Transitions" 41. See also Bennie and Satgoor "Deepening the just transition through food sovereignty and the solidarity economy" 293: "Just transition requires movements seeking to reshape humans' relationships with key factors that structure our lives and the planet".

332 See para 3.2.1 above.

333 Toxopeus *The promotion of environmental justice through lens of civil-based environmental governance in South Africa* 5.

334 See para 2.1 above.

335 *Thabametsi* case para 82-83.

336 Molaiwa *Municipal Courts and environmental justice in South African local government* 11.

337 Du Plessis 2015 *SAJHR* 274.

338 Molaiwa *Municipal Courts and environmental justice in South African local government* 12.

proper administration of law".[339] Molaiwa further argues that in order to recognise environmental injustice, 'justice' has to be premised through three theoretical dimensions, namely, justice as distribution,[340] justice as a procedure,[341] and justice as recognition.[342] This argument is accurate given that neither the *NEMA* or any of the sector-specific environmental laws provide any guidance as to what environmental justice entails. Above it is alluded, that the unison reading and application of principles as envisaged in the *NEMA*, is essential for,[343] in this instance, the understanding of what environmental justice is supposed to mean as far as electricity generation is concerned,[344] and what the government has to consider pertaining to ecological factors integrated with socio-economic considerations.[345]

The *NEMA* provides for environmental justice as follows:

> Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.[346]

This principle is arguably concerned with, on the one hand, the promotion of equal distribution of natural resources and wealth, while on the other hand, it encourages less harmful environmental practices.[347] It envisages that the promotion of, for example, sustained energy through a long-term environmental decision of 'just

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339 Garner *Black's Law Dictionary* 942.

340 See Molaiwa *Municipal Courts and environmental justice in South African local government* 12, he argues that "distributive environmental justice focusses on the process of distributing environmental goods and resources fairly (green spaces, clean water, air and green transport infrastructure)".

341 See Molaiwa *Municipal Courts and environmental justice in South African local government* 13, he argues that "procedural justice denotes the idea of fairness in the procedures that resolve disputes and that see to the distribution of resources".

342 See Molaiwa *Municipal Courts and environmental justice in South African local government* 14, he argues that "justice as recognition denotes the recognition of all interested and affected parties and stakeholders in environmental management".

343 See para 3.2.3.1 above.

344 See ss 2(2), 2(4)(d), 2(4)(i) and 23(2) of the *NEMA*.

345 Glazewski and Bradfield *Environmental justice and the legal process* 23; *Fuel Retailers* case para 62.

346 S 2(4)(c) of the *NEMA*.

347 King, Strydom and Retief *Fuggle and Rabbie's Environmental Management in South Africa* 141.

transition' must,[348] as an objective of environmental justice, achieve a balance between environmental and socio-economic developmental considerations guided by measures of environmental protection.[349]

Renewable energy sources[350] are currently what makes sense with regard to what a 'just transition' may be all about. For example, given South Africa's potential abundance of renewable energy resources such as the sun,[351] wind, biomass and biogas, it would make sense to exploit renewable energy resources for electricity generation developments. Presently, it remains unclear if the government's idea of a 'just transition' to ensure sustained energy is something convincingly observed. For example, the *National Development Plan* – Vision 2030 (hereafter *NDP* 2030), envisions a diversified energy mix, but coal reliance still overwhelmingly dominates this energy mix.[352] Furthermore, a target to generate about 20 000 MWh of renewable energy by 2030 has been set.[353] However, progress towards achieving this target has so far been sluggish,[354] in that the DMRE has committed to generating only about nine percent from renewable sources by 2025.[355]

The relationship between energy generation and its subsequent demand-supply and the protection of the environment is complex.[356] It is an open-ended relationship that will keep evolving based on pertinent socio-economic circumstances.[357] The mystery of this open-ended relationship is that, sustainable development as a

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348 See s 1 of the *NEMA*, 'best practicable environmental option' means the "option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term".

349 *Fuel Retailers* case para 61; Molaiwa *Municipal Courts and environmental justice in South African local government* 15.

350 See para 1.1 above.

351 Nassiep 2015 https://www.businesslive.co.za/bd/opinion/2015-10-07-sas-renewable-energy-plan-a-global-success-story/, for example "South Africa has 2 500 hours of sunshine a year, placing it among the world's top three countries for solar power potential".

352 *National Development Plan* – Vision 2030 (hereafter *NDP* 2030) 68.

353 *NDP* 2030 69.

354 See Coetzee *Sustainable development in South African environmental law and its relationship with the National Development Plan* 33.

355 *IRP* 2019 11-14.

356 Williams "Energy, labour and democracy in South Africa" 249: "Energy generation-environmental protection relationship is that of coal versus oil versus renewables, the organisation of extraction and production, linkages across sectors such as mining to manufacturing, and production and consumption, pursued in the most greener way".

357 Feris *Sustainable Development in Practice* 249-250.

concept to reconcile and integrate socio-economic interests with environmental interests and promote a just transition, may be prone to government's and IPPs abuse by hiding behind the card of 'servicer delivery' to the poor and simply override environmental considerations.[358] The pursuit of a just transition appears to be an attempt to secure sustained energy generation and its subsequent delivery to the end-user. Therefore, it should not be surprising that transformation to renewable energy sources that arguably stand to provide a number of benefits is currently not rapidly explored. According to Williams, renewable energy technologies stand to provide a stable system (governance), reduce transmission of GHG's and enhance cleaner energy.[359] Also, socially it has been argued that the shift to renewable energy technologies is likely to create more jobs than in other sectors of energy generation such as coal.[360]

The development of electricity generation is entirely dependent on the environment, and that is rather undisputable. All government's intentions in implementing its policy action plans such as, the *NDP* 2030 and *IRP* 2019, require such action plans to support development that is environmentally just and sustainable,[361] and to ensure a future that is better in providing housing, water, food, health and electricity for everyone. The primacy of socio-economic development, which is fundamentally anthropocentric,[362] cannot allow for delays that are politically sound[363] rather than

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358 Tladi *A Response to Feris* 258; See also Murombo *SALJ* 503, he criticised the majority decision in *Fuel Retailers* case and argued that the Constitutional Court decision "may unwittingly send the wrong message to industrialists who perceive the concept as being aimed at making 'development' sustainable and not to achieve integrated sustainability in the radical sense of scrutinizing activities that are not sustainable socially, economically and environmentally".

359 Williams "Energy, labour and democracy in South Africa" 248.

360 Merven, Burton and Grube *Assessment of new coal generation capacity targets in South Africa's 2019 Integrated Resource Plan for Electricity* 15: "Employment creation opportunities in South Africa of different power system build plans, as we assess we find that, the highest employment creation across the economy comes from a high renewable system and that a high coal future actually leads to significant job losses in the country compared to a renewables-dominated build plan".

361 Coetzee *Sustainable development in South African environmental law and its relationship with the National Development Plan* 3.

362 Coetzee *Sustainable development in South African environmental law and its relationship with the National Development Plan* 35.

363 See Steyn 2021 https://www.news24.com/fin24/economy/south-africa/mantashe-calls-on-africa-to-unite-against-coercion-by-global-anti-fossil-fuel-agenda-20211109, for example the DMRE Minister, Gwede Mantashe, heavily criticised the proposed the R131 billion deal made at the COP26 to phase out coal, arguing that "Our continent collectively, and her individual

advancing environmentally sound progress.[364] Therefore, in the context of increased electricity production and achieving environmental protection, it serves no purposes to speak of 'just transition' rather than "just energy transition".[365] The latter concept, arguably, accommodates a rapid transition from coal-powered electricity to renewable resources by exploring, exploiting and enhancing all options available from coal, wind, solar power and nuclear power etc.; in an equitable, just and suitable manner.[366] For example, according to Zulu, turning to nuclear power will reform and transform the entire energy sector by providing energy capacity that will meet and sustain the social and economic needs the country so desperately requires.[367]

Therefore, it appears that the implementation of a 'just transition' requires change. This change must be effected for a number of reasons. Firstly, and most importantly, for the mitigation and adaptation of climate change impacts. Secondly, the load-shedding problem in the country must be addressed not only diplomatically but by encouraging the shift to renewables for electricity generation. This will not only find a solution for socio-economic interests but will protect and preserve the environment for future generations. Thirdly, the country, as a form of transformation and development of resilient infrastructures which requires sustained energy, must enhance new cleaner technologies such as photovoltaic solar power technologies for electricity generation.

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countries is made to bear the brunt for heavy polluters. We are being pressured, even compelled, to move away from all forms of fossil fuels, including resources such as gas, which have been regarded as key resource for industrialization…We've noticed with interest that when Britain, when China when India, when Australia ran into [an] energy crisis, they all appealed to coal generation to give them more energy. You will notice that, but when they talk to us they say stop using coal immediately. That is the issue that we must discuss without fear".

364 Merven, Burton and Grube *Assessment of new coal generation capacity targets in South Africa's 2019 Integrated Resource Plan for Electricity* 2: "Proponents of new coal plants typically use three arguments in support of new coal, namely that it is cheap; that it is important for jobs; and that power systems require coal plants for baseload".

365 Litz *Towards a safe, cost-effective and sustainable energy transition* 61-62.

366 Litz *Towards a safe, cost-effective and sustainable energy transition* 63.

367 Zulu *Energy sector reform and the protection of the rights contained in section 24 of the South African Constitution* 46.

4.4 Chapter summary

Climate change affects every aspect of life. Therefore, for the sake of humanity and a sustained future, a 'just transition' is a must. This chapter investigated the impact of the landmark case in climate change litigation, the *Thabametsi* case. Climate litigation is extremely necessary to ensure the promotion of sustainable development. With more and more court proceedings relating to climate change against the government, it means there is a fair shot towards a sustained future. In the context of, increased electricity generation and environmental protection and the pursuit of a balance therein, addressing environmental injustice must go beyond unjust distribution of environmental benefits such as clean water and fresh air, but it must also address, unjustified environmental impacts such as pollution and climate change impacts as well.

In a nutshell, a 'just transition' idea must be implemented so as to enhance sustainable development through environmental justice. However, it is acknowledged that there is no "one size fits all" type of solution when the impact of increased electricity and environmental protection is addressed, especially in relation to climate change. Thus, it is argued that the idea of a 'just transition' is too narrow as compared to a "just energy transition". The former, based on the modelling of the government's policies, is too focused on the social and economic aspects rather than environmental interests, whereas the latter is concerned more with the inclusive exploration and exploitation of renewable resources available to address a number of problems as highlighted above. As it is unfortunate that socio-economic gains will always pose a threat to the environment, a 'just energy transition' is a must for the benefit of the present and the promotion of a sustained future.

Chapter 5
Conclusion

5.1 Background

In over 13 years, electricity supply in South Africa has greatly declined throughout the Republic. Arguably, frequent power cuts, commonly referred to as 'load-shedding' in South Africa, are a problem which may lead to severe negative consequences. Undoubtedly, such consequences have an impact on the economy and a number of social factors. In South Africa, the majority of electricity is generated by coal-fired power stations. This type of electricity generation is criticised for its exacerbation of the global climate change problem through its excessive amount of GHGs emissions and other associated environmental problems such as water and air pollution.

Against this background, the aim of this study was to determine what role South African environmental and energy laws can play to regulate increased electricity generation while protecting the environment. Therefore, Chapter 1 posed the question, within the limits of sustainable development to mitigate impacts of climate change, "how could the South African environmental legal framework be used to strike a balance between environmental protection and electricity production?".[368]

Chapter 2 of this study explored the intrinsic connection between climate change, energy production-consumption and sustainable development. The chapter unpacked the concept of climate change and its fragmented premise in an anthropogenic era. The chapter offered a discussion regarding the linkages between climate change and the Anthropocene; however, it further established that the latter is a far wider issue than climate change.[369] Therefore, the chapter argued that climate change is a threat to energy production globally. This threat is serious for impoverished regions because the impacts of climate change are argued to be harshly felt by developing countries such as South Africa and many other African

368 Paras 1.1-1.4 above.
369 Para 2.3 above.

states rather than developed states. The researcher argues, based on the international binding and non-binding policies and treaties, that it is impossible to speak of sustainable energy production without due consideration to the nexus between climate change, environmental protection and social and economic interests.[370] Therefore, in the context of finding solutions for increased electricity generation while protecting the environment, sustainable development (including sustainable energy) must be considered as pivotal piece to an attempt to addressing climate change.

The aim of Chapter 3 was to discuss the need of access to electricity in South Africa pursuant to sustainable development. In doing so, the researcher highlighted how access to electricity is, and must continue to be viewed as, a basic human right.[371] This chapter observed that the *Constitution* imposes duties on all spheres of government to work together, to secure the well-being of its citizens. Furthermore, as the *Constitution* imposes positive and negative obligations upon the state to respect, protect, promote and fulfil the rights in the Bill of Rights, the *Constitution* in schedules 4B and 5B, confers upon the local government specific duties including the provision of electricity as a form of service delivery to local communities.[372] However, the researcher established that local government does not possess sufficient powers when it comes to 'electricity generation'. This power rests with the national government though Eskom. The researcher argued that section 10 of the *ERA* perpetuates the powerlessness of municipalities concerning electricity generation up to its distribution, and advances monopolised service delivery of electricity.[373] This status quo must change given the load-shedding problems in the country.

The environmental right provision in the *Constitution* is a cardinal right, in a sense that it is a provision that informs the progression of other developmental indicators including the right of access to electricity. Thus, due to the anthropocentric nature

370 Paras 2.3-2.4 above.
371 Paras 1.1 and 3.2.1 above.
372 Para 3.2.2 above.
373 Paras 3.2.2 and 3.2.3.2 above.

of environmental rights, the government must employ mechanisms to equate progressive provision of social needs, intended economic aspirations, promotion and protection of the environment in-sync with the recognition that long-term impacts may cause irretrievable damage to the environment or ecosystems.[374] Therefore, the chapter concluded that sustained service delivery of electricity must be ensured through the integration of all factors, being the social, economic, and environmental pillars, and governance as an additional pillar.

Chapter 4 explored the idea of a 'just transition' through environmental justice in South Africa by critically reflecting on the *Thabametsi* case, precisely because coal-fired power stations are an unsustainable means of generating electricity and are huge contributors to climate change. The High Court's decision in this case was framed around the consideration of climate change impacts to sustainable development, the precautionary principle and the intergenerational justice principle.[375] The researcher argued that this decision is crucially important due to its futuristic element in that it recommends mandatory EIA that includes climate change assessment and advances environmental justice by encouraging authorities to be cautious of environmental impacts associated with the nexus between climate change, energy production-consumption and environmental protection, and the need to preserve the environment for the benefit of those yet to live. Therefore, in line with the *Thabametsi* dictum, the chapter concluded that the idea of a 'just transition' must be implemented advancing sustainable development through environmental justice, and that the abundance of renewable energy resources in South Africa must be exploited for electricity generation.

The researcher also argued that, given the fact that the development of electricity generation is entirely dependent on the environment, this means we need to speak of 'just energy transition' rather than 'just transition'. Arguably, as the researcher puts, this shift must be a process of transformation encompassing securement of

374 Paras 3.2.3.1-3.2.3.2 above.
375 Para 4.2.1 above.

jobs, livelihoods of local communities, technology embracement and importantly environmental protection and conservation.

5.2 Main findings and recommendations

In addition to the findings per chapter as outlined above, some of the overarching findings and recommendations of this study are the following:

- Energy production and consumption is indispensable to human life, hence an agreed view by the international society that sustainable energy is a *sine qua non* for poverty alleviation and sustainable development. However, there is an urgent need to explore some more effective mechanisms to encourage states to cooperate in an effort to address climate change impacts. At this point, the UNFCCC, Kyoto Protocol and the Paris Agreement, do not have any "teeth" to bite, in others words, they are as good as redundant without any effective political will to implement contents of these instruments. For example, South Africa as a party to all these treaties still argues that it cannot accept funding for the transition from coal to renewable energy from international partners if it places a burden on the fiscus and hinders it from, reaching its developmental goals.[376] This is a war between the well-developed, developing and least developed, unfortunately at the expense of the vulnerable, poor, marginalised and the unborn.
- The South African government must hold urgent processes and consultations in order to advance the transitions from coal-fired electricity generation to greener and cleaner ways to generate electricity. The DMRE must explore how to redirect the investment purse to renewables resources, which arguably will create more jobs, reduce the amounts of toxic emissions and reduce high levels of coal extraction.
- Governance systems must be improved between the DMRE, Eskom, Municipalities and IPP's. To effectively address the load-shedding problem, there is an urgent need to add more power into the national grid. This does

[376] See Phakathi 2021 https://bd.pressreader.com/article/281599538768131.

not mean burning more coal, but it means rather, affording municipalities and IPPs a freer role in generating electricity by procuring investors willing to invest in coal-free economy and social aspirations. This will arguably relieve Eskom from the enormous pressure it labours under.

- There is a need to think more of a "just energy transition". The transition and subsequent transformation require an inclusive assessment, encompassing public participation processes, just and sustainable assessments, which do not hamper the health, well-being and livelihoods of those presently living, especially those living in high coal-mining areas such as Witbank in Mpumalanga, while considering associated environmental impacts such as water scarcity in South Africa and lack of ambient air quality.
- Climate change awareness through educational drives is a need in South Africa. For purposes of, not only informing local communities of their environmental rights and socio-economic needs, but for fostering partnerships with the government, local communities, and private companies. This is because there is a sense that despite, the overwhelming array of environmental laws, principles and annual international conferences such the COP26, climate change is not seen as an imminent threat to humanity and its envisioned future.[377]

5.3 Concluding remarks

The role of regulation in balancing the goals of environmental protection and increased electricity production is a topic that needs more attention. There is a need for more research on the exploration of sustainable solutions through energy laws encompassing electricity, renewable energy, nuclear energy, petroleum, and gas and environmental laws. Undoubtedly, there are fragmentations that need to be addressed for the benefit of improved environmental governance. There is a sense that majority of officials, having tools to foster sustained energy through a 'just energy transition' efforts, do not understand or recognise these tools. The future must be just and sustainable, and this includes creating a sound and habitable

[377] See King *Climate Change Implications for SA's youth – expert report*.

environment for future generations. This is a must, not as an entitlement but as a human basic right. The present owes it to the 'yet to be born'.

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