THE ROLE OF SECTOR EDUCATION AND TRAINING AUTHORITIES IN SOUTH AFRICA's TRANSITION TO A JUST AND GREEN ECONOMY

M.Ed by Coursework and Research Report

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15 March, 2023

DECLARATION

I declare that **The Role of Sector Education and Training Authorities in South Africa's transition to a just and green economy** is my own work, except where indicated, and that it has not been submitted previously to another University for any degree or assessment. It is submitted in part fulfilment of the requirements for the degree of Master of Education at the University of the Witwatersrand, Johannesburg.

Signed:

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15 March 2023

ACKNOWLEDGEMENTS

First and foremost, I wish to give all the glory to the most-high God for carrying me throughout my Master's journey.

To my supervisors, Dr Presha Ramsarup and Ms Glynnis Vergotine thanks for pushing me beyond my limits and getting the best out from me, without your counsel, I cannot imagine producing this report on my own in the manner it is constructed.

The REAL family as a whole, thanks for always willing to go beyond your line of duty in making sure that your students succeed in their academic journey. You have the best interests of your students and ensure they work hard to succeed. I now feel part of the REAL family.

The National Skills Authority Director, Nyewe thanks for opening the doors for me to conduct interviews, your intervention is much appreciated.

Conducting research can be a lonely journey if there is no support structure, Scovia and Clinton my classmates, became that support structure through the study group we initiated. We motivated and advised each other throughout the journey; indeed, we kept our eyes on the ball for the sake of Afrika.

To all my friends and comrades who have supported me, enkosi kakhulu Mzontsundu nenze njalo nakwabanye. A special mention to Ms Mamoloko Kubayi and Mr Busani Ngcaweni for persuading and pushing me to enrol for postgraduate studies, Mr Thulani Tshefuta thanks for everything Mkhonzi, you comrades have a claim in this project.

To my family, thanks for the support and your understanding throughout this journey and at times tolerating my undesirable moods.

'SOWAFEZA NGENKANI AMAPHUPHO'

ABSTRACT

Sector Education and Training Authorities (SETAs) are South African organisations tasked through legislation to play a key role in developing skills through their Sector Skills Plans (SSPs). However, the country's sustainable development pathways have not been sufficiently integrated into Sector Skills Plans. Hence, developing environmentally sustainable skills planning in South Africa is considered inept and fragmented. Planning related to environmental sustainability and associated skills has not been embarked upon on a substantial scale. This research explores the role of Sector Education and Training Authorities in relation to knowledge and skills for a just transition to a greener economy. In conducting the research, a qualitative methodology was employed, with documents collected and interviews used as data collection methods. The findings from the data analysis illustrate a lack of coordination in relation to integrating environmental sustainability into the Sector Skills Plan for improving knowledge and skills for just transition to a greener economy. Sector Education and Training Authorities continue to operate in silos as there is no central coordinating mechanism to ensure coherence and that national priorities are considered in skills planning for environmental sustainability. Some Sector Education and Training Authorities aim to adapt to changes presented by the transition to a green economy by developing new qualifications. However, the inability of regulatory bodies to respond timeously to qualifications submitted by SETAs for approval may be detrimental to those workers who will need upskilling and reskilling to support the just transition to greener economy. Implications of these findings are that the Department of Higher Education and Training should explore the establishment of a central coordinating body with a specific focus on knowledge and skills that will enhance environmental sustainability. Such a body should be empowered by legislation to direct and prescribe skills planning in SETAs. In addition, the capacity of the Quality Council for Trades and Occupations should be enhanced to improve turnaround time in relation to the approval of skills programmes submitted by Sector Education and Training Authorities.

Keywords: Environmental Sustainability, Green Economy, Just Transition, Skills, Sector Education and Training Authorities

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ACRONYMS

CET	Community Education and Training
CETA	Construction Education and Training Authority
DHET	Department of Higher Education and Training
DOL	Department of Labour
ILO	International Labour Organisation
IPAP	Industrial Policy Action Plan
IRP	Integrated Resource Plan
JET IP	Just Energy Investment Plan
MTSF	Medium-Term Strategic Framework
NCCRW	National Climate Change Response White Paper
NDP	National Development Plan
NEDLAC	National Economic Development and Labour Council
NESDPF	National Environmental Skills Development Planning Forum
NGP	National Growth Path
NSDP	National Skills Development Plan
NSDS	National Skills Development Strategy
NSSD	National Strategy for Sustainable Development
PSET	Post-School Education and Training
QCTO	Quality Council for Trades and Occupations
SAQA	South African Qualifications Authority
SETAs	Sector Education and Training Authorities
SSPs	Sector Skills Plans
TVET	Technical and Vocational Education and Training
USB	Universal Serial Bus

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

This chapter introduces the research, which explores the role of the Sector Education and Training Authorities (SETAs) in South Africa's just transition to a green economy. As the country transitions, SETAs are crucial in coordinating and funding of skills initiatives within their sectors and serve as important intermediaries within the skills system. Their role in planning skills for sustainability is significant because if intermediaries who design skills interventions responding to sectoral needs and national priorities do not plan ahead, there may be challenges which may not be impartial in relating to communities and workers in adapting to the transition to a green economy. Therefore, SETAs must be well coordinated, forward-looking and cognisant the impact of the transition in their sectors. This chapter outlines the background, problem statement, research aims and questions and explains the reasons for this research.

1.2 Background to the research

Globally, there is consensus that climate change and environmental hazards are among the serious threats most likely to destroy local economies and ecosystems (Mohamed & Ramsarup, 2020, p. 15). As a result, there are growing calls for countries to reduce carbon emissions and transition to more sustainable practices to respond to climate change and its related effects. South Africa's history of uneven economic development marred by poverty, inequality and lack of skills has resulted in the government paying little attention to interventions for a just transition to a greener economy (ILO, 2010, p. xiii). Therefore, for the transition to be just, it has to consider its impact on communities and workers by ensuring that when the shift occurs, they can still participate in the economy and are not left behind. There has been progression at the policy level as policies indicate linkages between 'climate change-driven, green economy transition objectives and policy instruments with national development plans and instruments' (ILO, 2018, p. 10). For example, the National Climate Change Response White Paper of 2010 serves as a guide for South Africa's just transition to a greener economy and ensures that the change does not negatively

impact vulnerable groups (ILO, 2018, p. 26). the Green Economy Accord locates the just transition to a greener economy among ten key growth drivers for the country, with an estimated contribution of 300,000 jobs (Mohamed & Ramsarup, 2020, p. 23).

Most importantly, South Africa's commitment to a just transition to a greener economy has been included in the 2016 Nationally Determined Contributions linked to the Paris Agreement. This inclusion was followed by national consultations on just transition in the review of the National Development Plan (NDP) (CIF, 2020, p. 13). Furthermore, South Africa has developed a Just Energy Investment Plan (JET IP) as a realisation to the Just Energy Transition Partnership established at the 26th Conference of Parties through a process of engagement with parties on the challenges embedded in South Africa's transitioning from fossil fuels to cleaner energy (The Presidency of South Africa, 2022, p. 2). Key to the JET IP is the centrality of partners to ensuring that the energy transition should, in the main, be just by making sure that it does negatively impact livelihoods, communities and workers; hence, social partners were central in its development (The Presidency of South Africa, 2022, p. 2). However, these policy instruments are yet to be translated into active skills development frameworks (ILO, 2018, p. 10). Hence, Mohamed and Ramsarup (2020, p. 28) contend that South Africa falls within the group of countries that lack a coherent approach to environmental and skills policies, notwithstanding clear intentions in the broader policy framework on sustainable development. For example, the Integrated Resource Plan (IRP) was meant for South Africa's energy future; when it was developed, there were no attempts to model the jobs and skills related to the pathways it envisaged (ILO, 2018, p. 28). This lack of coherence is demonstrated by inter alia, a lack of structures to deal with the development of green skills as a cross-cutting concern in the education and training landscape, a lack of education and training opportunities, dated curricula in training and education institutions, inadequate labour market analysis instruments for capturing green occupations and discord between skills and green economy policies (Mohamed & Ramsarup, 2020, p. 28). However, in 2019, South Africa established a multi-stakeholder coordinating body, i.e., the Presidential Climate Change Commission (PCC). The key to its mandate is the development of a country's strategy for the just transition and ensuring that frameworks and policies align with the just transition ideals(The Presidency of South Africa, 2022, p. 32). It seems the establishment of the PCC seeks to respond to policy incoherence; as such, it has to

ensure that all frameworks and policies align with the ideals of a just transition which the country envisages.

In relation to the SETAs, the persistently high levels of poverty and unemployment, coupled with skills shortages and stagnant economic growth (Goga & van der Westhuizen, 2012, p. 10), necessitated that the government identify skills shortages as an impediment to achieving higher economic growth and that skills development remains crucial to attaining such growth (Goga & van der Westhuizen, 2012, p. 10). Hence, the post-apartheid government introduced legislative mechanisms to redress such an anomaly. These mechanisms were preceded by research conducted by the Human Science Research Council into artisan training in South Africa, which produced a report questioning the capacity of the old apprenticeship to meet new technological requirements (Akoojee et al., 2005, p. 110). According to Akoojee et al. (2005, p. 111), the report found that the apprenticeship model provided low-quality training which lacked theoretical input and argued that the 'traditional time-based artisan training system was becoming less well defined and that there should be a greater orientation towards institutionally based apprenticeships'. As a result, proposals were made for a National Training Strategy, which was initially rejected and later became a National Training Skills Initiative, laying the foundation for the Green Paper on a Skills Development Strategy (Akoojee et al., 2005, p. 111). Furthermore, the Green Paper proposed a levy grant system involving employers in training their employees, learnerships and SETAs. The proposal led to the Skills Development Act of 1998 (Act) becoming an important piece of legislation to guide skills development interventions in the country and establish SETAs. Against this background, SETAs were formed in 2000 under the auspices of the National Skills Development Strategy (NSDS) to broaden South Africa's skills base. The 25 SETAs cover a variety of sectors of the economy, such as energy, chemicals, banks, education and manufacturing (Letseka, 2004, p. 19). The key functions of SETAs are to develop sector skills plans (SSPs), quality assurance of qualifications and the disbursement of skills funds (Goga & van der Westhuizen, 2012, p. 10). The Department of Labour (DOL) used to coordinate SETAs (2000–2009). However, in 2010, the Department of Higher Education and Training (DHET) became the coordinating department.

SETAs have also been criticised for their lack of effectiveness in closing the gap between training and what the economy requires (Allais, 2013, p. 201). For example, the Ministerial Report on the Performance of SETAs states that there are concerns about the quality of SSPs because the labour market information data used tends to be outdated, which may lead to a skewed response to sector needs (DHET, 2013b, p. 22). Other concerns related to skills planning are how SETAs set their targets and the extent to which they address sector priorities; it seems they set targets they can easily meet or even exceed; however, the skills developed are not responsive to job creation (DHET, 2013b, p. 22). According to the DHET (2013c, p. 66), many reviews and evaluations of SETAs indicate that they had too many objectives, which led to problems regarding strategic planning. Moreover, this meant that SETAs could not execute their key role of linking education and work (DHET, 2013, p. 13). Hence, the DHET (2013c, p. 66) reimagined the mandate of SETAs to make them well-defined, simple and focused with effective mechanisms for their monitoring and evaluation in fulfilment of the reimagined mandate of the SETAs. The DHET (2013c, p. 67) indicated that instead of three-year strategic plans, SETAs would produce one strategic plan to support priority skills within their sector and the reimagined mandate combined with changes in the composition of boards and restructuring of SETAs by reducing their number from 25 to 23 in 2005 and to 21 in 2011. The above literature suggests that SETAs' skills planning processes and what they seek to address remain skewed because the country continues to experience skills challenges.

Even with the changes, the lack of a coherent approach continues despite the SETAs being established to monitor education and training activities within their sectors and inform training interventions to respond to identified gaps. SETAs are also expected to make links between education and the labour market as far as the demand and supply of skills are concerned (ILO, 2018, p. 30) and are responsible for the development of SSPs which detail five-year skills development priorities (ILO, 2010, p. 21). Ramsarup (2017) and Ramsarup and Ward (2017) argue that SSPs have been developed without considering the skills requirements associated with the sustainable development policy framework. The ILO (2018, p. 30) suggests that there is no link 'between sector policies, the needs of the market and the SETAs strategic plans', which impedes the SETAs' ability to develop skills for a just transition to a greener economy. Furthermore, despite the great need for upskilling of workers, environmental

agencies have been unable to access funding from SETAs (Ramsarup, 2020, p. 175). This disjuncture may exacerbate the challenges the country already experiences in relation to the skills development landscape. This study aims to explore the role of SETAs in developing skills for a just transition to a greener economy.

1.3 Problem statement

Sector Education and Training Authorities are expected to provide a link between education and training and the world of work in South Africa through the identification of skills needed in their respective sectors as contained in the SSPs and play a key role in the development of green skills (ILO, 2018, p. 29). Most importantly, 'SSPs should underpin industry strategies where they exist and serve as a driving force to improve workforce skills, firm-level productivity and competitiveness of the sector' (DHET, 2015, p. 23). Moreover, there is an expectation for SETAs to play an vital role in the 'development of green skills and adaptation of existing skills for the greening of the economy' (ILO, 2018, p. 29). However, SETAs have been unable to utilise their essential role of linking education and work (DHET, 2013c, p. 66). Furthermore, according to the ILO (2018, p. 34), not all SETAs recognise green skills in their SSPs, e.g., reference was made to the Construction Education and Training Authority (CETA), which virtually made no mention of green skills or green economy despite the key role energy efficiency plays in public and residential buildings. Also, SSPs have not been sufficiently integrated into the country's sustainable development pathway and have been reactive (Lotz-Sisitka & Olvitt, 2009; Ramsarup, 2017; Roseberg et al., 2018).

Moreover, Ramsarup (2017) and Ramsarup et al. (2017) argue that environmental sustainability is a cross-cutting issue and should be integrated across all SETAs; hence, there is no dedicated SETA to drive skills development associated with environmental sustainability in the country. Further, the ILO (2018, p. 29) suggests that there is no dedicated mechanism for identifying skills in South Africa in preparation for green jobs (ILO, 2018, p. 29). While the National Environmental Skills Development Planning Forum (NESDPF) was created to respond to green skills development needs, the forum remains largely uncoordinated (ILO, 2018, p. 30). Besides, policies and programmes meant to facilitate skills that support just transition to a greener

economy are scattered due to the silo manner of skills planning in the country (Rosenberg et al., 2020). In that department, there are different skill coordinating mechanisms that are not integrated into the DHET as a parent department, e.g., the Department of Environmental Affairs established a National Environmental Skills Planning Forum to identify environmental skills needs; also, the Department of Trade and Industry through the Industrial Policy Action Plan (IPAP) identifies skills for a green economy. Therefore, skills planning in South Africa concerning environmental protection is viewed as 'inadequate, ad hoc, fragmented, reactive and inefficient' (Ramsarup, 2017). The literature above demonstrates that while SETAs through SSPs are critical in responding to the country's developmental skills needs, not all have prioritised skills for a just transition to a green economy. Furthermore, SETAs have not been able to execute their reason for existence well, i.e., linking education and work. They also continue to focus on their sector-specific issues without linking them to national priorities, failing to recognise that the green economy is cross-cutting and, therefore, all sectors should integrate it into their skills planning.

Also, the Ministerial Report on the Performance of SETAs found that SETAs used different methodologies and had different interpretations of their data such that it is not possible to compare across the different SSPs; as an example, the incorrect or inconsistent use of the Organisation Framework of Occupations categories is highlighted, which results in a limited ability to compare occupations across sectors (DHET, 2013b, p. 26). According to the ILO (2018, p. 32), another concern raised by some SETA employees in identifying skills for a green economy was the lack of a common definition and understanding of green skills. These challenges may be exacerbated by a lack of a central coordinating mechanism for green skills development where all initiatives can be introduced, tracked and monitored (Ramsarup, 2020). Another area where the central coordinating mechanism may ideally focus is the standardisation of what information is critical and should be incorporated in SSPs in identifying skills needed for the transition to a greener economy.

1.4 Research aim and objectives

This research aims to:

1. Identify evidence in SETAs sector skill plans integrating knowledge and skills for a just transition to a green economy.

1.4.1 Research objectives

1. To understand what aspects of the just transition to a green economy SETAs support through their sector skill plans.
2. To ascertain the type of just transition to a green economy activities SETAs prioritise in their plans and if they prioritise justice.
3. To establish the challenges SETAs face in integrating skills for environmental sustainability within their skills planning processes.

1.5 Research questions

The questions and sub-questions below guided the research

1.5.1. Main research question:

1. How are SETAs supporting knowledge and skills for a just transition to a green economy in their skills planning processes?

1.5.2 Sub-questions

2. What aspects of the just transition to a green economy do SETAs support through SSPs?
3. What type of just transition to green economy activities are SETAs prioritising in their SSPs?
4. What are some of the challenges that SETAs are facing in integrating skills and interventions for environmental sustainability within their sector skills planning processes?

1.6 Significance of the research

The research is critical as it contributes to the existing literature on skills for a just transition to a green economy. According to Rosenberg and Ramsarup (2020, p. 1), notwithstanding the Green Accord adopted in 2011, planning for sustainability and skills has not yet been undertaken in South Africa on a substantial scale. Furthermore, Ramsarup and Naude (2017, p. 25) posit that there is no accountability in relation to green skills implementation, and no institutions in the government currently hold SETAs accountable for the lack of implementation concerning green skills initiatives.

The research aims to contribute to the body of literature in relation to skills planning for a just transition to a green economy. In addition, it seeks to inform SETAs and policymakers about how to redefine and integrate environmental sustainability into the SSPs to better align with national priorities.

1.7 Delimitation of the research

Given that the South African Post-School Education and Training (PSET) system is broad and recognises 21 SETAs, the study reviewed the SSPs of all the SETAs and interviews were conducted with representatives of five SETAs and three DHET staff members. The methodology outlined that SETA interviews will be conducted based on the information extracted from document analysis, and while the five selected SETAs may not be representative of all SETAs, with the analysis of documents, information coming from the five SETAs was broad enough to assist on key issues of the research.

1.8 Definition of terms

Environmental Sustainability: this refers 'to a set of constraints on the four major activities regulating the scale of the human economic subsystem: the use of renewable and non-renewable resources on the sources side, and pollution and waste assimilation on the sink side' (Goodland, 1995, p. 10)

Green Economy: This refers to an economy which results in 'improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities' (UNEP, 2011, p. 2).

Green Skills: These are skills needed by the workforce in all sectors of the economy to assist in the adaptation of production processes concerning the change brought by climate change in environmental requirements (Rosenberg et al., 2020, p. 27).

Just Transition: Key to the concept of just transition is taking into cognisance some reservations in relation to social justice in the global transition to sustainable economies and societies (Patel, 2021, p. 4).

Occupational shortages: these occur when the demand for workers in a market economy is greater than the supply of qualified workers available and willing to do a particular job (Veneri, 1999, p. 15).

Organising Framework of Occupations: this skills-based coded classification system encompasses all occupations in South Africa. The classification of occupations is based on a combination of skill level and skill specification making it easy to locate a specific within the framework'.

Post-School Education and Training: the system comprises all education and training provisions for those who have completed school, those who did not , and those who never attended school (DHET, 2013c, p. xi).

Sector Skills Plan: this is a five- year plan which includes a sector profile, analysis of the supply and demand for skills in the sector, showing the link between skills development activities in the sector and government priorities encapsulated in the NSDS (DHET, 2013b, p. 6).

Skills Gap: this this occurs when an employer concludes that their workers are not proficient, it also occurs when an employee is of the view that he or she needs more skills (Local Government Sector Education and Training Authority, 2020, p. 3).

Skills Planning Processes: this process involves the development of three sets of documents, i.e., the Sector Skills Plan, the Strategic Plan, which gives detail on the strategic objectives, specific objectives and deliverables within each area of focus and the Annual Performance Plan which operationalises what it entailed in other planning through annual targets and the budget.

Skills Systems: a skills system involves complex structures expected to engage in activities to transform economic circumstances through research, planning and forecasting labour market supply and demand in ensuring that the system attracts and retains people of extraordinary skills in a vast range of functions (Kraak et al., 2013, p. 33).

1.9 Structure of the report

This section provides an overview of all the chapters.

Chapter One has provided the background to the research, discussing the looming global climate change and environmental threats that have the potential to be destructive, hence the call for countries to reduce their emissions. At a country level, the chapter outlines South Africa's commitment to a just transition to a greener economy, evidenced by its inclusion in the Nationally Determined Contributions linked to the Paris Agreement. The chapter focuses on SETAs, criticised for failing to close the gap between education and training and what the economy and the labour market require. The absence of a coherent approach within SETAs is due to their SSPs having been developed without taking environmental sustainability into account. This chapter also states the research questions and the aim and objectives of the study and defines the reason for the importance of the research, given that planning for sustainability and associated skills has not occurred on a substantial scale.

Chapter Two reviews the literature relevant to the research questions and focuses on seven thematic areas: the background to the Post School Education and Training (PSET) system and the SETAs, a brief outline of the PSET system, central coordination and skills planning, the PSET system and the green economy discourse, transition to a just and green economy, Policy and Legislative Framework, Skills for a just and green economy: the role of SETAs. The chapter explores the green economy and associated conflicting discourses in the sense that green growth endorses a market-oriented response while green transformation advocates for social justice. The literature explains the concept of a just transition to a green economy and its core principles, the core principles of leaving no one behind. The literature locates the role of the PSET system in relation to the planning and coordination of skills interventions with a specific focus on green skills.

Chapter Three describes and discusses the research methodology and design adopted for the qualitative research.

Chapter Four presents findings and categorises them according to key themes that emerged from the data analysis; these are then presented using a table with codes and themes arising from themes.

Chapter Five provides a summary, conclusion and recommendations. The chapter restates questions the research sought to answer and suggests that they have been met, followed by a summary of what the report reflected on and then gives a synopsis of key observations the report embarked upon.

This chapter presented the background to the research, problem statement, research questions, aim and objectives, significance of the research and delimitation. This chapter also presented the organisation of the report, in which critical aspects of each chapter are highlighted. The next chapter focuses on the literature review and covers all the relevant literature for the research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relevant to addressing the research questions and sub-questions. This literature is arranged and presented in four key sections. The first section gives a general background to the PSET system specifically focusing on the SETAs. The second section presents an outline of the PSET system with a specific focus on the White Paper on Post-School Education and Training, which is key in defining the PSET trajectory in the country. The third section deals with central coordination and planning, while the fourth section links the PSET system with green discourses. The fifth section deals with the green economy, outlining somewhat ideologically contrasting discussions. Given that a just transition to a green economy is such an aspirational discourse and its emergence in the PSET system is still in its infancy and difficult to analyse, there are discussions on the green economy as indicators of the path to a just transition to a green economy. The sixth section reflects on the green jobs envisaged for the future. The seventh section outlines the background of the just transition to a green economy, its dimensions, principles and variants. Thereafter, the eighth section outlines the importance of social dialogue as a precondition to a meaningful just transition to a green economy. The ninth section reflects on the policy and legislative framework developed in relation to a just and green economy and its implication for skills development. The tenth section locates the role of SETAs within the parameters of skills for a just transition to a green economy. Finally, the last section discusses the implications for skills in relation to environmental sustainability and the importance of coherent planning for the integration of skills the just transition to a green economy will require.

2.2 Background to Post-School Education and Training sector and the SETAs

The South African democratic breakthrough in 1994 dictated that a new education and training system meant to meet the needs of the society as a whole and, most importantly, those excluded due to apartheid be established (DHET, 2013, p. 1). This change was necessitated by the fact that Black Africans were most affected by high

levels of poverty, inequality and unemployment and deliberately excluded from accessing opportunities by the apartheid government. The South African skills system was viewed as dysfunctional and unresponsive to the marginalised (Letseka, 2004, p. 19). Consequently, institutional changes were introduced, and with the DOL no longer responsible for SETAs and the Department of Education restructured into two separate departments, i.e., the Department of Basic Education and the Department of Higher Education and Training, the DHET became the parent department for Technical and Vocational Education and Training (TVET) and responsible for coordination of SETAs (ILO, 2018, p. 29). Against this background, the democratic government introduced policy instruments such as White Papers and Green Papers aimed at inter-alia overcoming unfair discrimination, expanding access and improving the quality of education (DHET, 2013, p. 1). These policy changes were based on the realisation that education and training are crucial to realising the ideals of a democratic developmental state (Akoojee, 2016, p. 2). Akoojee (2016, p. 2) argues that without a vigorous system that permits widespread access to sustainable livelihoods and productive work, achieving national social development objectives is unlikely. The following section outlines the South African PSET system through the lens of the White Paper on Post-School Education and Training and the necessity of integrating environmental sustainability into the skills system.

2.3 The PSET system: a brief outline

The PSET is conceptualised as consisting of public and private universities, TVET colleges, Community Education and Training (CET) colleges, SETAs, private colleges and qualifications and quality assurance regulatory bodies such as the South African Qualifications Authority (SAQA) and the Quality Councils (DHET, 2013, p. 5). According to Akoojee (2016, p. 2), the PSET system was imagined to be responsive to the needs of the country's many developmental challenges, hence the emphasis on integration, expansion and effectiveness of the system. Moreover, the system had to ensure an easy articulation between different parts of the system (DHET, 2013, p. 6). Also key to the system is the need to prepare workers to adapt to the labour market and to prepare individuals who may not be in employment, education or training for earning sustainable livelihoods through self-employment initiatives or cooperatives (DHET, 2013, p. 7). This means that qualifications or training within the PSET should

be easily transferrable when a person wants to improve their skills due to the ever-changing world of work.

2.4 Skills for a just and green economy transition: the role of SETAs

The SETAs are responsible for coordinating and funding skills initiatives within their respective sectors and developing SSPs related to the current and future skills needs of their sectors. This intends of bridge the gap between the labour market demand and the supply of skills (ILO, 2018, p. 29). The process of SSPs' skills identification supporting a just transition to a green economy is guided by the DHET through the Organising Framework for Occupations (OFO); its purpose is to put in place a common language for talking about occupations in relation to skills development with the linkage to the labour market conversations (DHET, 2013a). The OFO has identified that progress towards the just transition to a green economy requires the creation of new green occupations and the development of new skill sets in current occupations (ILO, 2018, p.32). However, an analysis of OFOs in South Africa shows that due to the 'newness as well as lack of a coordinated approach, there is very little available knowledge on the profile of environmental occupations and systemic integration into broad occupational frameworks' (Ramsarup, 2020, p. 185). Hence, Ramsarup and Ward (2017, p. 4) contend that it is important to rethink job tasks that integrate sustainability and also identify and plan for skills that will be needed. This should be done by integrating green skills development into national skills-planning systems and coordination between social partners (Mohamed & Ramsarup, 2020, p. 27). The literature seems to suggest that while there is an acknowledgement through OFOs that there is a need for new occupations and skills set responding to the needs of the green economy, not much has been done to frame and locate these occupations in the broader PSET skills planning processes.

2.5 Central coordination and skills planning

Skills planning in South Africa has been viewed as weak, and this has been attributed to, inter alia, the lack of research capacity, poor data management and a lack of planning expertise, which has led to skills plans that are not credible and do not contribute to the country's national imperatives (DHET, 2013, p. 58). Government economic development priorities are not sufficiently addressed as envisaged in the

IPAP and the New Growth Path (NGP). According to the DHET (2013c, p. 58), the needs of society and the economy will be better addressed if information about skills needs is centralised because sectoral planning can be misleading due to the cross-cutting nature of occupations. Hence, the DHET (2013c, p. 59), in the White Paper on Post-School Education and Training, imagined the establishment of a Skills Planning Unit to work with institutions within the PSET system to develop an institutional mechanism for skills planning. Furthermore, the White Paper on Post-School Education and Training envisages SETAs as providers of key workplace data who will also conduct sector research and ensure that the sectoral implications of the economy are explored by engaging with stakeholders within the PSET system to test research findings (DHET, 2013c, p. 59). Notwithstanding the recognition of the weaknesses, according to Allais (2013, p. 201), SETAs are still criticised for their lack of effectiveness in closing the gap between training and what is required by the economy.

2.6 The PSET system and the green economy discourse

The transition to a green economy disruptive as it may be, is viewed as a viable avenue for economic development, social welfare and environmental protection (Montmasson-Clair, 2019, p.2). Therefore, the transition to a sustainable development path should not be viewed only as an environmental issue but as a socioeconomic matter with key implications for economic and social life (Montmasson-Clair, 2019, p. 3). In essence, the green economy discourse should focus on environmental issues and integrate into other aspects of policy development, such as Education and Training. Hence, the Green Economy Accord commits the government to expanding training programmes linked to the skills needs of the green economy and ensuring that the new programmes take into account green economy requirements (Department of Economic Development, 2011, p. 31). Furthermore, the JET IP states the importance of starting the identification of skills required for the just transition to a green economy early; this should be linked to a skills development roadmap, as it can take up to 10 years to make the skills system ready for the required skills (The Presidency of South Africa, 2022, p. 100).

Moreover, the JET IP asserts that structures should be prioritised to enable systems to support seamless articulation between skills development and their use to access

and create employment and livelihood opportunities (The Presidency of South Africa, 2022, p. 100). However, Montmasson-Clair (2019, p.6) contends that, in South Africa, measures meant to make the just transition to the green economy seamless are not being implemented. As a result, there is a lack of coherence and certainty. For example, in relation to skills development as one of the measures, the ILO (2018, p. 45) contends there is little evidence of a coherent approach to green policies and that evidence is thin on the relationship between green policy implementation and skills development frameworks. Furthermore, Ramsarup and Naude (2017, p. 23) suggest a problematic lack of definitional clarity concerning the green gconomy and green skills.

2.7 Green economy

The concept of a green economy was developed more than 20 years ago. However, it has only recently started to feature in sustainable development debates (Rosenberg et al., 2020, p. 19). According to Faccer et al. (2014, p. 643), the 2008 global financial crisis ran parallel with the intensified realisation of a need to recognise the negative impact of environmental degradation. Furthermore, Faccer et al. (2014, p. 645) posit that while the concept was among the central themes at the Rio+20 (a United Nations Conference on Sustainable Development held in 2012), it was highly contested; some were sceptical of the emphasis on green instead of growth with some participants suggesting it is about retention of the economic status quo and not about transformation. Hence, there is no agreed-upon definition of the green economy. For example, UNEP (2011, p. 2) defines a green economy as ‘one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities’, meaning a low-carbon economy that is socially inclusive. On the other hand, Sulich and Zema (2018, p. 71) suggest that civil society defines the green economy as a resilient economy that provides a better quality of life for all within the ecological limits of the planet. While different definitions exist, the key to a green economy should be an all-embracing economy that considers all people and the earth together.

There are four discourses (green revolution, green transformation, green growth and green resilience) related to the green economy that have been identified based on the

premise that the power of the economy can and should be better harnessed through the attainment of sustainability goals (Faccer et al., 2014, p. 644). Death (2014, p. 6) posits that it is vital to distinguish these four discussions of the green economy that often overlap in practice but represent competing priorities when isolated. As the discussion below explains, these converge in some ways and diverge in others. Further, they help us to understand the contestations around the notion of greening and allow us to think about justice within the transition to a green economy. The three main greening discourses are illustrated below to demonstrate the contestations.

2.7.1 Discourses of the green economy

The green economy is becoming increasingly important in global economic and environmental decision-making, and there are emerging discourses underlying that contend that the economy should be viewed as central in attaining sustainable goals (Faccer et al., 2014, p. 644). This section introduces the discourses and their broad implications for the economy. Further, the ideological implications suggest that they may either lead to the maintenance of the status quo or the transformation of the economy.

2.7.1.1 Green revolution

According to Death (2014, p. 6), this dates back to the 1960s and was used by environmentalists to advocate a radical transformation of the economy aligned with ecological ideals. Death (2014, p. 6) contends that ‘a transition to a green economy will accordingly revolutionise many aspects of contemporary society, including patriarchy, race-relations, the state system, capitalism, and aspects of the enlightenment thought that portray nature and society as separate and distinct’. This discourse envisages the green economy to shift from its neoliberal construction to radical economic change. Hence, in Latin America, the debate is that to resolve contradictions in the economic system, the greening of the economy should be central in environmental sustainability conversations by the international community to end systematic exploitation (Death, 2014, p. 6). Furthermore, Death (2014, p. 6) posits that this discourse gained prominence at the Rio+20 conference, wherein states such as Bolivia opposed the ‘consensual invocation of the green economy’. In the South African context, it is represented by the voices of some academics, activists and communities who advocate a green revolution and envisage a transition to a just

society underpinned by an alternative eco-socialist order (Death, 2014, p. 11). In essence, this argues that if the structure of the economy, particularly market economies, is not radically altered, the exploitation of the people and natural resources will continue.

2.7.1.2 Green transformation

This discourse advocates a change of the existing socioeconomic and political systems while maintaining the structure and institutions of capitalism (Death, 2014, p. 7). It views economic growth as the key driver of change and the state as regulator and guarantor of development. While this is similar to that of green growth in relation to investment in technologies, it differs in terms of seeing growth as a means and not an end, it also advocates for social justice (Death, 2014, p. 7). According to Death(2014, p. 7), this discourse refers to the historical precedent of America's New Deal, which Franklin Roosevelt introduced in the 1930s, which involved public works programmes referred to as the Civilian Conservation Corps that employed more than three million young people to develop new state parks. Contrary to the green revolution discourse, this discourse is for keeping the exploitative structure of the economy and further encourages temporary and exploitative poverty relief programmes such as the Expanded Public Works Program and Community Works Program in the case of South Africa rather than long-term and sustainable economic opportunities.

2.7.1.3 Green growth

Given the envisaged growing demand, this discourse is concerned with green markets and views them as an opportunity to make money from going green (Death, 2014, p.8). According to Death (2014, p. 28), it views the green economy as a good place for future growth, profits, jobs and markets, specifically focusing on new markets and services. According to Death (2014, p. 12), green growth is a dominant discourse in South Africa due to its technological innovations and leadership towards a just transition to a greener economy. For example, of the four key messages of the Green Economy Accord, the first two are opportunity and innovation(Department of Economic Development, 2011, p. 6), which reflects the basic tenets of Green Growth as reflected earlier. This discourse sees profits being made from the process, which seeks to save the world from the impact of natural disasters such as climate change; it seems it will

also utilise the scarcity of natural resources to its advantage without considering justice for vulnerable groups.

2.7.1.4 Green resilience

This discourse is cautious about the prominence of the greening dialogues, particularly as they relate to green growth (Death, 2014, p. 9). Of great concern is the linear formulation of a green economy that does not take into account the principle of 'common but differentiated responsibilities' which if neglected, may undermine poverty alleviation efforts in the global south (Death, 2014, p. 20). Furthermore, climate change scholars posit that societies and ecosystems located in Southern Africa are vulnerable in an extraordinary manner (Bauer & Scholz, 2010, p. 84).

2.7.2 Discourses of economic change

2.7.2.1 The incrementalist discourse

This discourse preserves the status quo in relation to macroeconomic policy. It advocates for reforms around the greening of the 'brown economy' through environmental taxes, and proponents of this discourse also support modest structural changes (Faccer et al., 2014, p. 645). According to Faccer (2014, p. 646), Gross Domestic Product (GDP) growth or economic growth is synonymous with development, while GDP is the predominant measure of progress. Therefore, at the core is the promotion of the consumption of green goods at the expense of advancing social good.

2.7.2.2 The reformist discourse

This discourse views the green economy as an opportunity for innovation and to revolutionise how society views growth in order to create jobs, bring about changes in livelihoods and address environmental challenges (Faccer et al., 2014, p. 648). In addition, it emphasises development in general terms, rather than confining it to economic growth. This discourse is critical of the failure of GDP to account for the social and environmental costs of economic activities which are inconsistent with the aims of the green economy (Faccer et al., 2014, p. 650). Therefore, it is not the contention of this discourse 'that environmental protection is compatible with growth' (as per incrementalist discourse), but it can be a driver of growth (Faccer et al., 2014, p. 648).

2.7.2.3 The transformative discourse

According to Faccer (2014, p. 650), this discourse emanates from civil society rather than Bretton Woods institutions and policymakers. It is the most radical of the three, given how it views the role of markets in an economy. This is because market-driven growth has contributed to growing inequalities and environmental degradation (Faccer et al., 2014, p. 651). Unlike the incrementalist discourse, this discourse contends that reduction in consumption helps maintain values and that economic activity should not only be about profits (Faccer et al., 2014, p. 651). Hence, economic activity should remain within ecological limits, with human rights central in transforming economies (Faccer et al., 2014, p. 651).

While South Africa has a strong lobby favouring the transformative and green revolution discourses advocating for a transition embedded in social justice, the green growth discourse remains dominant (Mohamed & Ramsarup, 2020, p. 21). According to Cock (2014; cited in Death, 2014, p. 11), in South Africa, some academics, activists and communities campaign on behalf of a green revolution, they contend that just transition could consist of an alternative eco-socialist order. Furthermore, Death (2014, p. 11) provides a concrete example of the green transformation discourse in South Africa, such as the public works programmes like Working for Water scheme. Hence, despite the change to a democratic government, South Africa remains the most unequal society in the world. Therefore, South Africa needs a transformative transition committed to the environment and addressing social dimensions of sustainable changes (Mohamed & Ramsarup, 2019, p. 21).

Furthermore, Ramsarup (2020, p. 180) contends that the transitions require new knowledge and skills both within existing sectors and occupations and in emerging sectors. In understanding how skills transitions may develop, it is critical to explore moves from ‘minimal just transitions to transformative transitions, from green resilience to green revolutions and from instrumental business cases of for-profit maximisation to transformative business models for sustainable value creation’ (Ramsarup, 2020, p. 180). This part of the literature review has revealed the central debates in the various strands of green discourses. The discussion provides useful conceptual lenses for considering elements of just transition to a greener economy.

The researcher argues that perhaps the contestations around greener discourses make it difficult for policymakers to define a concrete programme for the just transition to a greener economy. Further, this may be why SETAs seem to have challenges in integrating environmental sustainability into their plans.

2.8 Green jobs

The term green jobs emanates from the green economy discourse, which assumes that transitioning from fossil fuels to renewable energy will contribute to unemployment reduction, e.g., Valero et al. (2021, p. 3) suggest that there is evidence in the United States (US) that green investments can create tens of thousands of jobs in the short term. Furthermore, Valero et al. (2021, p. 1) state that top-down studies that apply a narrow definition of green jobs based on employment in certain industries tend to estimate that green jobs account for under five per cent in the US, while bottom-up occupation-based approaches result in substantially higher estimates. Sulich and Zema (2018, p. 73) argue that there is no widely accepted definition of what constitutes a green job, notwithstanding the discourse of a green economy that has been available for years (Olivier, 2013, p. 9). According to Sulich and Zema (2018, p. 73), green jobs are defined as 'jobs in business that produce goods or provide services that benefit the environment or conserve natural resources', while in the same vein, green jobs are viewed as 'jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources. The ILO (2018, p. 10) suggests that green jobs are 'decent jobs which protect and restore ecosystems by reducing their consumption energy and raw materials, limiting their carbon emissions and minimising waste'. According to Olivier (2013, p. 10), green jobs, among others, include 'manufacturing, installation, and maintenance of solar panels; production and services in sustainable agriculture, enforcement and monitoring environmental regulations, collection and processing of recyclables'. Also, Bowen (2012, p. 4) views green jobs as 'work in agricultural, manufacturing, research and development, administrative, and service activities that contribute substantially to preserving or restoring environmental quality'. Therefore, it becomes necessary that SETAs SSPs are aligned in terms of curriculum and qualification development in producing skills that will be in demand to match green jobs. The next section discusses

the concept of just transition and how it is linked to the economy broadly and the green economy in particular.

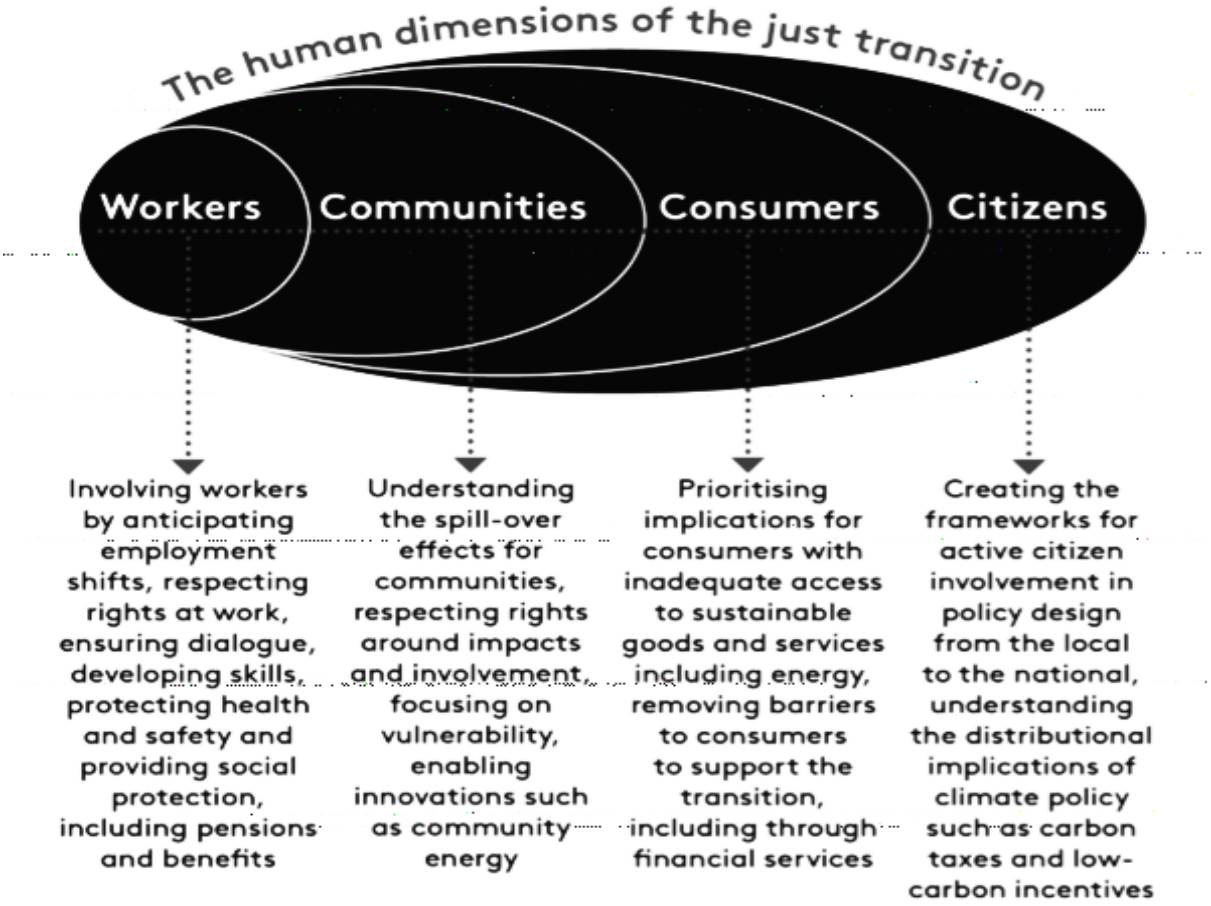
2.9 Just transition

The concept of just transition first appeared in the North American trade union movement, focusing on protecting those whose jobs and livelihoods are at risk due to climate change (Rosenberg, 2017, p. 5). Ward (2018, p.4) submits a specific timeline, suggesting that the concept was developed in the 1990s by North American Trade Unions in describing support for workers who lost their jobs due to environmental protection. Furthermore, Montmasson-Clair (2019, p. 5) posits that campaigns by the trade union movement and civil society organisations have resulted in policies that prepared workers to transition to new livelihoods. In essence, the focus of a just transition to a green economy seeks to mediate between environmental protection and workers' social and economic security. However, Patel (2021) contends that the concept's meaning has since been broadened from the narrow labour market orientation into considering that the transition should also benefit most citizens who are not necessarily in the labour market. According to Montmasson-Clair (2021), 'A meaningful understanding extends beyond directly-impacted workers and communities to all vulnerable stakeholders that may be directly and indirectly impacted, this would include low-income communities at large, particularly women, the youth and the elderly, as well as small businesses'. Despite broadening from the narrow trade union meaning to a more general climate justice discourse, the concept only became used in South Africa around the 2000s (Ward, 2018, p. 5).

Key to broadening the concept of just transition is linking together environmental, social and economic aspects of sustainability (Ward, 2018, p. 6). The link is important because energy transitions do not happen in isolation but affect people's livelihoods; hence, justice must always be emphasised (Xaba & Fakir, 2022, p. 2). Climate change is not just an environmental issue but rather a threat that can undo societal developmental milestones while undermining prospects of development (Mhlambi et al., 2022, p. 31). The linking of these aspects suggests that the just transition to a greener economy is cross-cutting and should not be viewed through sectoral lenses as it may lead to fragmentation in tailoring policies and plans to respond to climate challenges and skills requirements. It is against this background that in South Africa,

a close link between just transition and the green economy is made, particularly regarding South Africa's Sustainable Development Strategy and Action, which has envisaged the creation of a green economy and linking it to just transition for the whole society (Ward, 2018, p. 7). Figure 2 below demonstrates the shift from a narrow focus on workers to a macroeconomic and cross-sectoral framing that is grounded in 'social justice in policy, planning and investment in driving green transitions' (Mohamed & Montmasson-Clair, 2022, p. 59) as postulated in this section.

Figure 2.1: Social justice cross-sectoral framing

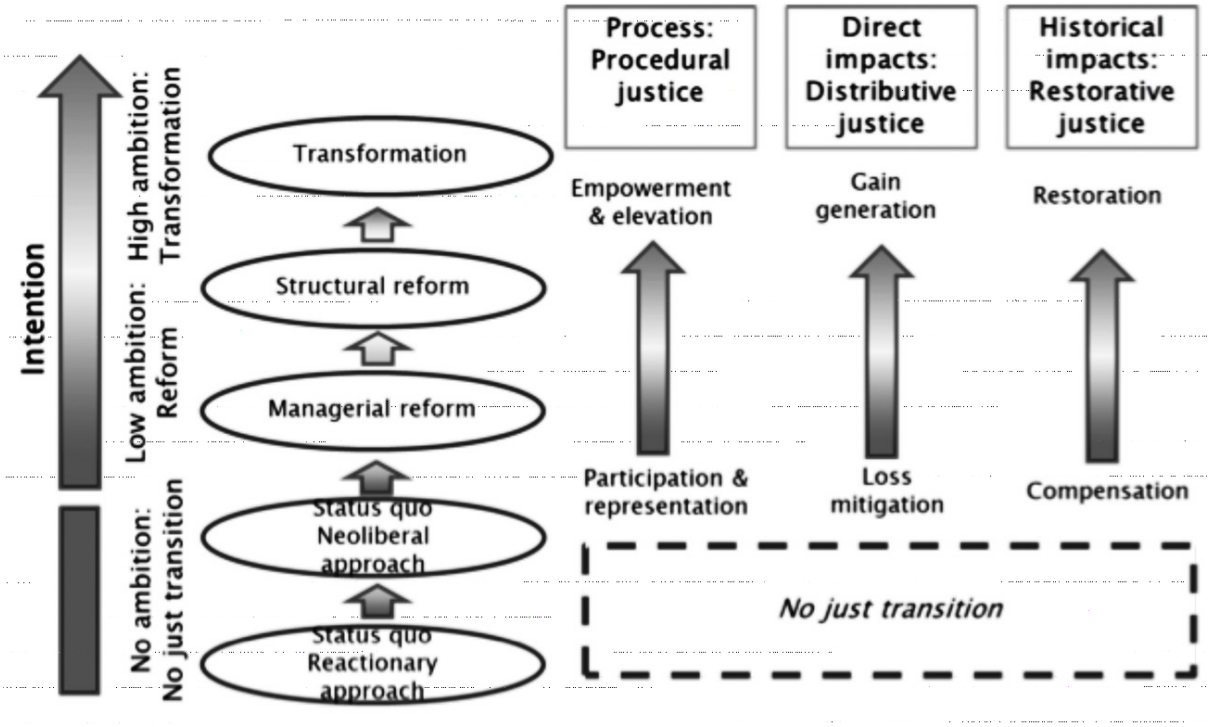


Source: Mohamed and Montmasson-Claire (2022, p.59)

Just transition discourses intend to deal with three dimensions of transitional justice, i.e., procedural, distributive and restorative justice (Montmasson-Clair, 2021, p. 7). Furthermore, Mohamed and Montmasson-Clair (2022, p. 61) posit that the key to a just transition is recognising a need for reforms and transformation to address inequalities brought about by the climate crisis. Three variants have been identified to

effect such a change: managerial reform, structural reforms and transformation. Figure 2 below illustrates how both the dimensions and variants can be used to generate transformation, especially when there is a high degree of ambition.

Figure 2.2: Dimensions and variants to effect transformation



Source: Mohamed and Montmasson-Claire (2022, p.63)

2.9.1 Procedural justice

Procedural justice advocates the inclusion of all stakeholders in meaningful participation in decision-making, particularly for vulnerable and marginalised groups (Montmasson-Clair, 2021, p. 7). Of course, such inclusivity should not be on an ad hoc basis but be continuous, meaning from conceptualisation to implementation (Mohamed & Montmasson-Clair, 2022, p. 63). This means that processes and planning towards a green economy should include key stakeholders, and consultations should not be a compliance or a 'tick box' exercise but rather be meaningful; some of the views expressed in consultation should be taken into cognisance and reflected in implementation plans. Therefore, with no meaningful stakeholder engagement, the transition to a green economy may lack the justice element.

2.9.2 Distributive justice

Distributive justice is concerned with the fair allocation of resources in society and seeks to address inequality about who bears the costs, who benefits, and in what manner (Montmasson-Clair, 2021, p. 7). Therefore, this form of justice is concerned with the negative effects the transition from an economy reliant on fossil fuels to a green and just economy may have on economic activities, such as employment and livelihoods. This can be done by introducing policy instruments to mitigate negative economic impacts (Mohamed & Montmasson-Clair, 2022, p. 64). As literature demonstrated above, particularly concerning the green growth discourse, some see the transition to a green economy as an economic opportunity in a narrow sense; therefore, it becomes essential that policy prescripts to a green economy should be framed in an inclusive manner and balance interests of everyone in society.

2.9.3 Restorative justice

Restorative justice considers past, present and future damages to individuals, communities and the environment and provides a framework to correct or improve the situations of harmed and marginalised communities (Montmasson-Clair, 2021, p. 7). According to Mohamed and Montmasson-Clair (2022, p. 65), this form of justice involves transformational elements towards a just transition to a green economy as it advances the socioeconomic empowerment of vulnerable groups and is forward-looking by ensuring that intergenerational justice is taken into account to cater for future generations.

2.9.4 Variants of just transition

Having outlined three dimensions, this study discusses the three variants as per Figure 2.2 above. According to Mohamed and Montmasson-Clair (2022, p. 62), the first variant only seeks to accomplish managerial reform as it does not imagine changes to the structure of the economy and the balance of power. It envisages that equity and justice can be attained within the current structure of the economy. The second variant is concerned with structural reforms and seeks to address, to a certain extent, the origins of inequalities and injustices produced by the present economic structure. It does not view the market as having solutions, but it considers governance structures, decision-making and ownership as key to effecting change (Mohamed & Montmasson-Clair, 2022, p. 62). The third variant is viewed as the most progressive because it

concerns transformation. It advocates changing existing economic, social and political structures as they are considered to be at the epicentre of injustice and inequalities (Mohamed & Montmasson-Clair, 2022, p. 62). The variants seem to suggest that the structure of the economy and the institutions supporting it tend to discriminate against lower classes, which promotes inequality.

2.9.5 Principles of just transition

Several principles are also emerging as dialogue grows concerning green and just transition. To this effect, Ward (2018, p. 7) reflects on four principles; the first focuses on predicting the employment and social impact on the most marginalised sections of our society. Second, the focus is on the need for active labour market research and policy engagement supported by long-term planning associated with skills development. Furthermore, Ward (2018, p. 7) emphasises the need to engage vulnerable groups in dialogues that shape the transition to a just and green economy, in order to empower them with knowledge and skills to understand complexities and make their voice meaningful in decision-making. Lastly, workers and communities need support such as investment in infrastructure and diversified economic opportunities.

The dimensions, principles and variants are important because this research is interested in how SETAs position themselves towards an all-inclusive and future-oriented approach to integrating environmental sustainability within their skills planning processes.

2.10 Social dialogue, a *sine qua non* for the just transition to a green economy

In the final analysis, a just transition to a greener economy depends on multiple stakeholders who sometimes may have conflicting interests and priorities. Social dialogue enables the creation of partnerships for designing and implementing policies (Montmasson-Clair, 2019, p. 5). While public policy development is the government's responsibility, buy-in from other social partners is critical for ease of implementation. For example, in Uruguay, the social partnership between civil society, academia, trade unions and the government has enabled the country to move swiftly to meet its

renewable energy targets by taking into account the necessary economic, social and environmental aspects (Montmasson-Clair, 2019, p. 5). Similarly, South Africa is well known for its vibrant social dialogue through the quadripartite National Economic Development and Labour Council (NEDLAC), which has attempted to create social compacts related to a just transition to a green economy such as the Green Economy Accord (Montmasson-Clair, 2019, p. 5). Moreover, social partners at the 2018 jobs summit reached a consensus on the establishment of a governance structure that will oversee the just transition to a greener economy; the President of South Africa has since appointed a PCC, which is responsible for advising on South Africa's climate change response. Through these institutions, there seems be a broad consensus by social partners that climate change will affect people and the economy, and therefore a just transition to a greener economy is required (Presidential Climate Commission, 2022, p. 7).

Moreover, such a transition should protect vulnerable people and provide them with opportunities (Presidential Climate Commission, 2022, p. 7). Social dialogue, therefore, becomes a precondition for the successful implementation of a just transition to a green economy in South Africa, and engagements with social partners should not be a compliance issue but should be meaningful and impactful because if critical voices do not have an opportunity to define the country's environmental sustainability path, there may resistance to it. Hence, the identification of key stakeholders should be done with the intent of not leaving anyone behind. The next section will discuss a policy framework in relation to environmental sustainability.

2.11 Policy and legislative framework

The South African government has developed legislation and policies concerning the transition towards sustainable development (ILO, 2018, p. 17). For the transition to be socially inclusive, policy coherence is needed that embraces change and prioritises transformational pathways (Oneworld, 2017, p. 11). Such policy documents refer, in principle, to a green industrial transition of the economy (Department of Environment, Forest, and Fisheries et al., 2020, p. 3). The policy interventions such as the National Climate Change Response White Paper of 2011, the IPAP and the Carbon Tax Act 15 of 2019, among others, are responding broadly to a myriad of issues such as key

industries that will drive the green economy, which will lead to job creation and ensuring that there are synergies between the envisaged green economy, jobs and skills. Figure 2.1 below provides a synopsis of some of the policies.

Table 2.1: Policies related to transition to a green economy

Policy or legislation	Description
National Climate Change Response White Paper, 2011 (NCCRW).	The policy was developed to guide South Africa's transition towards a greener economy and to ensure that the transition does not impact negatively vulnerable groups.
Carbon Tax Act 15 of 2019	The act intends to regulate the conduct of high-emission industries with the possibility of redirecting skills to other sectors such as carbon transport.
National Development Plan (NDP)	In relation to the green economy, the NDP views the move towards renewable energy as an opportunity for job creation and skills development.
The National Strategy for Sustainable Development and Action Plan (NSSD)	The NSSD is viewed as a forward-looking long-term strategy with key strategic focus areas, with one of them focusing on the relevance of the green economy and its potential to create jobs
The New Growth Path (NGP)	The NGP has identified the green economy as one of the key drivers for the creation of jobs in the future, also emanating from the NGP is the Green Economy Accord which has 12 commitments with implications for skills
Industrial Policy Action Plan (IPAP)	The IPAP is an instrument meant for driving industrial growth that leads to the creation of job opportunities, one of its four components are the dedicated development of green skills
Climate Change Bill	The bill outlines institutionals arrangements within and across the three spheres of government, the private sector, academia and civil society. It further provides systems to manage mititgation policies and actions.

Source: (ILO, 2018, p.26).

However, criticism has been levelled against some of these policies. For example, while the NDP is seen as providing an overarching macroeconomic perspective on the future of the country, it is viewed as falling short as far as the integration of sustainability into its overarching vision is concerned (Montmasson-Clair, 2019, p. 3). Similarly, according to Oneworld (2017, p. 21), while the NDP mentions skills development for sustainability and the significance of improving skills, it generalises with no specifics given in relation to policy prescripts. As far as the NCCRW is concerned, Oneworld (2017, p. 16) argues that while it mentions green jobs, as far as skills are concerned, there is little mention of skills development except for a short reference that climate change must be integrated into the National Skills Development Plan (NSDP) and the SETA's SSPs. Notwithstanding the criticism, some policies are credited for their clarity and commitment to environmental sustainability. An example is the Green Economy Accord, which, according to Oneworld (2017, p. 23), is the most specific regarding green skills policies compared to other government policies, particularly the eleventh commitment (Economic Development in the Green Economy: Promotion of Localisation, Youth Employment, Cooperatives and Skills Development). The above suggests that skills development mechanisms are poorly integrated into the national framework despite the promise that a green economy will create thousands of jobs (Oneworld, 2017, p. 24).

Further, Montmasson-Clair (2019, p. 4) suggests that the policies are inconsistent and problematic. Even though SETAs are well-positioned to deliver applicable and all-inclusive skills development, their lack of institutional power deters them from doing this effectively (Oneworld, 2017, p. 24). This body of literature suggests that the South African government has good intentions regarding the just transition to a greener economy; however, the intent is only good enough if it is combined with coordination, implementation, monitoring and evaluation. The literature above further indicates fragmentation in skills coordination concerning environmental sustainability.

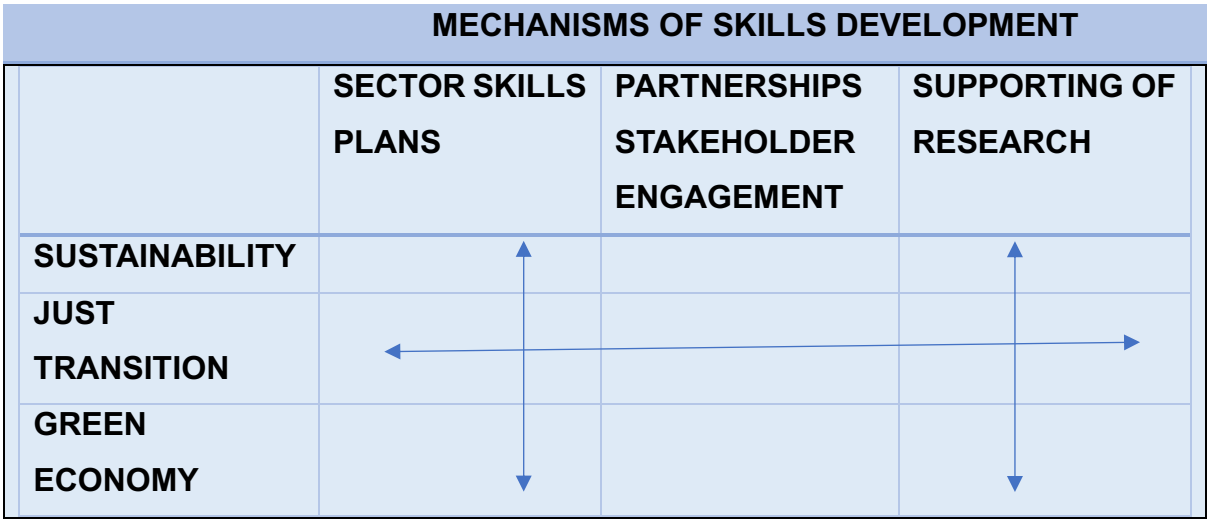
2.12 Implications for skills development

The transition to a greener economy will have a significant impact on workers and communities who are reliant on coal and other fossil fuels if not done in a just manner, e.g., 120,000 employed in the coal value chain will be impacted by the transition to green economy (Baloyi et al., 2022, p. 18; citing Makgetla et al., 2019). Furthermore, Baloyi et al. (2022, p. 18) posit that pressures that come with decarbonisation will lead to a decrease in demand for coal; this will lead to the closure of coal power stations and mines, which will be coupled with retrenchments of workers thereby leading to loss of livelihoods. The Global Change (2020) Institute also states that should the transition to a greener economy become unjust, a huge number of workers will be retrenched with nowhere to go. Therefore, the shift to a just transition to a greener economy will greatly impact the labour market, and as such, it requires investment in skills development. Hence, it is important for countries that just transition to a greener economy to integrate skills development in their planning with a specific focus on upskilling and reskilling (Ramsarup & Mohamed, 2022, p. 359). This is because environmental sustainability requires skilled people to venture into manufacturing, installing and maintaining emerging new green technologies (Bray et al., 2022, p. 396). Moreover, investment in skills or reskilling of the labour force should be socially inclusive and meet industry demands (Ramsarup et al., 2017). Notwithstanding the importance of skills for the just transition to a greener economy, Rosenberg et al. (2020) posit that workplaces and education providers in South Africa have few policy instruments, if any, to develop the skills required for a just transition to a greener economy. Furthermore, Ramsarup and Mohamed (2022, p. 359) suggest a lack of institutional structures to deal with skills as a cross-cutting concern, a lack of education and training opportunities and obsolete curriculum. Similarly, no overall repository or hub of learning opportunities exists in South Africa, which may lead to hindrances in the rollout of the skills needed (Department of Environment, Forest, and Fisheries et al., 2020, p. x). According to Oneworld (2017, p. 44), South Africa is not ready to develop skills that enable a just transition to a greener economy because of incoherent policies. From this literature, it is clear that South Africa has yet to develop systems and processes in relation to skills development for the just transition to a greener economy due to the thin and fragmented policy approach. This is even though the literature reveals that the transitioning to a green economy will impact jobs and

livelihoods, thereby unjust if the SETAs and/or the PSET system as a whole do not respond as far as skills development to mitigate the impact the transition to a greener economy will bring.

Figure 2.3 below presents key emerging concepts from the literature, i.e., sustainability, just transition and green economy. Sustainability is employed as an integrated concept to assist in understanding the just transition to a green economy. These concepts are linked to mechanisms for skills development to support the just transition to a greener economy.

Figure 2.3: Conceptual Framework



The framework highlights that three core concepts of sustainability will guide the study to structure it to investigate sustainability. The second part of the framework highlights the fundamental mechanisms SETAs offer that can interpret and analyse the core activities of SETAs as central skills development agencies. Within the mechanisms, I will use Sector Skills Plans, Partnerships and Stakeholders and the type of research that is supported. These concepts will guide this study.

2.13 Chapter summary

This chapter has explored the highly contested concept of green economy and its contrasting discourses. For example, green growth is market-oriented and views the greening trajectory as a vehicle to make money. By contrast, green transformation advocates for social justice while acknowledging the need for growth and investment

in technologies. The element of social justice is an acknowledgement that South Africa is fraught with inequalities; therefore, transitions should consider this reality. Hence, it becomes important as South Africa transitions from fossil fuels to renewables, there should be an investment in new knowledge and skills that will contribute to emerging sectors of the economy. Furthermore, the chapter reflected on three dimensions of transitional justice; the key among them is procedural justice, which advocates for the inclusion of stakeholders in decision-making, meaning no one should be left behind.

The literature has also helped this research with the basis for studying the role of SETA through SSPs in relation to the just transition to a greener economy. The literature tells us that the transition to a green economy will impact vulnerable groups in relation to jobs and livelihoods. Therefore, SETAs, whose role is to link education and training with the labour market, should, through SSPs, ensure alignment between qualification development and the skills needed to match green jobs. Furthermore, the literature also tells us that little is known about the kind of skills that will be needed and the jobs to be produced by the green economy, so the SETAs need to start the identification of skills needed early for the transition more so that bureaucratic processes have potential to frustrate qualifications development. While SETAs are expected to plan early for skills for the just transition, they should not do so in isolation from stakeholders within and outside their sectors; as demonstrated in the literature, social dialogue, which is key to procedural justice, should be a precondition for planning and implementation. The next chapter will discuss the research methodology applied in designing the research, collecting and analysing data.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes and discusses the research methodology used in conducting the study. The research questions the methodology seeks to address in unpacking is: How are SETAs supporting workers' acquisition of knowledge and skills for a just transition to a greener economy in their skills planning processes? The chapter first outlines the approach adopted for the research and the methods used in collecting and analysing data. Further, the chapter describes the research participants and finally outlines the limitations of the study.

3.2 Choosing a research approach

This research employed a qualitative methodology. According to Creswell (2009), a qualitative approach seeks to understand how persons or groups relate to social or human problems, while quantitative research examines how variables are related to one another. Having considered qualitative and quantitative approaches, this research adopted a qualitative approach as it seeks to understand the role of SETAs in supporting the just transition to a greener economy regarding skills development.

Qualitative research is a systematic inquiry into a social world where people are central to data collection (Teherani et al., 2015, p. 669). According to Hoepfl (1997, p. 48), a qualitative approach can be used to understand any phenomenon that little is known about and gain perspectives about what is known. The method used depends on factors such as the researcher's beliefs about the social world and what is known about it, the nature of knowledge and how it can be attained, why the research is conducted and what it seeks to achieve (Ritchie & Lewis, 2003, p. 10). A qualitative approach was adopted for this research for two reasons: firstly, it is known that climate change will negatively affect economies globally, and thus, it is important to reduce fossil fuel emissions through alternative sources of energy, as an example. Secondly, what is not yet known is the kind of jobs and, by extension, knowledge and skills that

a just transition to a greener economy will require. A study conducted by the Department of Business, Innovation and Skills in England to identify skills needed to support the transition to a green economy states that 'organisations do not have the right level of awareness or understanding of their green skills requirements and the implications of the green economy, as a result they are unlikely to realise the importance and benefits of incorporating green skills within their business' (Department for Business, Innovation & Skills, 2011, p. 25). Moreover, the International Employers Organisation (2023, p. 9; citing International Labour Organisation, 2022) posits that skills needed for greener are only now being developed and refined; the available labour information is not up to date or appropriately organised. This research explores how SETAs, as skills development bodies, are positioning themselves for such a transition.

The advantages of the approach chosen are threefold. Firstly, while quantitative methods such as surveys and experiments may assist in elucidating various issues and provide some valuable insights, they are not intended to explore intricacies and problems linked to the social world that we live in (Richards, 2003, p. 8). The qualitative approach chosen assists in investigating the research question. Secondly, a qualitative approach is people-centred (Richards, 2003, p. 9) and therefore relevant to this research, which is interested in whether there are plans to make the transition to a just and green economy seamless without negatively affecting people. Thirdly, unlike quantitative research, in which the researcher is expected to stand aside from findings for objectivity purposes, qualitative research relies on an engagement with a lived world, and as such, the study impacts the researcher (Richards, 2003, p. 9).

3.4 Research design

The data collection process was divided into three phases as follows:

1. **Phase one:** In this phase, a document analysis of 21 SETA SSPs for the 2020/2021 financial year was undertaken to understand SETA priorities in relation to skills and occupations within their sectors and what SETAs have identified as key change drivers within their sectors. The document analysis demonstrating how the SSPs were analysed is attached as Annexure C.

2. **Phase two:** This phase went deeper into SETAs' interventions and responses to skills for a just transition to a greener economy by interviewing Research Managers, Education and Training Quality Assurance Managers and Sector Skills Planning Managers from five SETAs who were selected based on the SSPs analysis of phase one. The selection was based on SETAs that stand out from the document analysis, i.e., two that have integrated skills for a just transition to a green economy in their skills planning processes, two that lack plans for integration of skills for the just transition to a greener economy and one that is in the middle. The interviews assisted the researcher in gaining a nuanced understanding of the extent to which SETAs are responding to a need for skills for a just transition to a greener economy.
3. **Phase three:** This phase sought a strategic overview of SETAs and how their role is seen within the PSET in relation to skills for a just transition to a greener economy. This was done by interviewing participants from the DHET Skills Branch responsible for inter alia SETA Performance and Monitoring and the Planning, Policy and Strategy Branch. The interviews intended to explore the strategic thinking of the DHET as the department entrusted with the PSET system and SETAs in particular and how they should visualise the role of SETAs in planning and funding skills for a just transition to a green economy.

3.5 Data collection methods

The research employed two methods of data collection, i.e., interviews and the analysis of documents collected.

3.5.1 Documents collected

The researcher first collected SSPs from 21 SETA websites to better understand SETA plans about skills for a transition to a just and green economy. SSPs serve as a mechanism for SETAs to assist in bridging the gap between education and training on the one hand and the world of work on the other, with a specific focus on their sectors (Oneworld, 2017, p. 26). SSPs consist of the following six chapters:

1. Sector Profile: this chapter outlines the economic and labour profile of the SETS's sector.

2. Key Skills Change Drivers: this chapter focuses on key skills issues that impact skills development in sectors operated by SETAs. This is through research and stakeholder engagements a SETA engages in.
3. Occupational Shortages and Skills Gaps: the chapter focuses on skills gaps, hard-to-fill vacancies and occupational shortages. It further looks at the supply side by evaluating the challenges in education and training and the impacts on employers and graduates.
4. Partnerships: this chapter assesses the partnerships in which SETAs are involved and whether they effectively respond to sectoral priorities.
5. Monitoring and Evaluation: this section seeks to assist governance structures with a performance monitoring tool to track the progress made from previous commitments by SETAs.
6. Key Priority Actions: the chapter presents findings from the above chapters and reflects on priority actions for the SETA, which the SETA is expected to focus on in developing its annual performance plan in line with national priorities.

Furthermore, these focus areas inform SETAs' response in terms of skills development and how they will be able to react in terms of new occupations in demand. According to Nzimande (2020, p. 5), occupations in high demand demonstrate a relatively high employment growth based on past, present and future trends presently in shortage.

Subsequently, analysis of the documents seeks to understand whether SETAs have integrated environmental sustainability factors into each area outlined above. For example, in relation to key skills change drivers, the researcher sought to understand whether SETAs view climate change as a key change driver and, if so, what actions they intend to implement as a response.

Detailed information on how the SSPs were analysed is available in Annexure C attached.

3.5.2 Interviews

There is no standard way of conducting interviews, as they depend on the interviewer's objective. They can be structured, semi-structured or unstructured (Kabir, 2016, p. 211). The research adopted semi-structured interviews, which provide an opportunity

for participants to express themselves freely without limitations because questions can be adapted as answers are given. The interview schedule is attached as Annexure D. This was a useful data collection method used to understand whether SETAs are integrating environmental sustainability into their skills planning processes.

The table below provides an outline of the two sets of interviews conducted.

Table 3.1: Outline of interview participants

Research Participant	Institution	Type of interview
Research Manager	SETA 1	Semi-structured interview (virtually).
Research Manager	SETA 2	Semi-structured interview (virtually).
Education and Training Quality Assurance Manager	SETA 2	Semi-structured interview (virtually).
Research Manager	SETA 3	Semi-structured interview (virtually).
Education and Training Quality Assurance Manager	SETA 3	Semi-structured interview (virtually).
Education and Training Quality Assurance Manager	SETA 4	Semi-structured interview (virtually).
Research Manager	SETA 5	Semi-structured interview (virtually).
Chief Operations Officer	SETA 5	Semi-structured interview (virtually).
Department Official One	DHET	Semi-structured interview (virtually).
Department Official Two	DHET	Semi-structured interview (virtually).
Department Official Three	DHET	Semi-structured interview (virtually).

3.6 Participants

Nine interviews were conducted with SETA and DHET personnel as outlined in Table 3.1. Participants interviewed included the Research and Skills Planning Manager, Education and Training Quality Assurance Managers, DHET Officials and a SETA Chief Operations Officer. Each participant contributed in various ways to the coding process. The codes were obtained using NVivo 12, a qualitative data analysis

software. SETA Two and SETA Three contributed the most insights to the research. This may be because they have explicitly mentioned just transition issues in their SPPs and developed more qualifications in response to a transition to a just and green economy. SETA five contributed the least insight to the research, and this may be because the SETA SSPs has not mentioned environmental sustainability-related issues, and there are no plans in place to move in that direction. Due to ethical issues related to confidentiality, particularly anonymity as per consent from institutions and the participants, only broad information is provided in relation to the institutions and participants.

3.7 Data analysis

The study adopted Thematic Analysis (TA) to analyse the data collected. It is a tool to analyse and interpret qualitative data by selecting codes and developing themes (Kiger & Varpio, 2020, p. 846). According to Lochmiller (2021, p. 2032), Thematic Analysis serves as a final step in producing wide comprehensive statements that narrate what is happening in the underlying data. Furthermore, TA 'is a useful method for examining the perspectives of different research participants, highlighting similarities and differences and generating unanticipated insights'(Nowell et al., 2017, p. 2). Thematic Analysis consists of six steps described in Table 3.2 below:

Table 3.2

Steps of analysis	Description
1. Familiarisation with data	This step is concerned with how the researcher carefully reads data to understand what was said.
2. Generating initial codes	Codes serve as a foundation for data analysis as the researchers extract them through concepts or language.
3. Searching for themes	This step involves the identification of similar codes thereafter put together for data consistency.
4. Reviewing themes	This step is concerned with the quality of themes, it does so by reviewing them and ensuring that they are in line with collected data.

5. Defining and naming themes	This step outlines what is “unique and specific about each theme” in line with what the research seeks to address.
6. Producing the report	This step produces the report in a logical relevant manner that can stand academic rigour.

Source: (Kiger & Varpio, 2020)

3.7.1 Data cleaning process

The nine interviews were conducted with the stakeholders, as outlined in the table above. The recorded interviews were, on average, 40 minutes in length, with the shortest being 15 minutes and transcribed verbatim to avoid the possibility of misquoting the participants. The cleaning process and preparation of the interviews for coding included a thorough review of the transcripts. Thereafter, the researcher discarded the typographical errors and missing words. At the preliminary reading stage, relevant paragraphs were highlighted to inform the data analysis process (Creswell, 2013, p. 205).

3.7.2 Computer-assisted qualitative data analysis software (CAQDAS)

An electronic form of coding using Computer-Assisted Qualitative Data Analysis Software (CAQDAS) NVivo version 12 software was applied to code and analyse all the information provided by the participants. The rationale for using a CAQDAS is that the software acts like a ‘container’ that keeps all the data, codes, memos, and findings from the same project in a single environment. This helps researchers manage, extract, compare and explore the data within the texts to ease and facilitate the analysis process (Ngalande & Mkwinda, 2014). Furthermore, the software assists in building networks and relationships, creating a graphical view of the data (Ngalande & Mkwinda, 2014). Although the software allows for organising transcript data in preparation for analysis, it does not analyse the data as the analytic part remains the responsibility of the researcher.

3.7.3 Coding process

Coding involves unearthing the meanings of individual sections of data in order to categorise and later rearrange data into emergent groups for further analysis

(Saldana, 2014, p. 7). The coding process in this research was guided and framed by the research questions.

Table 3.3 below illustrates an example of the coding process; how codes and themes were created. Based on the information from the transcripts, two codes – lack of alignment with learning pathways and lack of alignment with national imperatives – were assigned to give meaning to the information in the transcripts. Therefore, the challenges that SETAs face in integrating environmental sustainability are generated through the grouping of codes. Table 3.3 below serves as an example of how codes and themes were generated and outlines research sub-questions and an extract from an interview together with an emerging code that arises from the interview extract.

Table 3.3: Coding example

1. What are some of the challenges that SETAs are facing in integrating just and green economy factors within their skills planning?	*"…but another frustration that we encounter is from QCTO itself, with QCTO, I can tell you today that you can submit the development of a qualification today and if you don't follow up in the next four or five months, you won't receive any feedback. And if you're lucky to receive feedback, it takes forever."* (*Manager 2, SETA 3).*	• Delays	• Delays in qualification development
What are some of the challenges that SETAs are facing in integrating just and green economy factors within their skills planning?	• *"And it is really not helping, you know, the mandates of the SETA's, are left on their own based on their sectoral, sectoral needs. So, what we do, is basically respond to what your employers are telling you to, do within your sector. And, and we, we tend to then operate in that sectoral silo mentality, you know, because then, because it's the employers that pay the levies to us, we have to be responsive to them. And we have to make sure that we give programs funding to their needs more than the national imperatives, you see."* (***Manager 1, SETA 1).***	• National priorities	• Lack of alignment with national priorities.

3.8 Limitations of the research

There are factors where a researcher does not have control, which have a bearing on the research results (Simon & Goes, 2013). The first limitation of this research relates to the number of interviews conducted. The initial plan was to have two managers per SETA, but that could not be achieved for two reasons. Firstly, some managers were on leave, and secondly, others were just unresponsive. This limitation did not hugely impact the research because all selected SETAs were represented. The second limitation of the research relates to the period chosen for analysis of documents (SSPs), i.e., 2021/2022; if the period was longer, the study could have discovered data that enriched the findings. Lastly, the phenomenon the research is interested in is relatively new and has not been explored in depth. As a result, relevant literature is thin, and the participants do not seem to have a deep understanding of what the just transition to a greener economy means. Despite the limitations, the research has achieved its objectives as the data collected is reliable.

3.9 Ethical considerations

All researchers must foresee ethical issues that may arise during the research process (Creswell, 2009). Since data is collected from people and about people, researchers need to safeguard participants by ensuring there is no impropriety and that the research is conducted with integrity (Creswell, 2009). Before the study was conducted, ethics clearance was obtained from the university. The clearance is based on values for upholding ethical conduct when conducting a study; the protocol number is on the cover page. An explanation was given to participants on the research subject and what it seeks to achieve. Also, anonymity and confidentiality were upheld through the use of pseudonyms. Interview recordings were transferred to a password-protected Universal Serial Bus (USB) and kept in a safe place where only the researcher has access. The USB will be kept for no longer than five years, together with any documentation related to the data collected, and will later be destroyed as per university protocols.

3.10 Chapter summary

This chapter has outlined that the research adopted a qualitative approach towards understanding how SETAs are integrating just transition to green economy aspects in their skills planning processes. It further explained that data was collected in two forms, i.e., documents and interviews, the number of documents that were analysed came from 21 SSPs, and there were nine interviews. Data was analysed using CAQDAS NVivo version 12 to promote the study's reliability and validity. Participants were informed of their rights during the interview and provided an informed consent form. Lastly, the chapter presented some limitations that, inter alia, include not getting access to some participants, the period chosen to analyse documents, and the fact that the phenomenon explored is new.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the findings of the research conducted in 21 SETAs under the topic: *The Role of Sector Education and Training Authorities in South Africa's transition to a just and green economy*. The objectives which guided the research are (i) to understand which aspects of a transition to a just transition to a greener economy SETAs support through their SSPs, (iii) to determine challenges that SETAs are facing in integrating environmental sustainability within their skills planning mandates, and (iii) to understand the type of just and green economy activities SETAs are prioritising in their SSPs. The data is presented in two forms, i.e., key issues that emanate from the analysis of the SSPs and data emanating from the interviews. This is followed by a discussion of some emerging insights across both data sets.

4.2 Key issues emanating from the document analysis of the SSPs

This section presents the analysis of the SSPs. It first reflects on whether SETAs understand the holistic and cross-cutting nature of environmental sustainability and whether they integrate social, ecological and economic issues in their planning processes. Thereafter, the focus is on the key aspects of skills development which SETAs have identified as relating to environmental sustainability, such as upskilling, reskilling, research activities, consideration of environmental crisis in qualification development, monitoring and evaluation and coherence between key change drivers and key priority actions. For example, the data below shows that some SETAs have identified key areas for upskilling and do consider the environmental crisis in their qualification development. Annexure C is an example of the document review of one SETA.

4.2.1 Findings from document analysis showing SETA's key issues of interest

The table below summarises SETAs which do or do not engage in environmental aspects in their skills planning processes.

Table 4.1: Key issues of interest to the research which guided analysis of SSPs

Key issues of interest to the study which guided analysis of SSPs	**Number of SETAs with SSPs which reflect the key issues.**	**Number of SETAs with SSPs which do not reflect the key issues.**
Research with a specific focus on environmental sustainability/justice and what it means for SETAs.	5	16
Upskilling	3	18
Reskilling	1	20
Consideration of environmental crisis in qualification development	8	13
Emerging recommendations for stakeholder involvement towards skills for a transition to a just and green economy.	4	17
Whether monitoring and evaluation mechanisms take into cognisance a need for skills responsive to the transition to a just and green economy.	3	17
Coherence: the link between change drivers and priority actions.	5	16

Table 4.1 shows that five SETAs reflected research-related aspects of environmental sustainability and highlighted important green skills interventions specific to their sectors, such as mining. For example, one SETA conducted research 'probing the green skills that can be prioritised in the Mining and Minerals Sector (MMS)'. The study was concerned with what constitutes 'essential green skills', green skills considered to be scarce in the country, factors that affect the supply of and demand for green skills and 'which of the green skills are integral to the new QCTO qualifications sub-framework and where gaps exist' (Document Five, p. 26). In construction, a comprehensive research project is underway to better understand 'green construction methods, and to integrate these techniques into skills training and the labour market'.

On the other hand, the SETA indicates a need to be forward-looking through investment in research and development focused on 'pursuing evermore greener technologies and innovations, across construction value chain' (Document Two, p. 50). The extracts above indicate that some SETAs are attempting to engage in environmental sustainability activities in the context of their specific sectors. However, the number of SETAs not engaging in environmental sustainability issues outweighs those engaged, i.e., 23 per cent. This finding has implications for the PSET system and the SETAs, in particular, because the delay in developing the planning skills needed for the transition to a green economy may negatively impact vulnerable groups' jobs and livelihoods, which will make the transition lack justice.

Other examples reflected below relate to aspects used as a yardstick for identifying whether SETAs engage in environmental sustainability activities. In terms of partnerships, one SETA states it seeks 'to understand how stakeholders interpret concepts related to the green economy and how the interpretation changes over time as the economy changes'. *(*Document Six, p. Vi). The 16 SETAs that did not reflect environmental concerns in their research agendas seem to be concentrating on the impact of COVID-19 on the sector and the skills needed for the Fourth Industrial Revolution. For example, Document Ten, p.xvii states that the SETA conducted research 'to highlight impact of COVID-19 on employers, students, employees and the unemployed in order to mitigate this impact and to guide skills development interventions'. Another SETA states that it conducted research 'to collect primary data in relation to COVID-19, and how this pandemic may influence skills development imperatives now and in future' (Document Four, p. 14).

In relation to stakeholder engagement, SSPs identified key stakeholders by SETAs to enter into partnerships in acknowledging that the shift to a green economy requires an integrated approach. The identified stakeholders include government departments, research institutions of higher learning and civil society organisations. These are further elaborated in the presentation of data below.

In relation to monitoring and evaluation, the SETAs acknowledge a need to link SSPs to national priorities such as environmental sustainability. The monitoring section of one of the SETAs states that:

> *it is now common cause that environmental considerations should be at the heart of any growth and development plan, the construction sector is not immune to this responsibility of doing development in a sustainable way (in ways that do not imperil the future of later generations). In this regard, construction SETA intent on focusing evermore attention on the green economy'* (p.46).

Further, SETAs view monitoring economic, social and environmental developments as essential for developing credible plans.

When examining follow-through from the identification of change drivers to coherent environmental interventions, the data from SSPs showed an imbalance in that for some SETAs, there is a correlation between key change drivers and priority actions, while some only identify environmental sustainability as a key change driver and fail to place it at the centre of priority actions. This is just an acknowledgement with no intention to integrate environmental sustainability into the planning processes. The disconnection between key change drivers and priority action in the SSPs indicates that when SETAs engage in planning processes to produce documents such as the strategic plan and annual performance plan, which are vital for budgeting and implementation, delays may occur in planning for other sectors; the latter may experience a greater impact in relation to the transition to the green economy, meaning that some are left behind.

This section provided an overview of the findings as a prelude to the presentation of results in the next sections, where each aspect of the findings is presented in detail.

4.2.2 Holistic understanding of the environment, the economy and society

Analysing SSPs suggests that not all SETAs understand the relationship between the environment and the economy, and how environmental challenges, such as climate change will impact their sectors. For example, in Document One, one SETA states that:

> *The transition to green economy requires changes within all the sectors of an economy. In the agriculture sector, this refers to the use of environmentally friendly sustainable practices', therefore, 'new skills set aligned with migration of workers,*

incorporating latest innovations and technologies, natural disaster management should be offered to farmers as skill intervention' (p.20).

In addition, Document Three, another SETA, acknowledges that:

environmental challenges such as global warming, air pollution, waste management and recycling are linked to globalization' and that 'globalization has facilitated the emergence of a more sophisticated market, which has implications for skills and training. (**Document Nine,** p.31)

While in Documents Two and Five, the SETAs concerned seem not understand the challenges associated with a just transition to a greener economy. An analysis of their SSPs, particularly concerning key skills change drivers, occupational shortages and skills gaps, partnerships and key priority actions, indicated that there was no commitment to or mention of issues related to environmental sustainability; hence, no quotes in relation to the two SETAs, i.e., Documents Two and Five demonstrate that not all SETAs understand the relationship between climate change, environment and the economy compared to Document Three as an example.

From the 21 SSPs analysed, only eight SETAs showed an understanding of the relationship between environmental sustainability and the economy, while some emphasise the Fourth Industrial Revolution. The two examples below show that while some SETAs do understand the link between environmental sustainability and the green economy, the just transition to a green economy will require a fundamental change in relation to skills for the workers affected by changes in the economy:

the SETA will need to facilitate and steer the sector in taking stock of the current workforce skills in order to design and develop new, top-up and relevant skills sets that would enable the sector to be proactive and responsive to the industrial changes. **(Document Three,** p.32**)**

Another SSP commits to:

to ensure the relevant skills are developed for the circular and green economies, curriculum design and development of new qualifications and occupations should be considered. **(Document Six,** p.34**)**

The two extracts from SETA SSPs suggest that some SETAs understand the impact environmental challenges may bring to the economy. Further, environmental challenges are cross-cutting, meaning they have social, economic and ecological implications. As a result, some SETAs acknowledge that for the transition to be just, their curriculum should be responsive to the envisaged shift to a greener economy by developing new skills.

This section confirms that some SETAs understand the importance of reconciling environmental, economic and social aspects and have acknowledged that environmental sustainability issues should be integrated with qualification development. For example, one SETA has identified environmental crimes such as rhino poaching as a threat to natural resources which will impact the environment; consequently, it considers upskilling workers to avert and minimise poaching. Another SETA has identified the threat of natural disasters due to climate change to impact insurers and sees a necessity for reskilling within its sector. The data above reveals that there are SETAs who, within their sectors, have started to identify areas which may be impacted upon by the transition to a green economy and what implications such an impact has for them; some have already started to think about skills needed to mitigate the impact and not affect the vulnerable groups, such as workers.

4.2.3 Aspects of skills development SETAs have identified related to a transition to a just and green economy

Under this theme, the research has found that not all SETAs are engaged in aspects related to a just transition to a green economy. For example, three SETAs identified upskilling activities within their sectors, while one has identified reskilling activities. Furthermore, five SETAs have partnered with different institutions to conduct research to look at skills needed within their sectors to inform their planning activities, inclusive of funding, while eight SETAs have demonstrated a need for a review of their qualifications to integrate environmental sustainability and for these to be aligned with SSPs. The data collected in relation to SSPs further shows that, of the eight SETAs who have identified environmental sustainability as cross-cutting, five show a connection between change drivers and priority actions in their SSPs. Lastly, in relation to monitoring and evaluation, only three SETAs consider environmental sustainability in the monitoring activities; this finding is elaborated below.

a) Upskilling of workers:

Concerning this aspect, only some SETAs have identified upskilling to support a transition to a just and green economy as an area to be prioritised for planning. The extract below demonstrates an acknowledgement by one SETA that new technologies associated with a just transition to a greener economy require investment in the upskilling of workers to make sure that they are not left behind:

> *need for the upskilling of farm workers in energy-efficient methods, resource sustainability, agro-processing and other green technologies. To ensure successful planning for skills towards a green economy, the SETA is currently undertaking research to study the skills needed by the sector to implement green economy.* **(Document One,** p.20**)**

The quote above shows that the SETA does not just recognise that the transition to energy-efficient methods needs planning but has acted by identifying key areas it should focus on in relation to upskilling. Further, the SETA is already conducting a study on the skills that the sector in which it operates will need to adapt to a just and green economy.

Another SETA believes that in enhancing environmental sustainability, crimes related to the environment must be reduced and efforts to train workers be scaled up, as stated below:

> *The SAPS intend to cooperate more closely with a variety of stakeholders to prevent environmental crime. Therefore, a lot of skilling/upskilling or reskilling personnel in the sector is needed to effectively enforce and progressively uphold environmental laws.* **(Document 11,** p. 20**)**

It seems that the SETA understands that environmental sustainability should not be confined purely to environmental issues, and it is cross-cutting; as a result, other aspects, such as social, ecological and economic, should be viewed as impacting environmental changes.

In summary, the extracts above indicate that some SETAs are engaged in activities related to the upskilling of workers, further understanding that their failure or success of these has implications for their livelihoods. Essential to upskilling activities is

identifying of key areas of focus followed by research that will give specific information on skills needed to keep the sectors and the workers afloat.

b) Reskilling of workers

In relation to reskilling, there is little that has emerged from the SSP analysis except for one SETA which acknowledges that:

> *reskilling is required to factor climate change in areas such as: liability, underwriting, marketing, risk management, risk management, regulations, investment, strategic, pricing and asset risks.* **(Document Eight,** p. 21**)**

This SETA anticipates that the just transition to a greener economy will impact their sector, which may affect not only livelihoods but the sustainability of the division itself. The analysis thus reveals that some SETAs have started identifying possible areas of intervention that may be affected by the just transition to a green economy.

c) Research activities

For the period under review, i.e., 2021/22, out of the 21 SETAs analysed, five have prioritised research related to skills needed in their specific sectors because of the envisaged shift to a just and green economy. The extracts below reflect their position:

> *possible future skills in the chemical sector with a focus on the 4th Industrial Revolution and Green Skills as change drivers, which will ensure the SETA plans adequately in its Sector Skills Plan and funding opportunities to meet future skills identified.* **(Document Three,** p. xv**)**

Another SETA states that it:

> *Has formed partnerships with Tshwane University of Technology and commissioned a research study on the skills needed for entities to shift to green economy. The results of the research will advise on the relevant green skills that the SETA need to prioritise providing to the sector.* **(Document One,** p. 54**)**

The quotations above suggest that some SETAs recognise that climate change is now, and there is a need to be proactive in understanding the shifts it will bring to the economy and, by implication, to the sectors in which they operate. Research is needed to inform planning for skills required for the just transition to a greener economy.

d) Consideration of environmental crisis in qualification development

Some of the SSPs analysed reflected the need to develop new skills relevant to industry changes presented by issues such as climate change. Out of the 21 SSPs analysed, only eight consider environmental sustainability in their qualification development. The extracts below demonstrate how some SETAs frame their focus on the environment:

> *the need for environmental sustainability to be integrated and mainstreamed into education and training programmes for the sector. It further suggests that this may require better alignment between National Skills Development Strategy III, Environmental Sector Skills Plan and SETA SSPs.* **(Document Seven,** p. 36**)**

Another SETA seeks to:

> *review qualification curricula to include climate change issues impacting the sector.* **(Document Eight,** p. 21**)**

This data demonstrates that in their planning, some SETAs consider environmental sustainability issues in their planned qualifications and the importance of aligning qualifications with national priorities.

e) Partnerships

Most SETAs have not identified partnerships concerning environmental sustainability. Only four seem to either have existing partnerships or intend to develop them. One SETA, i.e., wants to partner with the South African Energy Technology Centre (SARETEC) for:

> *development and quality assurance of renewable just transition curricula.* **(Document Four,** p. 78**)**

In the extract below, another SETA asserts that through some of its stakeholder engagements, it has drawn lessons which point to the importance of engaging stakeholders in executing its plans in relation to the just transition to a greener economy:

> *key lesson learnt through the implementation of SMME Summit, which culminated in the SETA SMME Strategy, was the importance of stakeholder engagement. Skills development interventions proposed by the SETA, such as skills required for the*

> *green economy, require an integrated approach. In this regard, SETA inputs from stakeholders will be vital for the success of these initiatives.* **(Document Two,** p. 47**)**

The data above indicates that some SETAs acknowledge that environmental sustainability issues are cross-cutting and stakeholder engagement and development are key in responding to the skills that the just transition to a greener economy may require. Some have already identified partners to engage in different aspects of skills for this purpose.

f) Monitoring and evaluation

In relation to this aspect, most SETAs do not demonstrate that they consider environmental sustainability as part of their monitoring and evaluation mechanism. Only three out of 21 SETAs have shown some level of consideration, while the other SETAs' monitoring and evaluation sections are silent on integrating environmental sustainability. One SETA, which considers environmental sustainability as part of monitoring and evaluation, acknowledges that:

> *Monitoring economic, social, technological, legal and environmental developments in the sector as so to better understand the context to inform the development of credible plans that are responsive to the sector and national priorities.* **(Document Six,** p. 64**)**

Although environmental issues have been clustered with other areas, the extract above suggests that one SETA acknowledges the importance of integrating environmental issues into its SETA monitoring mechanisms.

g) Coherence: the link between change drivers and priority actions

The document analysis looked at the relationship between the key change drivers and priority actions, specifically focusing on skills related to environmental sustainability. Of the eight SETAs who identified environmental sustainability as a change driver, five seems to have gone further to make recommendations on prioritising skills related to environmental sustainability. For example, one SETA states the following:

> *need for green knowledge linked to industry-specific training interventions.* **(Document One,** p. 20**)**

In relation to key priority actions, the SETA recommends that there should be:

integration of green knowledge into all learning programmes.
(Document One, p. 62**)**

Another SETA, under environment sustainability as a change driver, states:

As mining activities and environment change, the need for green skills in the Mechanised Mining Systems MMS is also expected to be affected. All the mining subsectors are likely to experience an increased demand for green skills. **(Document Five,** p. 27**)**

It also identifies the alignment of its practices to the green economy as an action the SETA needs to take concerning the above change driver:

The sector must align its practices with goals closely linked to achieving the development path of the green economy through the revision of the QCTO qualification framework to better align the needs of the MMS in relation to green skills. **(Document Five,** p. 26**)**

The data above show that while some SETAs identify skills related to environmental sustainability as key change drivers in their respective sectors, not all of them link key change drivers with other aspects of the SSPs, such as occupational shortages and skills gaps, SETA partnerships, monitoring and evaluation and key priority actions. The lack of connections presents an incoherent approach to SETA planning activities. For example, eight SETAs have contemplated environmental sustainability in qualification development, but only three SETAs considered environmental sustainability in their monitoring and evaluation mechanisms. This mismatch presents a difficulty in that SETAs, without monitoring and evaluation, may not credibly measure whether the qualifications developed are impactful.

4.3 Key issues emerging from the interviews

From the interviews, the following insights emerged in relation to the challenges that SETAs face in integrating environmental sustainability within their sector skills planning processes.

4.3.1 The role of DHET in the development of SSPs

Participants stated that a process is followed when developing the SSPs, which have different defined chapters. By developing the SSPs, SETAs must ensure that they speak the same language and follow a standardised process and format set by the DHET. The SETAs have their own accountability structures to sign off on the SSPs. The DHET accepts these documents believing that the accounting structures have examined them and might have identified key issues of national importance, such as environmental sustainability. However, the extract below shows that there are challenges in integrating issues related to environmental sustainability in the SSPs. For example, one participant stated that as the DHET, they do not have the authority to direct SETAs to include environmental sustainability issues in their SSPs but can only advise:

> *So, as a department, we don't necessarily have the means to say to a SETA, who does not focus on the green economy or the emerging skills due to the changes that we are seeing in the environment. Therefore, we do try when we provide them with feedback sessions after they have submitted their draft SSP so to speak. We highlight areas that we feel have not been captured by the SSP on their planning document, but we can only indicate to the SETA's that you have not included this, or you need to include this and it's upon the SETA to say okay, we are going to include it, or we are not going to include it.* **(Department Official,** DHET One**)**

According to one SETA, the DHET's role is limited and not authoritative as a parent department which should be directing SETA planning processes, and probably the reason why the problem of coordination persists as reflected below:

> *I mean right now. Just to demonstrate to you that as a form of a directive, they've given us a plan, and that plan is called the National Skills Development Plan. Now, that plan, all the SETA's are supposed to report and follow up on every year, for the next from 2020 to 2030, as opposed to the reporting, and ensuring that we will achieve those outcomes that have been put under the NSDP. So, if they have, if they have been committed, really to ensure that this just transition is what the SETA's should focus on, they could have easily put it in a document called against delivering put it in a letter as a directive to all the SETA's, because you're quite correct, that the problem with the PSET system is the lack of coordination.* **(Manager,** SETA One**)**

Another participant stated that they have limitations on what they should prioritise for inclusion in SSPs, which makes it difficult for them to decide on what are the key issues that should be prioritised:

> *Because, you know, we have restrictions in terms of the SSP to say you can only identify a certain number of skills, challenges, or skills considerations.* **(SETA Five,** COO**)**

The above data analysed identifies two issues. Firstly, the DHET is limited in relation to what it can prescribe for inclusion by SETAs in their SSPs. This indicates that DHET's role as a parent department to SETAs is, to a certain extent, advisory, meaning they cannot enforce or prescribe. Secondly, SETAs expect the DHET to direct them in relation to national priorities that should be considered when developing SSPs.

4.3.2 Delays in qualification development that hamper implementation of the just transition to green economy interventions

From the data presented below, some SETAs intentionally integrate environmental sustainability issues into their SSPs and have gone further to develop qualifications. However, there are some obstacles in the system. As a result, developing a qualification takes a long time, meaning SETAs may be overtaken by events by the time they get approval. One participant stated:

> *Okay, so we actually face quite a major challenge as an ETQA because I'm sure you're aware that the QCTO has centralised certain functions, like the approval of qualification, SETAs can no longer apply directly to SAQA, and so forth. So, there is a time lag. And it used to be much larger. I see this year, it's getting better, but there is a time lag. So, I submitted the skills program this week, Monday, I am not sure the QCTO doesn't give us a turnaround time. Sometimes you may get an answer in six months on a skilled program. And other times it may be 18 months. And I think that the real disadvantage, there is an energy transition and it's now, it's happening. We're living it, and we can't wait 18 months for qualification to train people because then we've missed the boat.* **(Manager Two,** SETA Two**)**

Another participant states that:

> *but another frustration that we encounter is from QCTO itself, with QCTO, I can tell you today that you can submit the development of a qualification today and if you*

don't follow up in the next four or five months, you won't receive any feedback. And if you're lucky to receive feedback, it takes forever.' (**Manager Two,** SETA Three**)**

The analysed data indicates that while SETAs may develop and submit new qualifications to the QCTO in response to the need for skills for the just transition to a green economy, the approval process takes a long time, and such a prolonged process may have unintended consequences for different sectors of the economy and related stakeholders. These could include the non-availability of skills required to respond to the needs of the green economy and, by extension, negatively impact the socioeconomic situation of the country. In essence, this will make the transition to a green economy unjust.

4.3.3 Skills planning and central coordination

Given that SETAs are meant to respond to the needs of the sectors in which they operate, they tend to prioritise the needs of the industry in particular and national priorities tend to be secondary in their planning. Moreover, lacking central coordination deters SETAs from aligning their SSPs with national plans/instruments such as the NDP and the Medium-Term Strategic Framework (MTSF). They tend to develop their SSP based on how they see fit for their sector. The data analysed shows that SETAs prioritise market interests in their interventions as the participant suggests:

And it is really not helping, you know, the mandates of the SETA's, are left on their own based on their sectoral, sectoral needs. So, what we do, is basically respond to what your employers are telling you to, do within your sector. And, and we, we tend to then operate in that sectoral silo mentality, you know, because then, because it's the employers that pay the levies to us, we have to be responsive to them. And we have to make sure that we give programs funding to their needs more than the national imperatives, you see. (**Manager One,** SETA One**)**

The extract below suggests that there is no adequate coordination of SETAs towards supporting national priorities and SETAs must plan within the confines of their sectors, basically perpetuating the siloed and fragmented approach currently prevailing:

You know, if we have a national strategy, and we look at the roles, and we look at within the context of understanding who is affected by this, you know, everyone's got a role to play, but from a different perspective, for me, the key issue is coordination. And that then who's coordinating for what, you understand? Because even though

you get this on the ground, well, then what's going to happen after that? How are we going to ensure that the very skills are being implemented? **(Manager One,** SETA Three**)**

The White Paper on Post-School Education and Training imagined the establishment of a Skills Planning Unit (SPU) responsible for PSET skills planning and coordination. The extract below shows that this unit is still at the conceptual stage, notwithstanding coordination challenges which persist in the PSET system:

So, the skills planning unit, as a concept, has been long in discussion in the department. And actually, a full business case was developed and written up what is the establishment, the department is currently undergoing a process of organisational review. And a big part of it is around consolidating that planning capacity so that to give effect to that notion of the skills planning unit, but at the moment, my Directorate is the one that is responsible for system planning. it hasn't been fully implemented in the way that the business case. And so, it's not something that we can get into too much detail about because it hasn't yet taken fruition. But the idea is to begin to see more coordinated, more streamlined, and more articulated planning for not just the department that looks into it, but you know, for the system as a whole to have a more coherent way of planning for the development of the human development capacity for the economy. So, it is new, we want to understand who's doing what in this space for us to be able to take this, this this this work forward. But at this stage, there isn't much that has been done. **(Department Official,** DHET Two**)**

The above extract suggests that a unit envisaged ten years ago is yet to be implemented, despite a business case already developed. Furthermore, it is acknowledged that its establishment would have led to more coordination and streamlined planning and its absence led to a lack of coordination and incoherent planning. This means SETAs will continue to act in silos, prioritise their sectors and not respond to environmental sustainability as a national priority, which cuts across all areas.

And for me, the fact that other government departments are beginning to look at the skills implications for the sectors that they are managing, I don't necessarily see that as a problem. But for us, in higher education and training providing an oversight role on the education and training system in South Africa, in collaboration with the

> *Department of Basic Education, our responsibility, then is to ensure that we have a consolidated or overarching skills plan. As far as skills needs are concerned, we need to identify who are the role players in the space, we need to identify who are which sectors are mainly affected by this, just transition. And it can only be through that, that we begin to know and have a consolidated or coordinated approach to addressing the skills needs for a just energy transition.* **(Department Official,** DHET Two**)**

The key issues from the data above are that SETAs work in silos and mainly seem preoccupied with serving the industry's interests rather than focusing on national imperatives. Further, there is no clear coordination of roles despite the instructive proposal by the White Paper on Post-School Education and Training that a skill planning unit be established.

4.4 Key cross-cutting issues emerging from document analysis and the interviews

This section reflects on the key issues which emerged and are cross-cutting from both data sets, i.e., document analysis and analysis of the interviews. The first is the understanding on the part of the SETAs that environmental challenges will impact the economy and, therefore, there should be planning to mitigate such an impact. Further, environmental challenges should be viewed from a holistic perspective and include social, economic and ecological aspects, not just environmental issues. Hence, the response to environmental changes should present a new way of doing things which will bring about fundamental changes and be responsive to those most vulnerable.

The second issue is the importance of reskilling and upskilling workers and the implications of their failure or successes for their livelihoods and communities. Some SETAs have already developed qualifications in anticipation of the shift to a just and green economy, even though approval takes a long time and is a frustrating process.

Thirdly, while some SETAs have developed qualifications, the delays they are experiencing from the QCTO frustrate their intentions to integrate environmental sustainability into their planning process. Thus, some SETAs expect the DHET to play a key role in coordinating activities that relate to national imperatives,

The last issue that has emerged is the need for stakeholder engagement through partnerships and engaging workers and communities.

4.5 Chapter summary

The data above suggests that industry interests largely influence SETAs' skills planning at the expense of broader national interests, and there is a lack of central coordination which leads to SETAs working in silos and a fragmented response to national challenges. While the government prioritises environmental sustainability issues, a lack of coordination and a siloed approach may impede SETAs' integration of skills needed for the just transition to a greener economy in their SSPs in anticipation of the just transition to a greener economy. In return, this may negatively impact sectors of the economy which are labour intensive and by extension their workers and communities. Furthermore, the data also reveals that some SETAs have developed research partnerships with universities and state research institutions to understand the implications of skills development regarding the transition to a green economy. Also, the issues of stakeholder engagement with vulnerable groups emerged strongly in the interviews.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

The research has explored the role of SETAs in South Africa's just transition to a greener economy. This chapter returns to the research questions and reviews what has been discussed in addressing them.

5.2 Research questions

The following are the questions the research sought to address when it was conceptualised:

7. What aspects of a just transition to a green economy do SETAs' support through SSPs?
8. What type of a just transition to green economy activities are SETAs prioritising in their SSPs?
9. What are some of the challenges that SETAs are facing in integrating environmental sustainability within their sector skills planning processes?

5.3 Summary of findings

Chapter Two stated that the discourses concerning the just transition to a green economy are aspirational and difficult to analyse as its emergence in the PSET system is still in the infancy stages (Ramsarup, 2017). The researcher used sustainability as a concept to help understand the just transition to a green economy, linking it with the mechanisms supporting skills development as lenses to help unpack the research questions. The study has found that a small number of SETAs (8) are engaged in planning and introducing activities related to the integration of environmental sustainability into their SSPs, such as reskilling, research and integration of environmental issues in qualification development with a specific focus on workers who will be affected by the shift to a green economy. This finding is in line with the principles of a just transition to a greener economy, related to the necessity of predicting employment changes and their social impact on the most marginalised sections of our society, and the need for active labour market research and policy

engagement supported by long-term planning associated with skills development (Ward, 2018, p.7). This finding suggests that SETAs do acknowledge that environmental sustainability is cross-cutting and has spill-over effects on both social and economic issues, a finding in line with Mohamed and Montmasson (2022, p.59) cross-sectoral framing, which is grounded on social justice in policy, planning and investment in driving green transitions.

The research has also found that SETAs acknowledge that knowledge and skills for the just transition to a green economy require an integrated approach and the involvement of stakeholders, such as communities and workers. According to Mohamed and Montmasson (2022, p. 59), human dimensions of the transition to a just and green economy (Figure 2.1) involve workers by anticipating employment shifts at work, understanding spill-over effects for communities, ensuring dialogue and developing skills is critical in ensuring that there is justice in the transition towards a just and green economy. Further, the research revealed a lack of coordination in the integration of environmental sustainability skills development initiatives; SETAs continue to operate in silos with no central coordinating mechanism ensuring that planning is coherent and national priorities are considered in skills planning. This fragmented approach is the antithesis of the DHET (2013c, p. 58) contention that the needs of society and the economy will be better addressed if centralised information about skills needed is available.

In applying the discourses of a green economy, it seems South Africa's trajectory towards a transition to a green economy is between the incrementalist and transformative discourses, which are opposites. The incrementalist discourse advocates for the retention of the status quo in relation to macroeconomic policy, and at the epicentre of this is the GDP as the predominant measure of progress. In contrast, the transformative discourse contends that market-driven growth contributes to inequalities and environmental degradation, therefore, economic activity should remain within ecological limits supported by human rights in transforming economies (Faccer et al., 2014, p. 651). To some extent, South Africa's trajectory towards a just transition to a green economy may be best described as hybrid. This is as evident in how some SETA SSPs appreciate that environmental sustainability is cross-cutting and should be positioned within economic, political, social and ecological contexts.

In the final analysis, South Africa's trajectory towards a just transition to a greener economy seems to be advocating change in existing socioeconomic and political systems while maintaining the structure and institutions of capitalism (Death, 2014, p. 7). The implications of this trajectory are that workers and communities will be at the bottom of the list of priorities in the transition to a just and green economy, while industry's interests become a priority, and thus, skills-related issues become an afterthought. As much as economies should continue to thrive, such economic advances should not be at the expense of workers and their livelihoods. It is important that in the initial stages of planning, the knowledge and skills needed for the just transition to a green economy should become an integral part and not an add-on to SSPs to promote the justice element.

It is also important to reflect on the body of literature which has reviewed the SSPs and the performance of SETAs to understand whether it validates the findings of this research. According to Marock (2012, p. 16), in 2012, a Sector Skills Review Team suggested that SSPs lack coherence in relation to labour market information as far as key priorities for the sectors they operate in and whether these are integrated into strategic plans of SETAs. Ramsarup and Naude (2017, p. 23) argue that SETAs recognise the importance of environmental sustainability, but with minimal evidence of implementation, they term SETAs as just 'recognisers'. The DHET (2013b, p. 53) further states that SETA SSPs have had a narrow attitude towards looking forward, and hence there has been little planning concerning future developments. This DHET publication supports the findings concerning the lack of coherence in some SETA SSPs where environmental sustainability is identified as a key change driver but not prioritised as a key priority action. Indeed, the notion of SETAs as 'recognisers' seems to be in line with the findings, as in most instances, they recognise changes likely to be brought about by the shift to a green economy with no clear implementation plan or strategy, while those who have attempted to act complain about delays in the approval of qualifications they have submitted for approval by QCTO. Probably for this research, they should be referred to as 'acknowledgers' or 'recognisers'.

Moreover, Ramsarup and Naude (2017, p. 25) claim that there is a far-reaching deficiency in accountability regarding green skills implementation, as there is no

institution in government to hold SETAs accountable for lack of implementation. This observation is confirmed by the DHET (2013b, p.50) in the Ministerial Task Team report looking at SETA Performance, where it is recommended that there should be a central agency to undertake labour market analyses and sectoral profiles for SETAs annually. The DHET (2013b, p. 54) further states that better levels of coordination across all SETA plans are desirable. This DHET publication is in line with the findings that SETAs continue to operate in silos and a fragmented manner with no central coordination, leading to them not aligning their SSPs with national priorities or plans. This persists despite the imagined SPU in the White Paper on Post-School Education and Training.

5.3.1 Question one: What aspects of a just transition to a green economy do SETAs support through sector skills plans?

Key to a just transition to a greener economy is the principle of leaving no one behind, meaning all parties affected by the shift to a green economy must be engaged meaningfully and have input on future developments affecting them. More so, the principles of just transition emphasise engaging vulnerable groups in dialogues that shape such a change to empower them with knowledge and skills to understand complexities and make their voices meaningful in decision-making (Ward, 2018, p.7). Furthermore, dimensions for the transition to a just and green economy, particularly procedural justice, include the involvement of stakeholders in a meaningful manner in decision-making (Montmasson-Clair, 2021, p. 7). This is necessary because multiple stakeholders have competing priorities and social dialogue enables the creation of partnerships for designing and implementing policies. An analysis of the data collected for this research demonstrates that some SETAs have identified potential partnerships to assist them in developing skills interventions, while others have partnered with certain institutions in their research activities to assist them in identifying skills relevant to the sectors where they operate. However, some SETAs appear not to have engaged in developing partnerships. Some of these partnerships the SETAs have identified relate to supporting research through funding. These demonstrate that SETAs acknowledge that environmental sustainability is cross-cutting and critical economic, social and political aspects must be considered in skills planning.

5.3.2 Question two: What type of transition to a just and green economy activities are SETAs prioritising in their sector skills plans?

The transition just transition to a green economy will impact the labour market, therefore, investment in skills is non-negotiable, and qualifications need to align with the new trajectory. In light of this investment, the just transition to a green economy should consider the creation of new green occupations and the developing of new skills in current occupations (ILO, 2018, p. 32). An analysis of the data collected shows that five SETAs have conducted research which will assist them in prioritising green skills in their SSPs. However, while some SETAs have identified occupations that need new skill sets relevant to the sectors they operate in and have submitted a skills programme to the QCTO, the SETAs complain about delays by the QCTO in approving qualifications, which can take up to 18 months. In essence, there is some intent on the part of SETAs to adapt to changes presented by the just transition to a green economy through the development of new qualifications. However, the inability of the QCTO to respond timeously to qualifications submitted for approval may be detrimental to those workers who need upskilling and reskilling.

5.3.3 Question three: What challenges do SETAs face in integrating environmental sustainability within their skills planning mandates?

Participants in the research view central coordination and skills planning as a challenge that may prevent the country from implementing skills for a just transition to a green economy. On the one hand, SETAs continue to operate in silos due to pressures associated with serving their specific sectors, and this leads to them not paying much attention to other national priorities, which cut, across all sectors. Hence, skills planning in South Africa, which relates to environmental protection, is viewed as ‘inadequate, ad hoc, fragmented, reactive and inefficient’ (Ramsarup, 2017). On the other hand, the DHET has no authority to direct SETAs to what they should prioritise in their SSPs. It is recommended that the integration of sustainability, identification and planning for skills should be done by integrating green skills development into national skills planning systems and coordination between social partners (Mohamed & Ramsarup, 2020, p. 27). This lack of coordination and coherence in planning suggests a need for South Africa to consider establishing a central coordinating mechanism with strong policy decision-making powers to develop of skills associated with environmental sustainability. The establishment of a central coordinating mechanism

is justified because the DHET (2013c, p. 58), in the White Paper on Post-School Education and Training, acknowledges that skills planning in South Africa is weak and that skills plans are not credible as they are not contributing to the country's national imperatives. Furthermore, the SPU, which the DHET (2013c, p. 59) envisages in the White Paper on Post-School Education and Training, has not yet been established. This strengthens the case for establishing a central coordinating mechanism to direct and prescribe skills planning in the country.

5.3.4 Policy and legislative framework

The South African government has developed some legislation and policies concerning the just transition to a greener economy (ILO, 2018, p. 17). While there are pieces of economic legislation, such as the National Climate Change Response White Paper of 2011, the IPAP and the Carbon Tax Act 15 of 2019, it seems there is no policy mechanism that seeks to oversee how skills will be integrated into planning and in responding to environmental sustainability. According to Oneworld (2017, pp. 16 & 21), the NDP generalises with no specifics in relation to skills development that responds to environmental sustainability. While the NCCRW mentions green jobs, it is thin on skills development, except for a short reference that climate change is to be integrated into the NSDP. This is the mistake many policymakers tend to make, i.e., to treat skills as an afterthought or an addition after all planning is complete, rather than embedding skills needs requirements in overall developmental planning (Allais, 2020, p. 13). There is a case for a framework specifically focusing on skills responding to environmental sustainability challenges that will empower the envisaged central coordinating body with powers to direct skills planning in SETAs. At present, even the department does not have such powers, so most SETA SSPs do not integrate environmental sustainability, and their plans do not align with national imperatives.

5.4 Recommendations for the Department of Higher Education and Training as the parent department of SETAs

From these findings, the following recommendations are proposed for consideration by the department in responding to environmental sustainability as SETAs engage in transitioning to a just and green economy:

1. The department explores establishing a central coordinating body with a specific focus on skills for a just transition to a green economy; such a body should be empowered by legislation to direct skills planning in and between SETAs.
2. The department reviews the qualification development processes and how they support the integration of sustainability into existing curricula, the introduction of new sustainability qualifications, the capacity of the QCTO and its turnaround time in relation to its response to skills programmes submitted by SETAs for their consideration.
3. The department considers a funding mechanism for research, qualification development and partnerships in delivering skills for a just transition to a green economy.
4. The department develops a framework particularly focusing on skills for a just transition to a green economy to empower the recommended central coordinating body with powers to direct skills planning in SETAs.

5.5 Recommendations for Sector Education and Training Authorities

Given the centrality of the SETAs to this research, the following recommendations are made:

1. The SETAs' Chief Executive Officer's Forum should consider developing a mechanism for SETA collaboration by pulling resources together for impactful research with a specific focus on skills for a just transition, and such research should be kept in a repository for access and utilisation by all SETAs.
2. SETAs stakeholder engagement efforts should also explore partnerships with diverse stakeholders such as academia, civil society organisations, worker organisations, and industry bodies to share information and ensure data used for their planning is current.

5.6 Recommendations for further research

While the research is important, it has not addressed all aspects of SETAs' role in a just transition to a green economy. The following is proposed for future research:

1. A quantitative study may be impactful in uncovering broader issues and empirical data related to SETAs' response to environmental sustainability.
2. A study should explore a funding mechanism for the development skills needed for a just transition to a green economy.
3. A larger study exploring the role of government departments looking at the skills shift to a green economy will be required. Some key departments that can be involved are Environmental Affairs, Higher Education and Training, Minerals and Energy, Trade and Industry.

5.7 Conclusion

This research explored the role of SETAs in developing knowledge and skills for a just transition to a green economy in order to understand how SETAs are responding to environmental sustainability, a two-pronged approach of data collection was adopted, i.e., document collection and interviews. Analysis of the data collected suggests that while South Africa is responsive to environmental sustainability at the policy level, policy documents like the NDP, IPAP and NCCRW are intentional but lack details on how skills development will play a role in the transition to a just and green economy. Furthermore, the analysis of the data demonstrates that the absence of a central coordinating mechanism and with the DHET constrained in giving directives to SETAs leads to them operating in silos, being sector focused and largely unresponsive to national priorities and to the non-integration of environmental sustainability holistically by SETAs in their SSPs. However, in relation to stakeholder engagement and advancement of procedural justice, it seems South Africa is doing relatively well as institutions like NEDLAC, in which social partners negotiated the Green Economy Accord and in the recently established Presidential Climate Commission, which has already started its work and produced a just transition framework for the country. Furthermore, some SETAs have identified and engaged in research partnerships to understand the types of skills needs required for the transition to a green economy that embodies justice.

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Annexure A: Ethics clearance

SCHOOL OF EDUCATION ETHICS COMMITTEE

CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER:** 2022ECE028M
PROJECT TITLE	Exploring the role of South African System towards a just transition: a case of the Sector Education and Training Authorities (SETAs).
INVESTIGATOR	Josopu Thembinkosi
SCHOOL/DEPARTMENT OF INVESTIGATOR	**WSOE**
DATE CONSIDERED	22 July 2022
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	No Risk
EXPIRY DATE	Date of submission of the Research Report
ISSUE DATE OF CERTIFICATE	**CHAIRPERSON** Mbokane Dr. Batseba Mofolo-Mbokane

cc: Dr Presha Ramsarup and Ms Glynnis Vergotine

DECLARATION OF INVESTIGATOR

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

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

Signature [redacted]

Date 27 / July / 2022

Annexure B: Permission to conduct research

Mining Qualifications Authority
7 Anerley Road
Parktown, Johannesburg, 2193
Private Bag X118, Marshalltown, 2107
Tel: 011 547 2600
Email: info@mqa.org.za

MINING QUALIFICATIONS AUTHORITY

University of the Witwatersrand,
School of Education
Tel: 0117173221
Email: Cathrine.Monyane@wits.ac.za
tmjosopu@gmail.com

15 July 2022

Dear Mr Thembinkosi Josopu

Approval – Permission to do research at Mining Qualifications Authority

It gives us great pleasure to inform you that your request to do research at the Mining Qualifications Authority (MQA) has been approved.

During your engagements with MQA please ensure that all rules and conditions governing research protocols such as confidentiality and POPI Act are adhered to.

You will be working closely with Mr Joseph Komane who is the Skills Development Research Specialist. He can be contacted on JosephK@mqa.org.za or 063 404 2429.

Yours Sincerely

DR Thabo Mashongoane
ACTING CHIEF Executive Officer
MINING QUALIFICATIONS AUTHORITY
DATE: 15/7/**2022**

Annexure C: Document analysis framework

Sector Education Training Authorities (SETAs) document analysis framework

Overarching guiding questions, the study seeks to answer.

- How are SETAs supporting skills for a Just Transition in their planning processes?
- What aspects of a Just Transition do SETAs support through their plans?
- What type of Just Transition activities are SETAs prioritising in their plans?
- What are some of the challenges that SETAs are facing in integrating Just Transition within their skills planning mandates

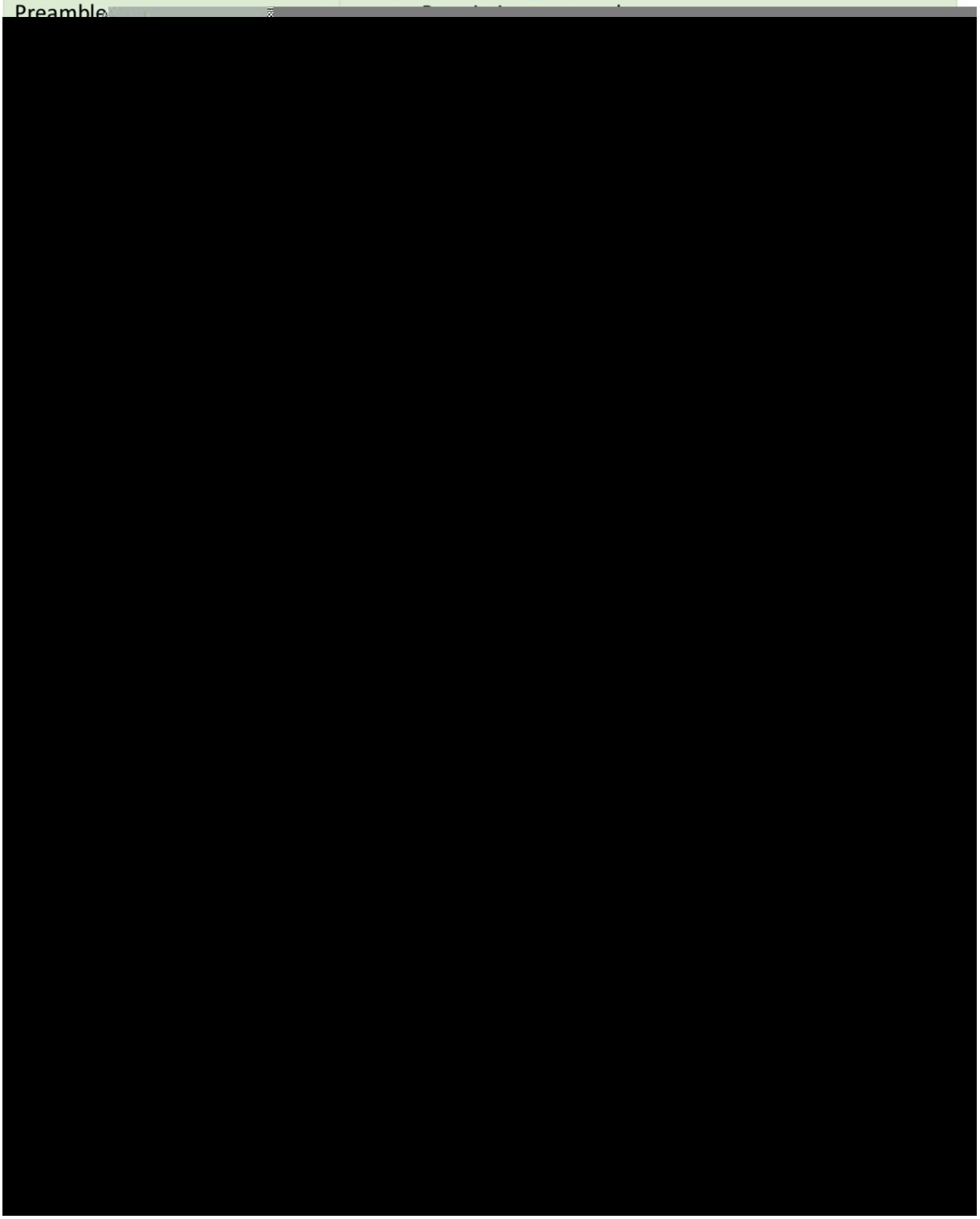
Key issues of interest to the study	[redacted]
Planning for Skills towards a Greener and Just Transition: • Any research with specific focus to environmental sustainability/justice and what it means for SETAs. • What aspect of skills development the SETA has embarked on in relation to environmental sustainability. • Coherence in the planning – driver identification; intervention identification; funding of intervention	• The SETA has not engaged in any research in relation to employment and sustainability. However, it intends to "promote research initiatives in collaboration with sector stakeholders in determining skill needs". • There is no evidence in the SSP of the SETA having embarked on skills initiatives in relation to environmental sustainability. • There seem to be coherence between planning and intervention identification, the SETA has identified climate change as a change driver that it will have an impact on skills. It further asserts that "The decommissioning of power plants in favour of the shift to newer technologies will offer the prospect of new job opportunities, and thus, funding must be availed for the training/retraining of workers to take advantage of promising possibilities". (p.29)
Environmental focus includes following: • Reconciliation of environmental, economic and social aspects	• The SETA acknowledges that "climate change and unpredictable weather patterns adversely affect productivity, which in turn increases operational costs which impact on skills development imperatives." (p.40)
New occupations and stakeholder engagement:	• "Solar energy harvesting professionals and maintenance technicians

[redacted]

Annexure D: Interview schedule

Interview Schedule: Education, Training and Quality Assurance Manager

Section	Questions
Preamble	



Annexure E: Consent form

PARTICIPANT'S CONSENT FORM

AS THE PARTICIPANT I CONFIRM THAT THE FOLLOWING HAVE BEEN EXPLAINED TO ME.			
1.	Research Aim	Exploring the role of South African Skills System towards a just transition: a case of the Sector Education and Training Authorities (SETAs)