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Youth Barometer 2022: Perceptions on Green Economy, Climate Change and Just Energy Transition in South Africa

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Executive Summary

Introduction

As a highly carbon-intensive economy, South Africa's carbon dioxide (CO_2) emissions were the 14th largest in 2021.[1] Given the huge endowments of coal deposits, there is pressure to balance the country's commitments to truncate emissions as part of its global commitments, alongside tackling an energy crisis, poverty, unemployment, and inequality. These are issues that are also faced by many African counterparts who have vast deposits of coal but are working towards reducing carbon emissions as part of commitment to the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) resolutions (COP26 and COP27).

Globally, there is acknowledgement that climate change is propelling unprecedented changes in weather patterns. South Africa is already experiencing the attendant effects of climate change in terms of increased rainfall and flooding, as well as landslides in some parts of the country such as in KwaZulu-Natal. Marginalized groups who are already disproportionately affected by poverty, unemployment, and inequality will inevitably bear the brunt as South Africa addresses global warming through a raft of measures that are geared towards ensuring that the country transitions to an inclusive low carbon economy. For instance, the decommissioning of coal fired power plants and the emphasis on renewables may result in loss of employment in industries that are deeply embedded in the coal value chain. Women and youth, often in precarious employment roles, may be dependent on these industries for their livelihoods.

The National Development Plan (NDP), Vision 2030, clearly articulates that job creation is integral to the vision of a better life for all who live in South Africa. A just transition partly means that these groupings, as well as other stakeholders, are consulted in the development and implementation of policies that are geared towards the transition to a less carbon intensive economic system. It also means accelerated access to economic opportunities for women and young people as the economy is redesigned to be greener.

A just transition for South Africa

Supporting the redesign of the economy to the benefit of citizens is seen as fundamental for the just transition for South Africa. The Presidential Climate Commission (PCC) notes that the Just Transition Framework is not only focused on climate mitigation but ensuring that the social and economic consequences of those policies are well managed, and attention is paid to the human development concerns at the centre of various decision-making processes. Adaptation will also be key considering the socio-economic consequences of climate change. Indeed, industries and value chains across society will be impacted upon, through increases in temperature and extreme weather events. These industries could also be negatively affected by supply chain disruptions caused by extreme weather events. It will therefore become critical to adapt to these realities to ensure continued operations and to limit the negative socio-economic on those who rely on these operations. Arguably, as advancements are made in greener technologies, new industries, which require new skills, will emerge. This has the potential to unlock new economic and related opportunities to the benefit of society.

[1] https://www.statista.com/statistics/486073/co2-emissions-south-africa-fossil-fuel-and-industrial-purposes/

Industries of the future require new skills, though they also provide new opportunities. These new industries could be in the energy space where emphasis is on renewables. Therefore, there are opportunities to skill young people and women to be better equipped to participate in these new industries and the value chains that will inevitably emerge. However, to realize this potential they require the necessary support to ensure their meaningful participation in the economy. There are policies, plans, strategies, frameworks, proposed laws, and other initiatives – including the NDP 2030, National Youth Policy (NYP), Just Transition Framework, Climate Change Bill, Green Transport Strategy, etc. – that address transition to a less carbon intensive economy in a just and equitable manner that is not only context – specific, but also uplifts the most marginalized groups. Indeed, the common thread in most of these policies and plans is that economic development is crucial to the country and for tackling its multiple challenges.

Policy intents versus detail

The Government has signaled its intent to not only tackle climate change, but also to ensure that women and youth take advantage of opportunities in transitioning to an inclusive, low carbon economy.

Themes such as job creation, skills development, and access to opportunities for women and youth are addressed in multiple plans, policies and strategies. However, more work remains on coordination to ensure that these all work towards contributing to the same goal.

South Africa's response to the COVID-19 Pandemic, particularly the recovery funding which pooled together financial resources, demonstrated the importance of coordinated action that is well funded and transparent when addressing pressing matters of national concern. Indeed, a similar level of coordination and collaboration will be required to tackle climate change. While the Economic Reconstruction and Recovery Plan (ERRP) envisages a partnership approach, the extent of success will also be informed by tackling the energy crisis and unleashing the potential to transition to an inclusive, low carbon economy.

Beyond just the voices of women and youth

In its 2021 report,[2] the Presidential Climate Commission (PCC), a key institution leading thought leadership and interventions on climate change in South Africa, noted that its stakeholder consultations revealed that youth, women (as well those living with disabilities) expected greater involvement in the government's action plans to address climate change. Indeed, this is a critical component of any initiative, whether by public sector institutions, private sector, civil society or other formations.

Ensuring that women and youth have a voice, for instance through consultations and workshops, is only one side of the equation. Ensuring that these same actors are not only at the coalface of decision and policy making as well as the implementation but are empowered and equipped to participate is equally relevant. It must be meaningful and just. Indeed, the success of the country's just transition plans, hinge on ensuring that current and future generations of women and youth are meaningful stakeholders who not only drive various processes but are also able to take advantage of diverse opportunities.

[2] https://www.thepresidency.gov.za/sites/default/files/Presidential Climate Commission Annual Report 2021-22.pdf

A key youth empowerment programme commissioned by the Department of Forestry, Fisheries and Environment (DFFE) is the "Driving Force for Change" pilot youth support initiative initiated in 2020. This initiative was aimed at supporting youth and youth-led organisations involved in projects which contributed towards combatting climate change, and reduction of waste generation through the principles of prevention, reduction, recycling and reuse. Indeed, targeted programming for the youth is important to bring more youth aboard and to contribute towards building strong youth citizen who take responsibility and accountability on climate action.

Knowledge and awareness

The Youth Barometer was commissioned through the Partnership for Action on Green Economy (PAGE) Programme to ascertain perceptions of youth on green economy, climate change and just transition. From the analysis of the Youth Barometer surveys, approximately 40% (4 089) of the respondents believe that the South African Government is not doing enough to mitigate climate change while about 43% (4 384) believe that the Government is on track in its responses to climate change. There is also willingness among the youth to join community groups and initiatives that are aimed at responding to climate change.

From the analysis of data of youth knowledge and practice on climate change, there is, broadly, a general understanding of climate-related policies, plans and programmes by the youth. This does resonate with governance and awareness initiatives where government had made progress in mainstreaming climate policies, in sectoral policy planning and in terms of overarching national strategies. Still, there are challenges including limited human resources and insufficient finances. Some of these budgetary constraints may impact the ability to ramp up awareness and the crafting of meaningful opportunities for women and the youth. At the Copenhagen Summit in 2009, developed nations pledged to channel, by 2020, USD100 billion per year to the developing and least developed countries and small island developing nations to help tackle climate change. This target was not reached by the time of the Glasgow COP26 Summit in 2021 and, more recently, the COP27 Summit in Egypt. In addition, it has been argued that the USD100 billion is very little compared to what is really needed to address climate related challenges–which amounts to trillions of dollars.

Conclusion

While Government has made timely progress in signalling intent and in mainstreaming climate change responses in its action plans, policies and strategies, there remains urgent need for overarching and coordinated action, otherwise, there is a significant risk that the planned points of action will not achieve their desired results.

Support for women and youth, for instance in terms of (i) access to financing to take advantage of opportunities in emerging green industries; (ii) equipping them with relevant entrepreneurship skills; and (iii) development of capacity to participate in debates on climate change and approaches is required. The participation of women and youth must be meaningful and closely resonate with their aspirations for socio-economic upliftment, as one of the critical actions for South Africa's just transition to an inclusive carbon economy.

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List of Abbreviations and Acronyms

°C	Degrees Celsius
ASSA	Academy of Science of South Africa
CAAP	Climate Action to Accountability Project
CBO	Community Based Organisation
CCAP	Climate Change Action Plan
CFCs	Chlorofluorocarbons
CO_2	Carbon dioxide
COP	Conference of the Parties
CTFL	Clothing, textile, footwear and leather
DFFE	Department of Forestry, Fisheries and the Environment
EPWP	Expanded Public Works Programme
ERRP	Economic Reconstruction and Recovery Plan
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GTS	Green Transport Strategy
IDC	Industrial Development Cooperation
IIED	International Institute for Environment and Development
IISD	International Institute for Sustainable Development
IPCC	Intergovernmental Panel on Climate Change
JET	Just Energy Transition
JETP	Just Energy Transition Partnership
KAP	Knowledge, attitude and practices
MGCY	Major Group for Children and Youth
$MtCO_2e$	Metric tons of carbon dioxide equivalent
NASA	National Aeronautics and Space Administration
NCCR	National Climate Change Response
NCCRWP	National Climate Change Response White Paper
NDCs	Nationally Determined Contributions
NDP	National Development Plan
NEES	National Energy Efficiency Strategy
NEMA	National Environmental Management Act
NGO	Non-Governmental Organization
NGP	New Growth Path
NOAA	National Oceanic and Atmospheric Administration
NYP	National Youth Policy
PAGE	Partnership for Action on Green Economy
PCC	Presidential Climate Commission
SACAN	South African Climate Action Network
SDG	Sustainable Development Goals
TIPS	Trade and Industrial Policy Strategies
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WEF	World Economic Forum
WHO	World Health Organization
WWF	World Wildlife Fund

1. Background

This report reflects on the policy landscape in South Africa vis-à-vis climate change and the intended actions towards transitioning away from a carbon intensive economy. The report analyses survey data pertaining to the perceptions held by young people on the subject of climate change. These two undertakings inform a set of recommendations for Government, the private sector, and non-profit organisations to inform their respective contributions to South Africa's efforts to transition away from a carbon intensive economy. Climate change is deeply interconnected with global trajectories of inequality and poverty. Globally, the most vulnerable groups of society bear the greatest burden of climate change impacts even though they continue to contribute the least to the crisis. The Coronavirus (COVID-19) Pandemic demonstrated that countries lack access to the services, resources, and information required to mitigate and overcome disasters and crises. People with disabilities, female-headed households, sexual and gender minorities, youth, older persons, and other developing socially marginalized groups were disproportionately affected. The fundamental causes of their vulnerability lie at the centre of their socio-economic, financial, cultural, gender identification, geographical context as well as access to services, decision making, and (social) justice.

There is a global recognition that more needs to be done to tackle climate change. In its first assessment report in 1990, the Intergovernmental Panel on Climate Change (IPCC) noted in the *Summary for Policy Makers* that "emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases (GHGs): carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface."[3] There is scientific consensus that global warming has enormous negative consequences for all forms of life on our planet. In their analyses, the National Aeronautics and Space Administration (NASA) and National Oceanic and Atmospheric Administration (NOAA) noted that 2021 was on record the sixth warmest year since record keeping commenced in 1880.[4]

The effects of a rapidly warming planet include the preponderance of wildfires, rising sea levels, and a decline in the Artic Sea ice.[5] In its Sixth Assessment Report, the IPCC concludes that Eastern and Southern Africa will mostly likely face increases in average tropical cyclone wind speeds and rainfall as well as severe (category 4 and 5) storms as climate change intensifies.[6] In South Africa, 459 people died and approximately 40 000 people were severely affected by the 2022 floods and landslides in the Eastern Cape and KwaZulu Natal, respectively. A group of scientists from South Africa, the Netherlands, France, Germany, the United States, and the United Kingdom, based on robust analyses of data, noted that that climate change amplified the rainfall which triggered the devastating floods and landslides.[7]

The first IPCC report served as the basis for the United Nations Framework Convention on Climate Change (UNFCCC) which was signed by 154 countries at the Earth Summit in 1992. As

[3] https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments/
[4] https://earthobservatory.nasa.gov/images/149321/2021-continued-earths-warming-trend#:~:text=The%20long%2Dterm%20global%20warming,wildfires%20are%20becoming%20more%20severe.
[5] Ibid
[6] https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Africa.pdf
[7] https://www.worldweatherattribution.org/wp-content/uploads/WWA-KZN-floods-scientific-report.pdf

of 2022 there were 194 parties to the UNFCCC. Through the Conference of the Parties (COP), which is the top key decision-making body of the UNFCCC, countries meet annually to discuss the progress made in tackling climate change. COP27, which was held from 6 November to 20 November 2022 in Sharm El Sheikh, Egypt,[8] provided an opportunity for the global community to make various financial and other commitments to interventions that are geared towards tackling climate change. In the case of South Africa, these interventions must be informed by different lived realities of the populace based on, for example, gender, age group and geographic location. The data from the Youth Barometer survey that is analysed in this report reiterates some of these differences.

The Sixth Assessment Report[9] of the IPCC sets out key terms and definitions that are relevant to global and national discussions pertaining to climate change and how to respond to its impacts. Notions of risk, vulnerability and adaptation are key to the Report. Risk refers to "the potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems". Vulnerability, in this Report, refers to the "propensity or predisposition to be adversely affected and encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt."[10] As re-iterated by the 2022 flooding and landslides, South Africa continues to be vulnerable to climate change impacts. Considering that climate change is a reality, adaptation is therefore a crucial component of climate change responses. In human systems, the IPCC refers to adaptation "as the process of adjustment to actual or expected climate and its effects in order to moderate harm or exploit beneficial opportunities."

The global community has long realised that as climate change impacts are felt across the globe, it is relevant to consider variabilities in resilience. Resilience in the IPCC report indicates the "capacity of social, economic and environmental systems to cope with a hazardous event or trend, or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation".[11]

Key to addressing the multiplicity of issues and challenges pertaining to climate change, is ensuring that the transition to a low carbon economy is informed by the notion of the just transition, a component which was foregrounded in the Paris Agreement. The Agreement requires of parties to consider the "imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities" as they tackle global warming.[12] Environmental sustainability, social inclusion and poverty eradication are also core components of the just transition.[13]

The Just Transition Centre sees different roles for actors in tackling climate change within a just transition lens. Enterprises must ensure that they agree to solid plans on how to truncate emissions and also create decent jobs, reskill workers for the future jobs and invest in communities affected by efforts to decarbonise the industries. The centre sees a role for the

[8] https://www.un.org/en/climatechange/cop27
[9] IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.
[10] Ibid
[11] Ibid
[12] Paris Agreement
[13] Just Transition Centre

various sectors of a society and the economy in promoting robust targets on the climate and labour as well is lobbying for greater investment in the development in, and unrolling of, green technologies. Key to the just transition is that, at regional and national levels, there is consultation and participation of relevant partners in the how policies on the just transition, the green economy, job creation and other relevant aspects are not only formulated, but also implemented.

As coal intensive industries are scaled back, there are opportunities to invest in the development and deployment of new green technologies across various sectors of the economy. In a review of the state of green technologies in the country, the Academy of Science of South Africa (ASSA) notes that these "technologies have, as their goals, inter alia, to minimise damage to the environment, conserve the use of energy and natural resources and, in the South African context where green technologies form an integral part of the green economy" and that addressing job creation is critical to the development and deployment.[14]

The Green Economy Summit, hosted from 18 to 20 May 2010, in Johannesburg, South Africa convened multiple stakeholders to forge a path towards ensuring that South Africa's socio-economic trajectory was less carbon intensive, labour absorbing and developed green technologies for the benefit of society. Partners participating in the Summit, recognised that in advancing the green economy, targeting the youth, women, the poor as well as small and medium enterprises, was a low hanging opportunity that could be rapidly take advantage of, as the country developed these modern technologies and industries.

It is within this context, that South Africa is working towards doing what it considers its fair share to tackle climate change through interventions that not only implement modern technologies but also adhere to just transition principles.

1.1 Intersection Between Youth and Climate Change Decision-Making Processes

Youth[15] make up a quarter of the world population with the majority living in developing countries (Chan, et al., 2021) and should therefore be included in decision - making processes particularly climate change, which is considered a serious threat to sustainable development. How Youth fit into the climate change and development equation, is as both casualties, as climate change effects are an outcome of past and present human activities in which they have not contributed to, and a solution provider, considering that they will be most impacted upon by climate change in the future.

Thew, et al. (2020) states that to examine the type of justice that Youth are advocating for, at the UNFCCC, it is essential to distinguish between aspects of justice, with the most popular aspects of environmental justice being *distributive, recognition, participation and representation*. Early justice theory concentrated on the distribution of resources through time and space, with intergenerational justice concentrating on temporal spatial distribution of resources, impacts and responsibilities between generations, locations and social groups (ibid.). Whilst youth participation in climate change governance refers to intergenerational justice as a result of the imbalanced temporal distribution of costs and benefits across age

[14] ASSAf The State of Green Technologies in South Africa
[15] Youth defined as individuals aged 15-24 (Chan et al., 2021)

groups, intergenerational justice theory's emphasis is largely on what we owe to the hypothetical "unborn future generations" and does not reflect on what we owe to existing younger generations (ibid.). Distributive justice is argued to be narrow in its framing and therefore, there has been a call for its expansion towards recognition justice, which is to recognise different social groups as a predecessor to mal-distribution, promoting an exploration to who is included and excluded in decision making processes (ibid.). It is claimed that distribution occurs in the economic sphere whilst recognition takes place in the social sphere and even though there are interlinkages, they necessitate analytical distinction (Fraser, 1995).

Youth participation in studies such as social and environmental policymaking are usually ignored based on 'their legal and social positioning' regularly underestimated, considered as 'human becomings' instead of 'human beings' and accepted as passive learners rather than active agents (Thew et al., 2020). Their participatory parity is tarnished by the discursive construction of youth as apathetic, under-developed and powerless, requiring support or discipline instead of recognition (ibid.).

On the other hand, participation justice, stresses the importance of just and formal participatory structures that promote procedural justice, also stressing the recognition of different identities, knowledges, cultures and rights as a critical step in having access to decision making processes in order to get beyond just having a seat at the table (Thew et al., 2020). When compared to other stakeholders, youth are less involved in formal political processes on the national and international level and rather tend to focus on informal approaches such as activism. According to Kwiatkowski (2017) the challenges to youth political participation can be found at an individual, organisational and external level. At an **individual level,** barriers include the lack of technical skills, enthusiasm, particularly to participate in formal, adult-driven processes, economic resources and knowledge. On an **organisational level,** youth-led organisations are beset with challenges related to insufficient economic resources and organisational knowledge, procedural issues of incorporating youth in longstanding political structures, low visibility of results or the language and technologies deployed not being attractive to youth (ibid.). The **external level** pertains to age restrictions or cultural and social norms prevent youths from participation.

Thew et al. (2020) argues that official opportunities for Youth voices to be heard in environmental governance are minimal, although the UNFCCC provides a rare occasion for Youth to voice their viewpoints as one of nine civil society constituencies: YOUNGO, which developed to become the 4th largest constituency at COP22 in Marrakech, in 2016. Even though youth were found to have the same access to formal structures (e.g., attendance and hosting of side events, delivery of plenary interventions, engage with high-level representatives, etc.) as all the other non-state actors' (NSAs) constituencies, they do not enjoy participatory parity (to be full partners in social interaction) with other NSAs (ibid.). This is partially due to lack of finances which hinder youth participation, this further limits their ability to cultivate relationships with more influential stakeholders, over time. Thew et al. (2018) further states that youth believe their participatory challenges result from the lack of recognition from other stakeholders even though they are officially recognised as a constituency. This cements the theory that informal, invisible rules serve as a barrier to participatory parity, even when formal structures seem just (Thew, et al., 2020).

Thew, et al. (2020) states that after youth interfaces with other groups at sites such as COPs, their youth justice claims were found to move from stressing their own future vulnerability to supporting and amplifying the present vulnerability expressed by other stakeholders. Although, solidarity is important and necessary, this has the impact of eroding the youth's ability to represent their generation. Even though there is formal recognition of YOUNGO as a relevant stakeholder group, youth participants are constrained by the exercise of power by other stakeholders which shapes informal rules of participation and accepted discourses in the UNFCCC (ibid.). The impact of this eventually, is a loss of their belief and self-recognition that youth have a unique standpoint from which to interpret the negotiations, considering themselves to be unsuitable claimants of climate injustice (ibid.). Youth need support to get over such invisible barriers to representing their generation in the UNFCCC.

1.2 The South African Context

Classified by the World Bank (2020) as an advanced upper-middle-income country with a Gross Domestic Product (GDP) of USD 350 billion in 2019, South Africa is the third-largest economy in Africa. However, the country is crippled by the triple challenges of inequality (10% of the total population hold 95% of the country's wealth); poverty (over half of the population currently lives in poverty) and unemployment (nationally 32.9% and 46.5% for youth) (Oxfam, 2018; World Bank, 2019; Stats SA, 2022).

South Africa is a major mining economy and a net exporter of energy, mainly coal and petroleum products, (Allen et al., 2013; DEA, 2017), the Country's energy mix is highly dependent on coal, which accounted for 83% of its electricity generation in 2018 (DMRE, 2019). It is, therefore, not surprising that the Country's emissions profile (excl. LULUCF) was 550 Metric tons of carbon dioxide equivalent ($MtCO_2e$) in 2015 (Department of Environmental Affairs, 2019a), with energy being responsible for approximately 84% of the Country's emissions with industrial processes representing 8%. As a carbon-intense economy, South Africa's CO_2 emissions were ranked 12th highest in the world in 2020 contributing 1.3% of the total global emissions (Godfrey, 2021). The South African Government, as is the case of many African counterparts, is endowed with huge deposits of coal but faced with the pressure to reduce its carbon footprint as part of the commitment to the COP resolutions (e.g., COP26 and COP27). Some of the Country's most powerful economic actors are also the biggest emitters. Industry bodies represent business interests in policy negotiations through various avenues such as stakeholder processes and bilateral exchange with the government.

It must be acknowledged that South Africa has made inroads on climate action, by amongst others, increasing its mitigation ambitious targets for 2030 and addressing the energy crisis. However, it is lagging on policy implementation for eradicating severe social, economic, and environmental challenges and still misses the mark with limiting warming to 1.5°C.

Other recent initiatives that contribute to combating climate change, the Just Energy Transition, and greening the grid and economy including amendments to the Electricity Regulations Act and commitments to the development of the investment plan to be funded through the Just Energy Transition Partnership (JETP) as committed by donor countries (France, Germany, UK, USA, EU) during COP26. The USD 8.5 billion will be geared towards decommissioning coal plants, the deployment of renewable energy, repurposing mine sites, and supporting green hydrogen and low-carbon transport technologies – all within the ambit of a just energy transition (Climate Action Tracker, 2021).

The South African Government introduced several support programmes in direct response to the immediate COVID-19 crisis and released a 'Economic Reconstruction and Recovery Plan' (ERRP) in October 2020 (Government of South Africa, 2021a; IMF, 2020). The plan comprised a range of both low-carbon and high-carbon recovery measures. The latter included the procurement of emergency electricity capacity in a technology-neutral auction, several measures to promote mining operations without specific conditions for low-carbon operations, and promotion of its liquefied petroleum gas infrastructure. Low-carbon measures included further support for energy efficiency retrofits and promotion of low-carbon urban public transport. As of August 2022, the South African Government has spent approximately 3% of all recovery spending totalling to USD 2.5bn on deliberately low-carbon measures (Global Recovery Observatory, 2021).

The IEA/IMF (2020) reported that, South Africa's response to the COVID-19 Pandemic overall stands in contrast to domestic and international calls for a 'green' and low-carbon economic recovery (Climate Action Tracker, 2020).

The literature and policy review section that follows provides a summary of relevant policies as well as an analysis of the challenges, gaps, and opportunities in these policies.

2. Literature and Policy Context

2.1 Green Economy Accord

The South African Government, and its social partners, signed the Green Economy Accord on 17 November 2011, in which several commitments were made on a range of issues including the economy, creation of green jobs, electrification and climate change. The Accord notes that the green economy offers opportunities for broad-based economic empowerment and has the potential to address the needs of women and youth. Indeed, the Accord was important in signalling a willingness among the different partners to collaborate on tackling the country's unemployment (and other challenges) while addressing reality of climate change.

Some of the commitments made by the partners included: the rollout of approximately one million solar heating systems by 2014/15; increased investment in the green economy by government–through the Industrial Development Corporation (IDC) – and the private sector; intensification of renewable energy procurement; deploying clean coal initiatives; and economic development through promoting localisation, youth employment initiatives, cooperatives and a range of skills development interventions.

2.2 Post-2015 National Energy Efficiency Strategy (NEES)

The post-NEES is underpinned by the notion of promoting "energy efficiency as the 'first fuel' in driving balanced, socially inclusive and environmentally sustainable economic growth, boosting job creation and leading technological innovations.

While the NEES places emphasis on energy efficiency through a range of technologies and innovations in building and transport as well as in agriculture and other sectors, there is

recognition that the issue of jobs can also be embedded in these initiatives. For instance, the Strategy notes that job creation can be supported in implementing green economy measures and through the reallocation of resources to other economic activities.

2.3 National Development Plan (NDP), 2030

The NDP is Government's long-term development policy which calls for a commitment to a low-carbon, resource-efficient and pro-employment development path (NPC 2011). The NDP aims to leverage the green economy agenda to "promote deeper industrialisation, energy efficiency and employment" (NPC 2011, p. 150). It further notes that "trade-offs must be made" and that "the careful design and sequencing of decisions [should] ensure that the decline of legacy sectors, such as coalfired electricity generation, are balanced by concurrent growth in green economy sectors" (NPC 2011, p. 199). The problem with this view, according to Trade & Industrial Policy Strategies (TIPS) (2020) is that the NDP still sees the green economy as "a new and growing sector within the South African economy" (NPC 2011, p. 150), failing to paint the picture of a cross-cutting economy-wide transformation. Arguably, it is the role of South Africa's industrial policy to provide such a vision for green industrial development.

The NDP recognises the need to tackle South Africa's worrying unemployment levels, particularly among the youth, through broadening the range of opportunities that are open to them. Youth service initiatives that empower young people with entrepreneurship skills are envisaged as critical drivers of empowerment as it will enable the youth to participate in diverse community development programmes.

2.4 The National Climate Change Response (NCCR) White Paper

In the White Paper, South Africa's Government sets out its vision for an effective response to climate change which is underpinned by what it considers a long term "just transition to a climate-resilient and lower-carbon economy and society".[16] The Paper acknowledges the inevitability of climate change and that South Africa's response has two main objectives, which are to ensure that:

- Climate change is effectively managed via interventions that are geared towards building and sustaining the country's social, economic and environmental resilience as well as its capacity for emergency response; and
- The country makes a fair contribution to the global drive to reduce greenhouse gas (GHG) concentrations in the atmosphere within a timeline that also ensures that the economic, social and environmental development proceeds and is achieved in a sustainable manner.

The NCCR White Paper was important in that it signalled government's policy intent. It is included here to demonstrate the thinking behind government's plans.

2.5 The Climate Change Bill

This important piece of legislation is still at bill stage, due to extensive consultations with key stakeholders. However, it is an important reference point in that it provides broad strokes of government's intended course of action in tackling climate change. The Bill aims to (i) provide

[16] https://www.sanbi.org/wp-content/uploads/2018/04/national-climate-change-response-white-paper.pdf

for a coordinated and integrated response to climate change, (ii) provide for the effective management of climate change impacts, (iii) make a fair contribution to the global effort to stabilise greenhouse gas ("GHG") concentrations, (iv) ensure a just transition towards a low carbon economy and society, (v) give effect to South Africa's international commitments and obligations in relation to climate change, and (vi) protect and preserve the planet for the benefit of present and future generations of humankind.

South Africa adopted a carbon tax in February 2019 covering fossil fuel combustion emissions, industrial processes and product use emissions, and fugitive emissions such as those from coal mining (Climate Home News, 2019; Reuters, 2019). The tax was implemented in June 2019 (KPMG, 2019). Recent analysis indicates that the carbon tax currently does not effectively contribute to emission reductions given the low levy in comparison with other carbon prices, generous basic allowance and other available exemptions such as the use of offset credits (Szabo, 2021). The carbon tax implementation will be accompanied by a package of tax incentives and revenue recycling measures to minimise the impact of the first phase of the policy (up to 2022) on the price of electricity and energy intensive sectors including mining, iron and steel (EY, 2017, 2018). In October of 2019, Cabinet approved the Integrated Resource Plan which covers issues such as the decommissioning of a select number of coal fired power plants, ensuring that there is an energy mix, and ensuring that all proposed initiatives are informed by the just transition. The plan makes an important point which is that coherence in terms of development of policies that support the just transition plan can be realised by consolidating "into a single team the various initiatives being undertaken on just transition"; this is an important point in the context of the multiplicity of proposed interventions which, if not coordinated properly, will most likely result in sub-optimal performance.

2.6 The Just Transition Framework

In June 2022, the Presidential Climate Commission (PCC) released its Framework for a Just Transition in South Africa after extensive stakeholder consultations (Presidential Climate Commission, 2022). The Framework aims to inform policy making at the nexus of climate and development issues in South Africa to enable deep, just, and transformational shifts. (Climate Action Tracker, 2020). At the core the Just Transition Framework is the interconnection between climate and development issues in South Africa. [17] Supporting the redesign of the economy to the benefit of citizens is seen as fundamental for the just transition. The Framework is not focused on the climate mitigation but, rather "on managing the social and economic consequences of those policies, while putting human development concerns at the centre of decision-making". [18]

The three principles that anchor the transition are: (i) **distributive justice,** (ii) **restorative justice,** (iii) **and procedural justice.** The principles of distributive justice provide "moral guidance for the political processes and structures that affect the distribution of benefits and burdens in societies".[19] Applying this notion to the South African context the PCC notes that this entails: (i) ensuring that South Africans (especially the poor, women, those living with disabilities, and the youth) have the skills, assets and opportunities to be active in the future industries; (ii) ensuring that just policies (economic and social) pay attention

[17]Presidential Climate Commission 2022 A Framework for a Just Transition in South Africa.
[18]Ibid pg 5
[19] Stanford Encyclopedia of Philosophy https://plato.stanford.edu/entries/justice-distributive/

to how benefits and burdens will be distributed; (iii) ramping up the capacity at provincial and local level to promote local economic development and (iv) seeing to it that there is corporate responsibility to support a green and inclusive economy.

The notion of restorative justice, in the context of the just transition framework, pertains to addressing damages against communities and the environment in a manner that rectifies the conditions of the harmed and disenfranchised. Applying this to South Africa means: (i) being aware of the impacts of coal and other fossil fuels on people and the environment and addressing these (ii) transitioning from the resource and fossil fuel intensive sectors for the betterment of the environment and communities, and in a manner that creates economic opportunities; (iii) ensuring that the economy is decentralized, net-zero in terms of emissions and allows for inclusivity and participation for women and youth (iv) building on and amplifying existing mechanisms of economic and other forms of empowerment in addressing climate change.

On procedural justice, issues of fairness are key. For the PCC this means that that all stakeholders are consulted and participate – the "nothing about us without us" principle.[20] In applying this to South Africa the PCC notes the following as crucial: (i) transparently discussing what the Just Transition means and addressing points of contention as well as agreement (ii) ensuring that worker and various formations (unions, civics, advocacy groups, etc.) are active and empowered participants in the policy-making processes so that their interests are protected and they are also able to take advantage of available opportunities; (iii) collaborative action in decision-making with all stakeholders to ensure inclusive participation and dynamism that drives competitiveness, diversification and equity (iv) ensuring that Just Transition projects, as proposed by individuals and communities in affected areas, are supported in their design and implementation (Ismail, 2022).[21]

There are fundamental limitations of the conceptual framework offered by Just Energy Transition (JET) as its starting point, and that the end point is the transition from a high-carbon to a low-carbon economy. The JET partnership does not include critical areas such as adaptation and resilience. More importantly, it does not address the issue of mainstreaming climate change in the national development strategies of developing countries. This paper argues that the JET approach by both academic observers and policymakers may suffer from being too narrow if the Just Energy Transition is adopted exclusively to respond to climate change. This limitation is indeed recognised by several of the authors included in the Xaba and Fakir (2022) compilation. The PCC, established in 2019, has embarked on a broader campaign to listen to different stakeholders and has already emerged with a range of policy proposals that go beyond the JETP and could build towards a Climate Resilient Development Strategy that mainstreams climate change in South Africa's National Development Plan and Sustainable Development Goals (SDGs).

While the Climate Action to Accountability Project (CAAP) acknowledges that South Africa is working towards confronting climate change, it states that the country, through the Bill, must declare a Climate Emergency to demonstrate the gravity of the issue. In terms of the socio-economic and environmental rights the CAAP notes even though the Bill refers to the Constitution, it is not well aligned with the range of socio-economic and environmental rights

[20] PCC 2022
[21] Ibid.

as guaranteed by the country's constitution. Other areas that the CAAP mention are missing in the Bill include: (i) the lack of specificity with regard to when policies are supposed to developed and reviewed (ii) a lack of transparency in relation to disclosures in terms of "reporting, measuring, monitoring and verifying sources of emissions over time"; and (iii) no clear accountability concerning the risks to climate exposure for companies and state owned institutions as well how these entities are taking decisions to reduce them.

While the Bill contemplates the formation of the Presidential Climate Commission (PCC) this commission already exists. It emerged from the Presidential Summit of October 2018 when partners agreed that it was essential for a statutory body to be at the helm of the just transition to a low-carbon, inclusive, climate-resilient South African economy and society.
The PCC was formed by President Cyril Ramaphosa and Cabinet in September 2020, with commissioners appointed in December of the same year. Key to the working of the PCC is its framework on the Just Transition.

2.7 Green Transport Strategy (GTS) (2018-2050)

Emissions from the transport sector account for approximately 10% of total GHG emissions for South Africa. [22] Indeed, in such a context, green transport initiatives are critical to efforts geared towards achieving commitments to addressing climate change. Green transport is essential for ecosystems, public health and natural resources. [23] Furthermore, green transport initiatives support other development priorities, whether economic or social.

South Africa's Department of Transport recognises, that, in moving towards sustainable mobility it is critical to bridge the disconnect between job markets and the marginalised who are often in great need of employment. The Green Transport Strategy (GTS) indicates that in rolling out green transport technologies, jobs can be created in terms of new transport infrastructure provision as well as in the raw materials sector for green fuels. This could be in the agriculture sector, where plants for biofuels are produced, or in the industries where the processing of the raw materials into fuels, is undertaken.

Within this context, the GTS is framed as providing the "cornerstone" of policy development across the transport sector in terms of the decreasing GHG emissions, ensuring that the sector contributes to the green economy, and promoting green transport mobility as well as propelling the uptake cleaner technologies in the sector. [24] Indeed, adaptation will be critical and will be driven by the extent of investment and uptake of, for instance, modern technologies in the transport and contiguous industries.

2.8 The National Youth Policy 2020 – 2030

The National Youth Policy (NYP) 2020 – 2030 notes that to accelerate youth development in South Africa, there has to be cooperation, as well collaboration, among youth, government, business and civil society.[25] The vision of the policy – "an integrated, holistic and sustainable

[22] Green Transport Strategy available from: https://www.transport.gov.za/documents/11623/89294/Green_Transport_Strategy_2018_2050_onlineversion.pdf/71e19f1d-259e-4c55-9b27-30db418f105a
[23] Ibid
[24] Green Transport Strategy available from: https://www.transport.gov.za/documents/11623/89294/Green_Transport_Strategy_2018_2050_onlineversion.pdf/71e19f1d-259e-4c55-9b27-30db418f105a
[25] National Youth Policy 2020 – 2030

youth development, conscious of historical imbalances, current realities, and diversities in building capacities for young people, so that they can in turn contribute to building a better life for all" – is a recognition of the immense potential among the youth of South Africa that can be harnessed for the good of the country. Indeed, one of the "realities" that exists in the current conjuncture is climate change. At the same time, opportunities exist that can be exploited alongside the interventions that are deployed to address this reality.

The Just Transition Framework clearly stipulates the importance of addressing various (past) injustices and inequalities in tackling climate change. It is unjust that young people, including women and those living with disabilities, continue to face various obstacles in accessing employment and other opportunities that can uplift their socio-economic circumstances. The objectives of the NYP 2020 – 2030 include ensuring that (i) there is a smooth transition of young people into economic independence; (ii) youth development is integrated into the mainstream of policies, programmes and the national budget; (iii) young people's access to quality socio-economic and political opportunities is accelerated; and (iv) youth development institution are strengthened to be better able to deliver a coordinated set of services.

There is nexus between the NYP 2020 – 2030 and a raft of other policies, plans and strategies aimed at contributing to South Africa's transition to a low carbon green economy that can be exploited to ensure that youth realise their full potential. For instance, Youth can be supported to access potential opportunities in the green economy; these opportunities could be in the beneficiation of raw materials, in manufacturing and other industries, as well as in a range of other values chains.

Still, the NYP is not very clear in terms of how to financially support implementation of interventions, not only to do with creation of green economy opportunities for the youth but also for a panoply of other interventions, as proposed. Given that the proposed interventions cover a range of issues beyond economic opportunities – for instance, addressing the high rate of school dropouts, mental health among the youth, social cohesion, and other related social challenges, coordination is key. It is not clear from the NYP, how coordinated action will be achieved, by whom, and the (financial) resources that will be allocated including their source.

2.9 Sector Master Plans

The Department of Trade, Industry and Competition has crafted Master Plans for the (i) automotive, (ii) clothing, textile, footwear, and leather (CTFL), (iii) sugar, (iv) poultry, (v) steel and metal fabrication and (vi) furniture industries. These Plans are "action-orientated policies, geared towards boosting local jobs and developing local value chains." [26] Combined, these industries account for 6% of GDP, 25% of exports and employ approximately 700 000 workers.

There are linkages between these Master Plans and Government's intentions to tackle climate change, including the Just Energy Transition. Job creation is at the very core of the Plans which resonates with, the Just Transition Framework. Considering that extreme weather patterns can impact industries, including supply chains, it is therefore critical to ensure that adaptation

[26] DTIC http://www.thedtic.gov.za/sectoral-master-plans-bearing-fruits-creating-jobs-transforming-the-economy-deputy-minister-gina/

measures are in place so that these key sectors can continue to operate and contribute to the economy.

Taking into consideration the significant contributions of the various industries covered by the Master Plans to socio-economic development, it is encouraging to note that Government acknowledges the critical role of collaborative action, for instance with private sector and labour, in their successful implementation. There is also recognition in, for example the Master Plan for the Sugar industry, that there must be strong bias towards rural areas, youth and women in terms of various attempts at job creation, which resonates significantly with the Just Transition Framework. Skills and entrepreneurship development, local sourcing of raw materials, and preferential procurement are also some of the issues that are covered by the Plans which, again, resonates with the Just Energy Transition and other climate change focused interventions.

3. Nexus of South Africa's Policies in Relation to Climate Change, the Green Economy and Just Transition with Reference to the Youth

This section provides an analysis of the literature and policies focused on surfacing challenges and opportunities for youth. The African continent is experiencing the fastest growing youth population in the world with 60 percent of its population under the age of 25 years. South Africa's youth population is estimated at 20.6 million (35.7 percent of the Country's total population). [27]

A youthful population presents great prospects for Government, as abundant labour supply is guaranteed as it is one of the key forms of production. In hindsight, a youthful population presents socio-economic challenges to a developing country such as South Africa, it lags behind in job placements to economic activities to fully realise the potential as typified by high youth unemployment rate (estimated at 59.6% in the third quarter of 2022 to national unemployment rate of 59.6% in the same period).[28] State and non-state actors acknowledge that the voice of the young people on socio-economic and political matters that concern them including climate change, just energy transition and green economy cannot continuously be ignored. According to The World Economic Forum (WEF), the young people are '*...the ones with the most innovative ideas and energy to build a better society for tomorrow*'.[29]

[27] https://www.ivint.org/south-africas-youth-population-unemployment-and-economic-growth-prospects/#:~:text=The%20African%20continent%20has%20the,having%20the%20most%20youthful%20population.
[28] https://tradingeconomics.com/south-africa/youth-unemployment-rate#:~:text=Youth%20Unemployment%20Rate%20in%20South,the%20fourth%20quarter%20of%202014.
[29] https://www.weforum.org/agenda/2021/08/young-people-hold-the-key-to-creating-a-better-future/

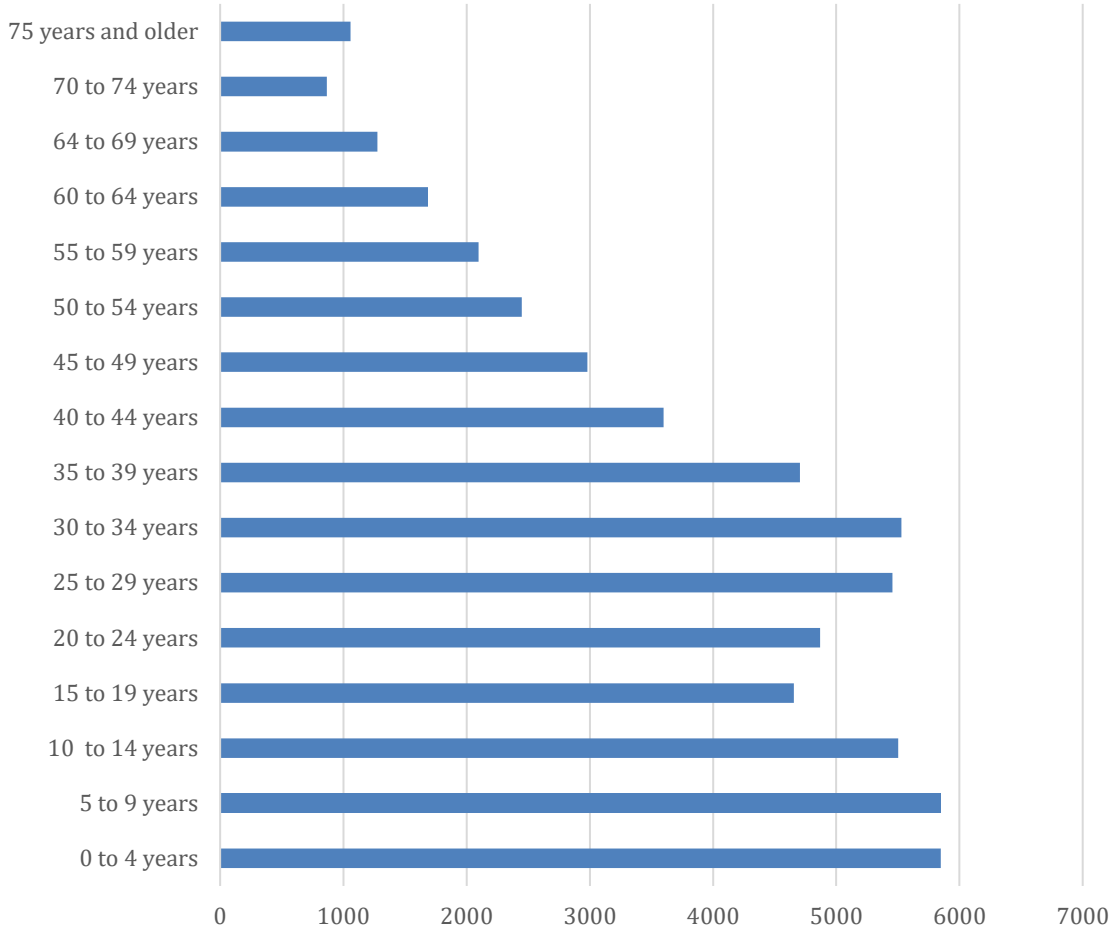

Figure 1: South Africa's population demographics 2019
Credit: Statista

3.1 Climate Change

The National Climate Change Response White Paper notes that, to achieve its climate change objectives, the country is guided by a set of principles stemming from, for instance, the Constitution, the Bill of Rights, the National Environmental Management Act (NEMA), the Sustainable Development Goals (SDGs) and the UNFCCC. The principles are that:

(i) sustainable development has **economic, social and ecological pillars** and therefore an effective response to climate change has to consider these pillars;
(ii) policies aimed at addressing climate change have to be balanced with **meeting the needs of the poorest and most vulnerable**;
(iii) in responding to climate change, public awareness and understanding of climate has to be enhanced so that that there is **informed participation**;
(iv) take consideration of the **particular needs and circumstances** of groupings–poor and/or rural women, children and child-headed households, the old, and the sick–who are likely to be disproportionately affected by the damaging consequence of the climate change;

(v) that the responses to climate change have to be aligned with the South Africa's specific national circumstances, the stage of development and extent of country capacity to act;
(vi) equity, that is in terms of allocation of costs and effort has to be considered; and
(vii) that those who are largely responsible for harming the environment have to bear the costs of tackling the problem and supporting adaptive responses (**the polluter pays principle**). The White Paper also notes that in responding to climate change it is critical to apply the **precautionary principle**, which means "applying a risk-averse and cautious approach, which takes into account the limits of current knowledge about the consequences of decisions and actions".[30]

The Paper further mentions that in addressing climate change, consideration has to be given to addressing possible employment contraction in carbon intensive industries through policies that:

- drive the expansion of job creation programmes, such as the Expanded Public Works Programme (EPWP) and the National Youth Service; and
- provide incentives for job creation for the youth in new and green industries. In its Sixth Assessment Report, the IPCC draws on conclusions that are relevant to discussing the Bill.

First, is the acknowledgement that around the world, people and nature have already faced the negative consequences of climate change. The most affected are those living in poverty as well as coastal and small island setting which are more susceptible to weather variations. [31] Given the more than 3 000 km coastline of South Africa, this is truly relevant.

Secondly, the IPCC Report notes that to avoid a climate cataclysm, GHG emissions have to be truncated by 45% by the year 2030.[32] In its 2022 Emissions Gap Report, the United Nations Environment Programme (UNEP) notes that since the 26th COP gathering "there has been very limited progress in reducing the immense emissions gap for 2030, the gap between the emissions reductions promised and the emissions reductions needed to achieve the temperature goal of the Paris Agreement".[33] The Paris Agreement, was adopted by 196 member countries at COP21 on 12 December in 2015 and was entered into force on 04 November 2016; the goal of the agreement is to limit "global warming to well below 2°C, preferably 1.5°C" when compared to the pre-industrial level.[34] As of date, 194 countries have ratified the Paris Agreement.

Thirdly, the Sixth Assessment Report indicates that because of the extreme weather and climate related changes across the globe, millions of people have had to confront water and food insecurity with parts of Africa, Asia, Central and South America, small islands and the Arctic already facing these challenges.[35]

[30] Ibid, pg 12.
[31] Ibid
[32] IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.
[33] UNEP 2022 Emissions Gap Report 2022: Closing the Window
[34] Ibid
[35] Ibid

Fourthly, and most worrying, is the conclusion that to date, the interventions geared towards climate adaptation fall far short of what is required and may even be limited in version.

The Bill builds on the White Paper and further elaborates on the principles that are stated in the White paper. In its current form the Bill's aim is "To enable the development of an effective climate change response and a long-term, just transition to a low-carbon and climate-resilient economy and society for South Africa in the context of sustainable development; and to provide for matters connected therewith."[36] Underpinning the Bill is the notion of the just transition which it refers to as "a shift towards a low-carbon, climate-resilient economy and society and ecologically sustainable economies and societies which contribute toward the creation of decent work for all, social inclusion and the eradication of poverty".[37] Some critics have noted that this definition does not go far enough and have suggested alternatives. One alternative that has been suggested is that a just transition "means a shift towards a low-carbon, climate-resilient economy and society and ecologically sustainable economies and societies - the costs of which are equitably distributed across and within countries - which contribute toward the creation of decent work for all, social inclusion and the eradication of poverty".[38] Indeed, there is some value in conceiving of a just transition in this manner.

The CAAP, a partnership between World Wildlife Fund (WWF) South Africa, the South African Climate Action Network (SACAN) and the Institute for Economic Justice notes that workers, women, rural and low-lying communities, women, and youth will be affected by the change such as heat stresses, flooding and droughts.[39] Flooding may affect supply chains, as experienced in KwaZulu Natal, which may have an impact on employment of workers including youth and women as factories grapple with closures. The re-impact of climate change may further exacerbate cement status quo of vulnerable groups due to loss of belongings, joblessness, poverty, health and well – being.

Mohamed and Montmasson-Clair (2022) argue that South Africa's approach to climate change through its Just Economic Transition policy on climate action still focus predominantly on mitigation and does not include adaptation. As a result, they are of the view that "South Africa's JET does not yet address the roots of vulnerabilities and resultant inequalities".

Sustainability-related documents, such as the National Strategy for Sustainable Development and Action Plan 2011-2014 (NSSD1) (DEA 2011b) and the National Climate Change Response White Paper (NCCRWP) (DEA 2011a), also make the case for a new model of development. In addition, the transition to sustainable development increasingly features in the design and conceptualisation of key economic policy documents. The Innovation Plan, for example, identifies climate change as one of the key "grand challenges" of the coming decades (DST 2008) while the New Growth Path (NGP) identifies the green economy as a key job-creation driver of the country (EDD 2010).

According to the Climate Action Tracker's South Africa's modelled domestic pathways for different temperature rages from global least-cost models (Figure 1) shows that South Africa's

[36] Climate Change Bill pg 2.

[37] Ibid pg 5.

[38] https://static.pmg.org.za/220907ClimateChangeBill_Parliament_Mullers_FINAL_1.pdf

[39] Ibid

current policies and actions as “Insufficient”. This indicates that South Africa’s climate policies and action, in 2030, need substantial improvements to be consistent with the 1.5°C temperature limit, at the current rate South Africa’s warming will reach over 2°C and up to 3°C, therefore the country will not achieve emissions reductions as set in its NDC target range for 2030.

These findings emphasise the emissions reduction potential of a stringent implementation of proposed economy-wide and sector-specific policy measures.

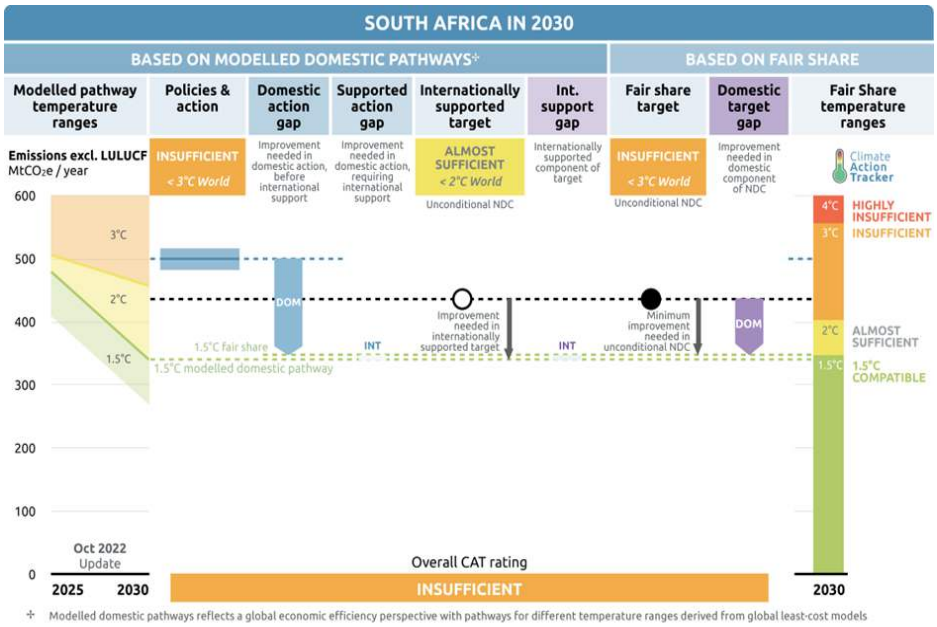

Figure 2: South Africa’s emission pathways

4. Results from the Youth Barometer Survey

The Youth Barometer Survey, financed by the Partnership for Action on Green Economy (PAGE), endeavoured to ensure the engagement of youth on issues pertaining to climate change, green economy and just transition. The survey underpinning this report, with a sample size of 10 000, aimed to gauge the knowledge, attitude and practices (KAP) of youth (18-35 years) on national matters related to climate change, green economy and the just transition - in terms of their understanding related policies and how they relate and/or affect them; economic gaps and opportunities presented by the sub-sectors; and barriers among others. The findings and analysis from the survey in terms of geographic spread of the respondents by province, 35% were from Gauteng, 6% from North West, 7% from Western Cape, 11% from Eastern Cape, 12% from KwaZulu Natal, 9% from Free State, 7% from Mpumalanga, 12% from Limpopo and 1% from Northern Cape (Figure 3). In terms of gender, 58% of respondents were female and 42% male.

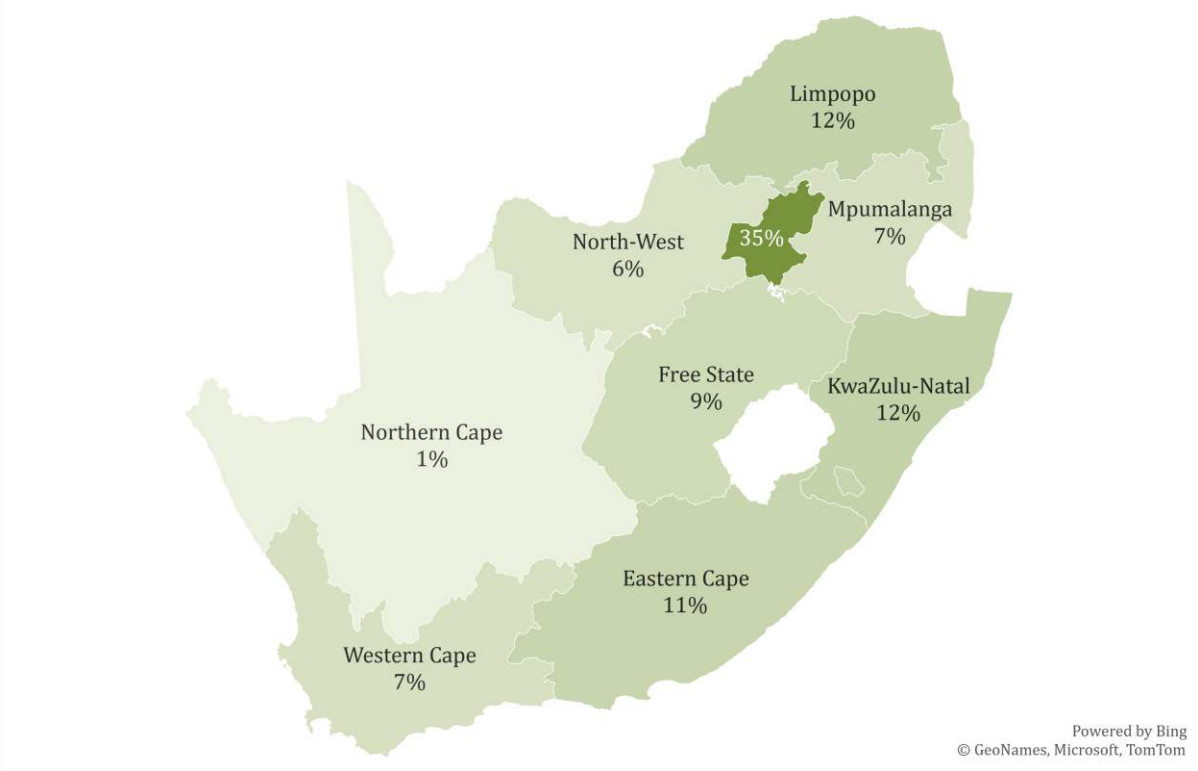

Figure 3: Distribution of survey respondents

4.1 Perceptions on Climate Change by Education

Arguably, perceptions on climate change impact how citizens respond to initiatives geared towards addressing this phenomenon. Figure 4 illustrates perceptions of climate change in terms of percentage of respondents, based on level of education.

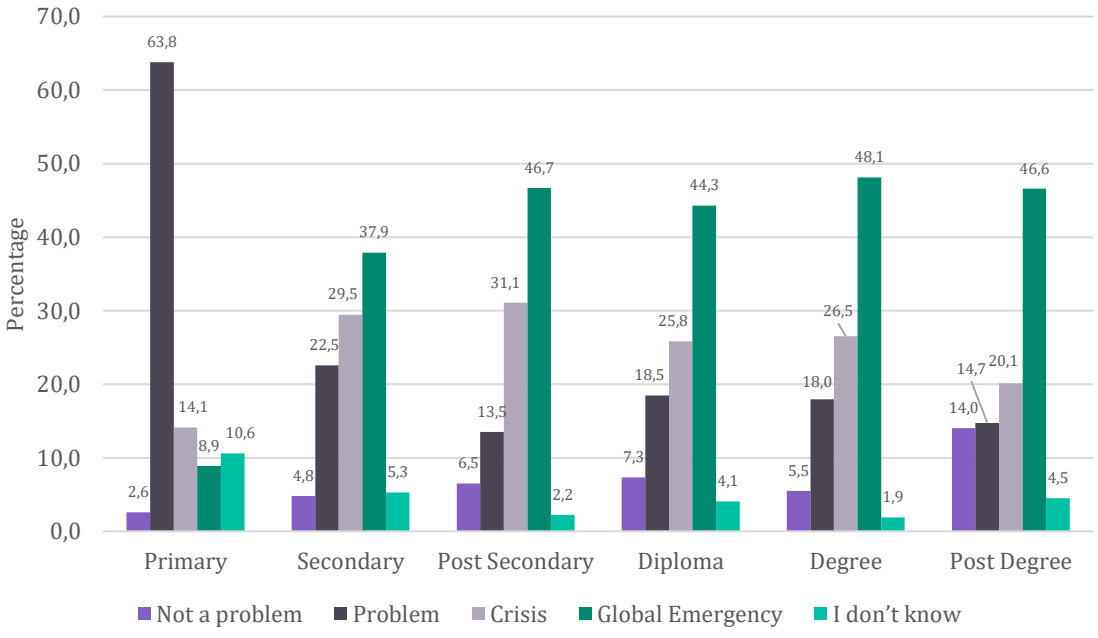

Figure 4: Perceptions on climate change by level of education

In general, across most of the education categories, there is a sense that climate change is either a global emergency, a crisis, or a problem. It is notable that the Primary Education category classified climate change as a mere problem (63% of respondents) as opposed to a crisis or global emergency. The collected responses, depicted in Table 1, show this trend with the global emergency category having the most respondents (between 44% and 48% for Secondary, Post Secondary, Diploma, Degree and Post Degree categories), followed by those who designated climate change a crisis and then those who saw it as a problem, across education levels.

Table 1: Perceptions on climate change (numbers)

Education	Not a problem	Problem	Crisis	Global emergency	I do not know
Degree	103	335	495	898	35
Diploma	29	73	102	175	16
Post Secondary	184	381	877	1317	63
Post Degree	78	82	112	259	25
Primary	24	596	132	83	99
Secondary	171	802	1 048	1 348	188
TOTAL	**589**	**2 269**	**2 766**	**4 080**	**426**

4.2 Perceptions of Climate Change by Gender

When looking at the gender aspect, responses indicate that females view climate change as a more serious challenge when compared to males. There is a clear increase in the percentage of females who see climate change as a problem, crisis, and global emergency respectively. For males, the percentages between these three classification categories remained fairly balanced between 28,6% and 33,9% (Figure 5).

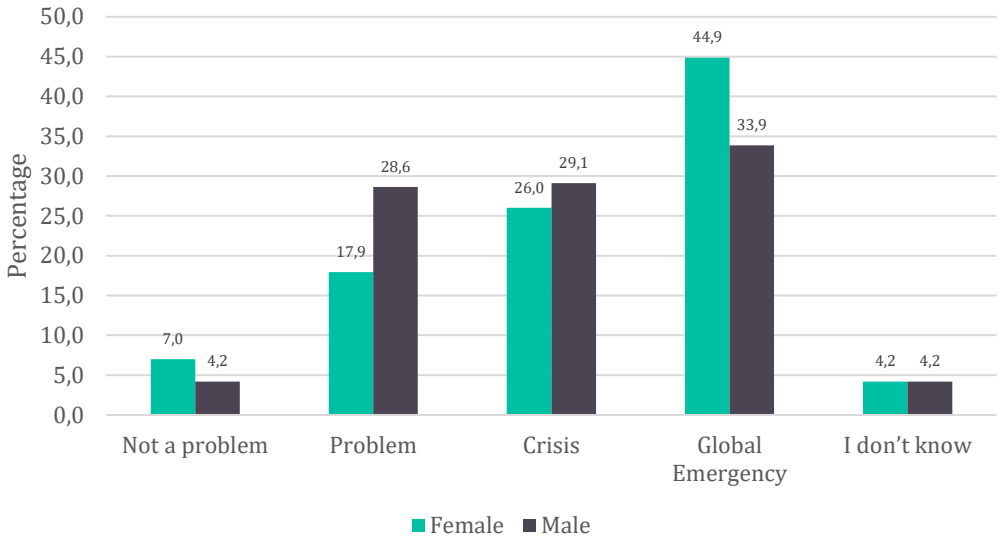

Figure 5: Perception on climate change by gender

It is further evident to note that amongst both sexes nearly 90% of respondents either classified climate change as a problem, crisis, or global emergency with only 4,2% not having an opinion (not knowing) for each sex.

Looking at age, as shown in Figure 6, more than 65% of respondents across each age group viewed climate change as either a crisis or a global emergency. For all age groupings, more than 40% of respondents classified climate change as a global emergency.

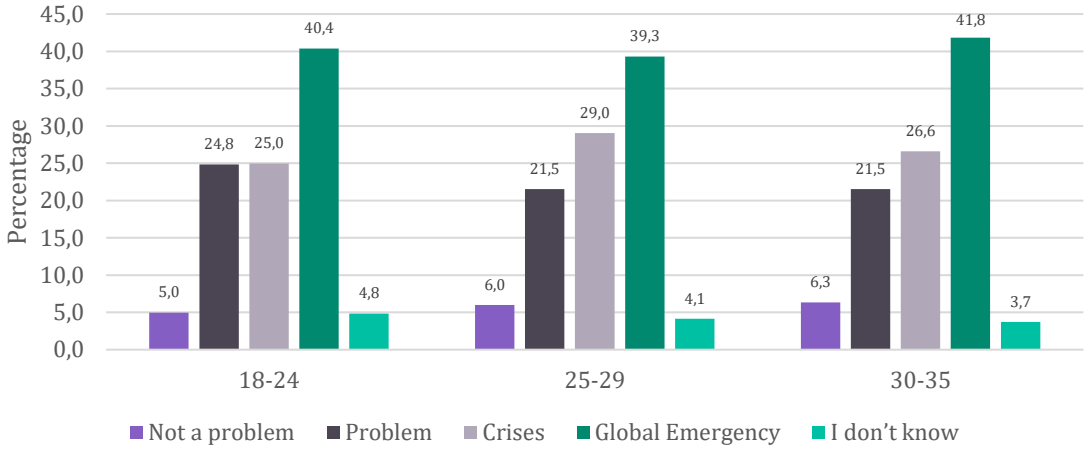

Figure 6: Perception on climate change by age

4.3 Youth Awareness on Climate Change-related Policies and Plan

Figure 7 presents findings on government and local level action.

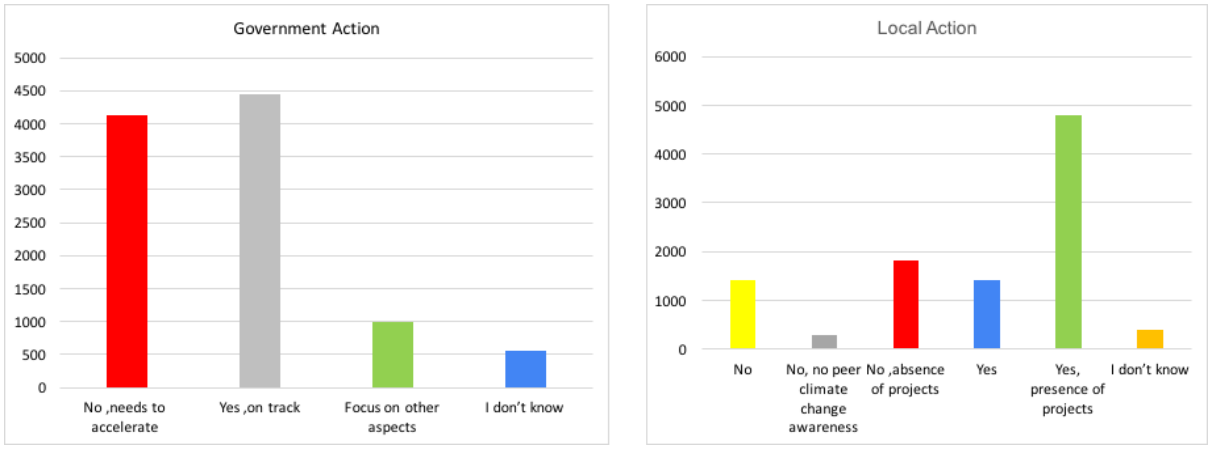

Figure 7: Government and Local level awareness of action on climate change related policies

In terms of government action, 40% (4 089) of respondents indicated that South Africa is not doing enough to mitigate climate change with 43% (4 384) believing that the government is on track. Additionally, 9% of the respondents think that the government should focus on socio-economic issues such as job creation, poverty, and inequality.

In contrast, at the local level, 18% of the respondents believe that their local authorities or provinces are not contributing towards climate change mitigation as they are not familiar of any projects aimed at tackling climate change. Several possible reasons including lack of resources, etc, knowledge awareness efforts by local authorities are not reaching all segments of communities. Further, 47% (4 809) of the respondents are aware of local or provincial projects aimed at climate change mitigation. Indeed, it might be important to improve on this to, potentially, increase interest in supporting as well as participating in such projects. While 14% of the respondents have indicated that they believe that the local authority or provincial government is taking action, they have not indicated if they are aware of any projects with another 14% being of the opinion that the local or provincial government is not doing anything.

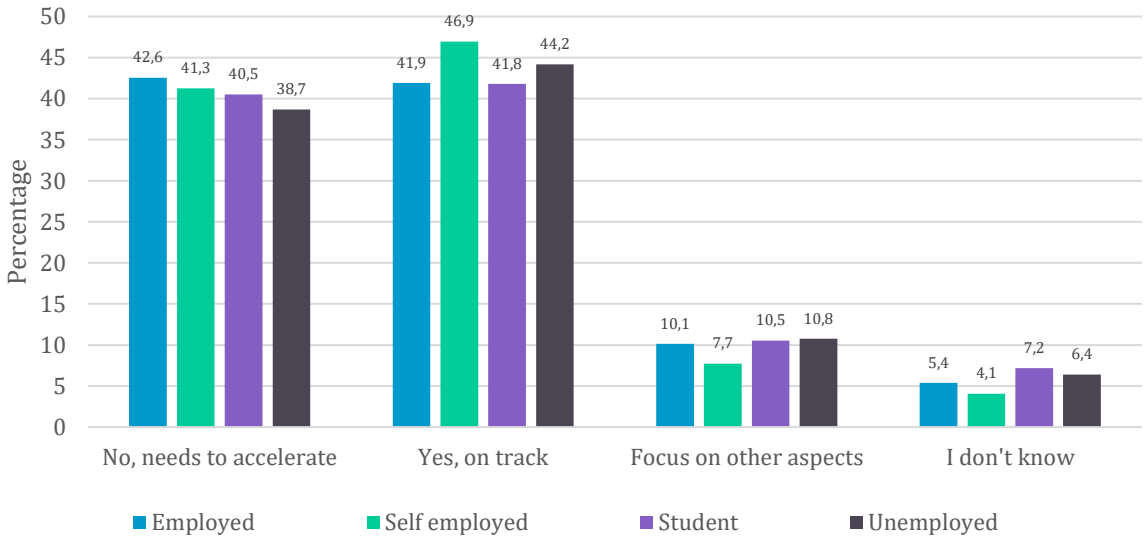

Figure 8: Employment status and Government priorities

The level of familiarity with South Africa's climate change policies is a crucial marker of the status of knowledge in the survey group and the extent to which interventions may need to address knowledge gaps, if any.

4.4 Knowledge of Climate Change Concepts

The survey elicited responses on knowledge of climate change and the green economy. Figure 9 illustrates data from the survey in relation to gender.

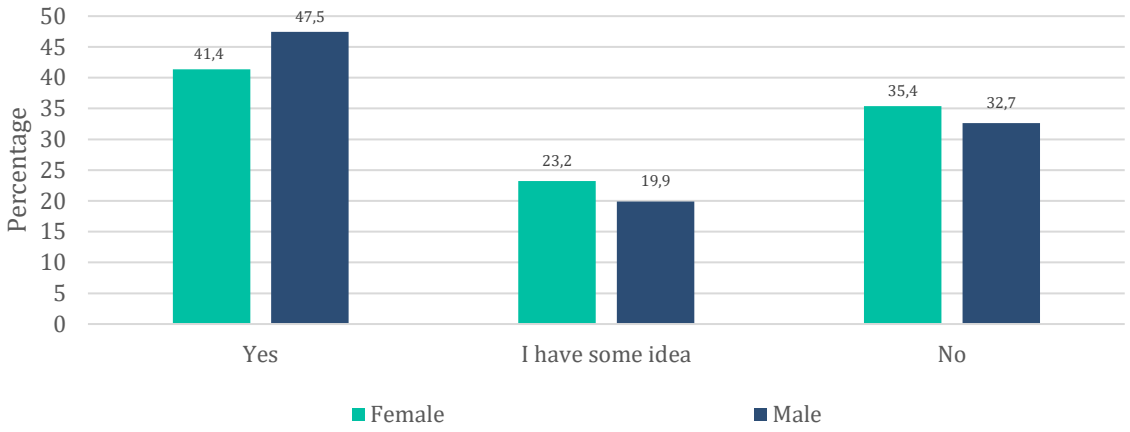

Figure 9: Knowledge of green economy by gender

47% of males indicated that they had knowledge of the green economy as opposed to 41% of surveyed females (Figure 9). Broadly, there are varied levels of knowledge in the survey group.

Bringing age (Figure 10) to the analysis shows that there are varying levels of knowledge across the age groups on the green economy. In the 18–24 age category, more respondents (1 426 = 53%) indicated having knowledge as opposed to those who stated that they had no knowledge (706 = 27%).

In the 25–29 age grouping, more respondents (1 977 = 42%) reported that they had knowledge of the green economy compared to those who indicated no knowledge (1 834 = 39%). A similar trend was observed in the 30–35 age group with 1 046 (37%) indicating knowledge versus 928 (33%) who indicated they had no knowledge of the notion of the green concept.

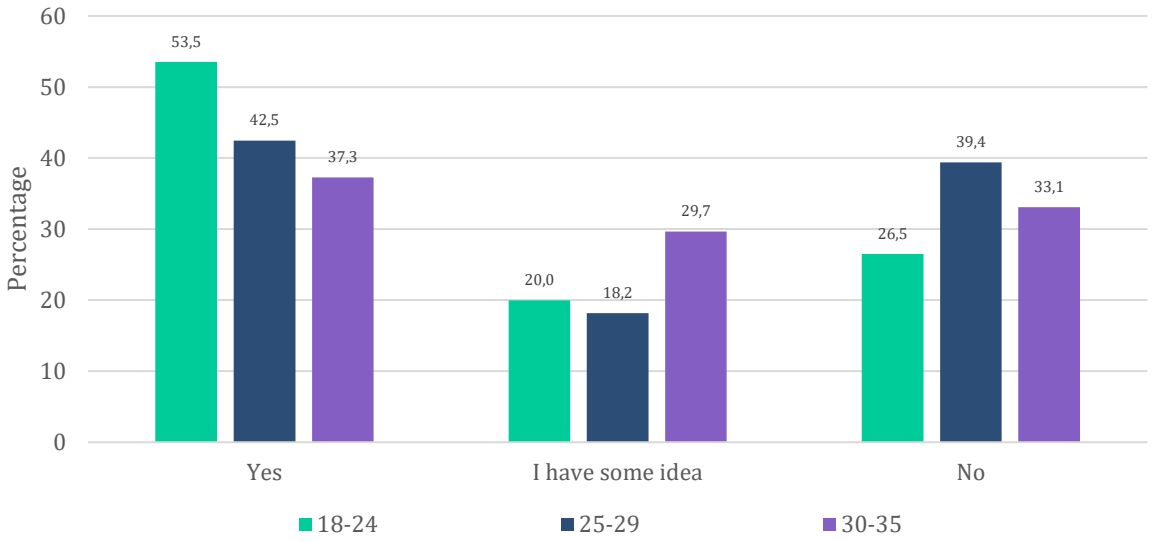

Figure 10: Knowledge of the green economy by age

The data on knowledge pertaining to the Nationally Determined Contribution (NDC) again shows varying levels of knowledge with regards to climate change concepts (Figure 11).

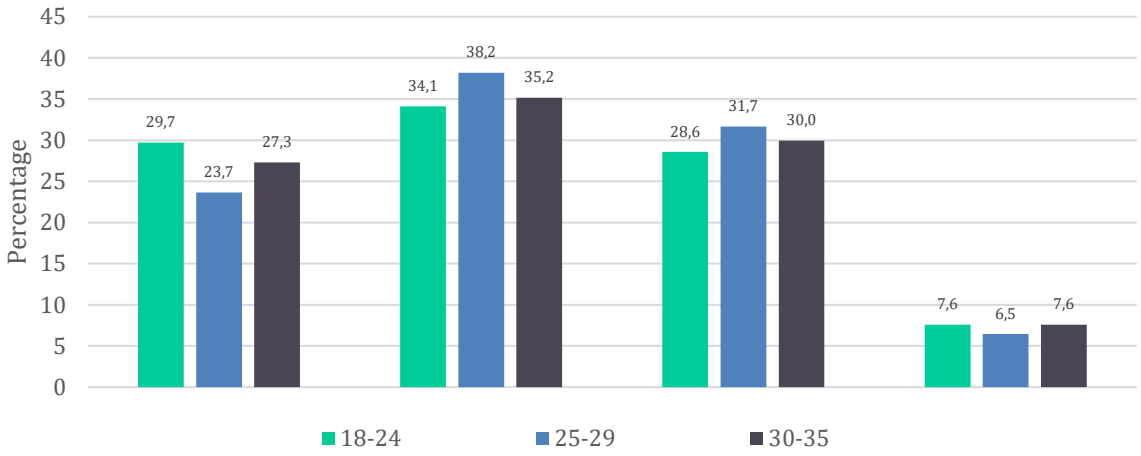

Figure 11: Knowledge of Nationally Determined Contribution by age

Figure 12 captures the variations in knowledge of the green economy concept in relation to education.

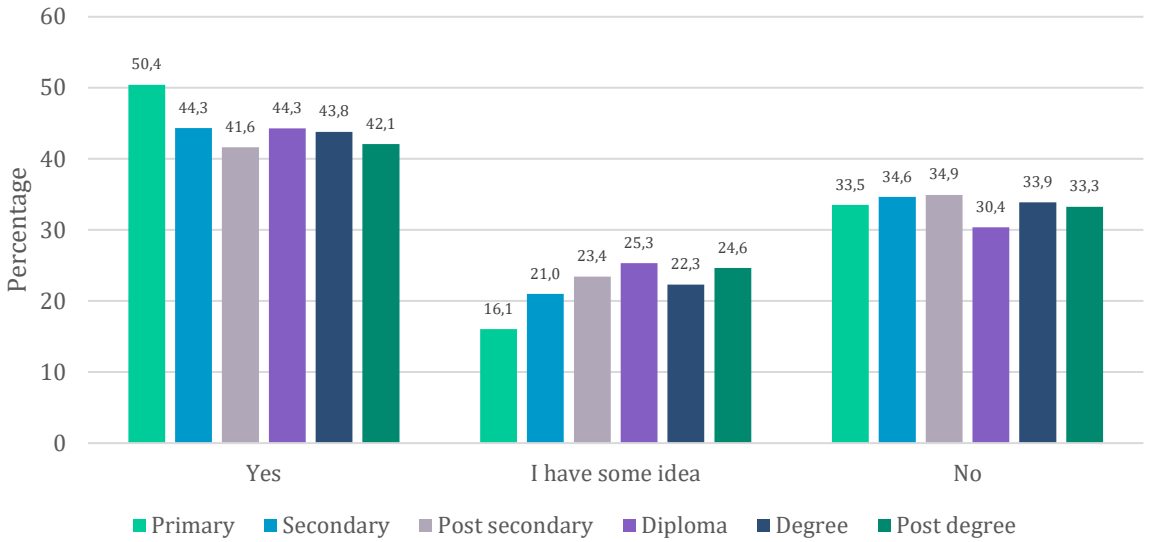

Figure 12: Knowledge of the green economy by level of education

From the data, across all the levels of education there were more respondents, a total of 4 449, who indicated knowledge of the concept of the green economy as opposed to those who had no knowledge (3 468). A total of 2 211 respondents stated they have some idea; this finding indicates that there might be more work required in terms of education, outreach and awareness-raising to amplify the level of knowledge in terms of notions such as the green economy.

4.5 Youth Awareness on How to Engage on Climate Change Issues

In terms of engaging on climate change related matters as captured in the Figure 13, 41% (4 134) of the respondents indicated that they knew how to share their views on climate change but were not interested in doing so. This is a considerable proportion of respondents, and it would be important to understand their reasons for having no interest in sharing their views. This would then inform any possible interventions. Of the respondents, 27% (2 734) revealed that they knew how to share their views. Additionally, 13% (1 313) indicated that they had already shared their views. This is quite low given the importance of having varied perspectives for informing points of action on climate change as well as related issues. Also, when people's views are shared and incorporated into interventions, there is a greater likelihood of garnering support for, and success of, these interventions. Approximately 17% (1 692) of survey respondents reported that they do not know how to share their views. It is equally important to ensure that as many young people as possible are equipped to, and are able to, share their views. With 2,5 % (255) indicating that they did not care about engaging in climate change-related issues, this is a signal that young people do want to be engaged on climate change.

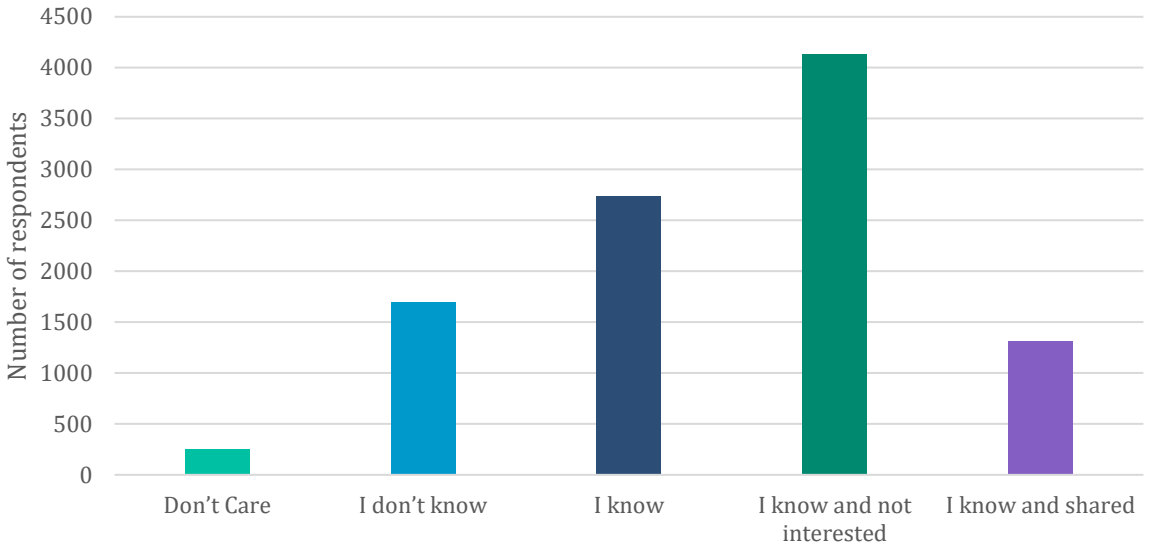

Figure 13: Respondents' knowledge on how to share views

A close look at gender and knowledge on sharing views, as in Figure 14, shows that for both females and males, most of the respondents indicated that they had knowledge however were not interested to share.

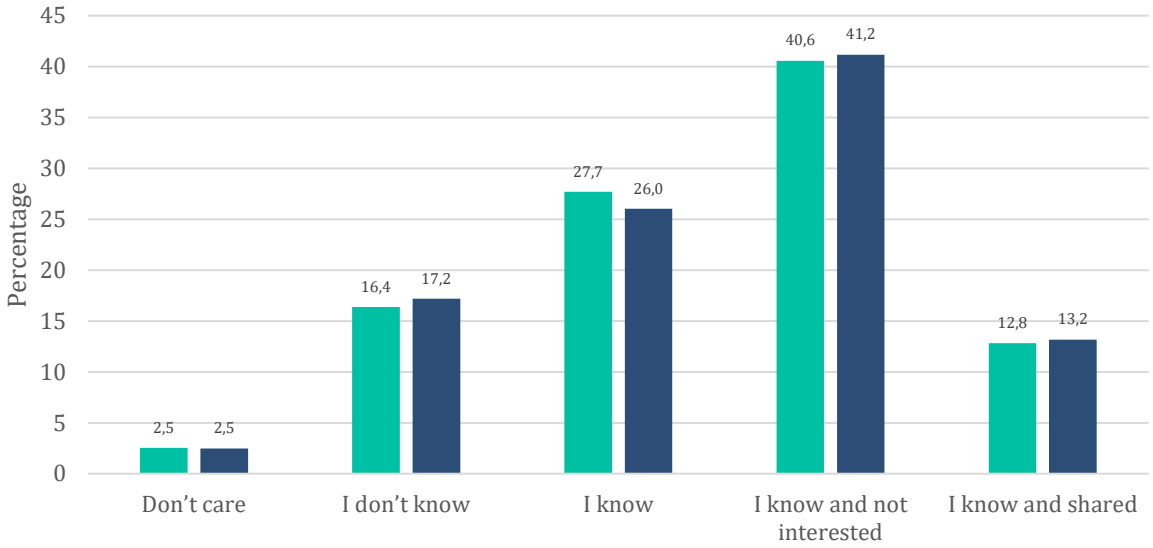

Figure 14: Knowledge on how to share views disaggregated by gender

The data on sharing of views in relation to education, as shown in Figure 15, reveals that across all the levels there were more respondents who knew how to share their views but indicated they were not interested. Indeed, there might be some value in undertaking a deeper examination of the reason(s) for this trend.

The next largest component of those who indicated they know how to share their views were those with post-secondary education and then those who had a degree. This information is relevant in terms of how stakeholders can approach engagements with various groupings.

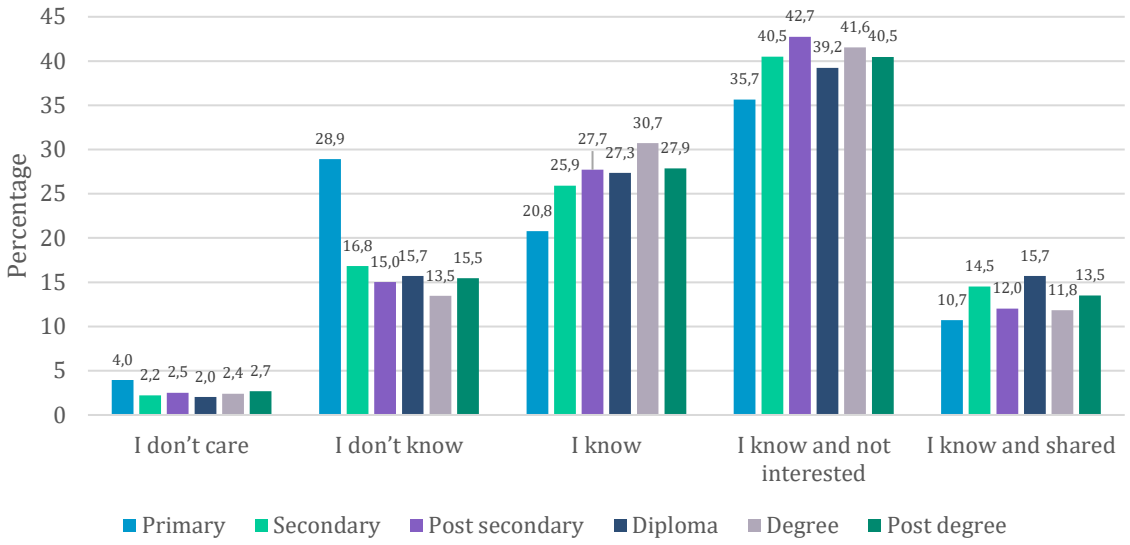

Figure 15: Knowledge on how to share views by level of education

4.6 Youth Preferences on Participation in the Response to Climate Change

When asked how respondents would like to participate in the climate change response, there was almost an equal split at 33% of people who would join community groups (3 390) or start a community initiative (3 389) (Figure 16)

Responses to the question, also showed that 10% of the respondents would like to start a sustainable business while 8% believe that training in green economy skills, and 3% believe that formal education would help them participate in the climate change response. Interestingly about 12% (1 262) of the respondents say that they are not interested in participating in the climate change responses.

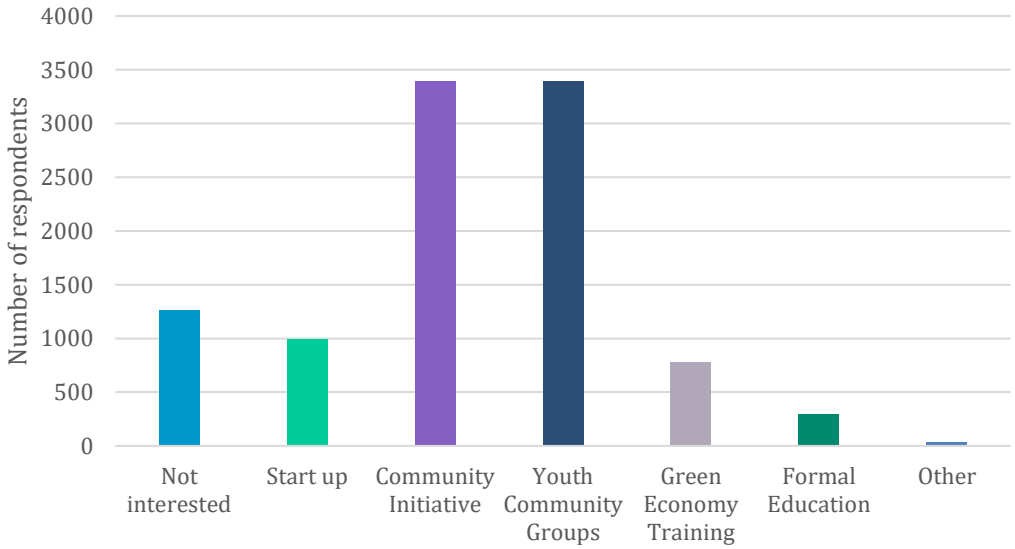

Figure 16: Preference of how on how to participate in the climate change response

From the analysis of youth knowledge on climate change, the data suggests there is a general understanding of climate related policies, plans and programmes by the youth. This does align well with the strides that Government has made in climate-related policy development, implementation and review policies.

In terms of governance and coordination structures, there has been good effort to mainstream climate policies, sectoral policy planning and overarching national strategies. Some challenges include limited human resources and an insufficient budget. One of the key youth empowerment programmes commissioned by the Department of Forestry, Fisheries and Environment (DFFE) is the "Driving Force for Change" pilot youth support initiative in 2020.

The initiative was aimed at supporting youth and youth-led organisations involved in new projects which contributed towards combatting climate change, reducing waste generation through prevention, reduction, recycling and reuse; and promoting equitable benefit and sustainable use, conservation, management of species and ecosystems and restoration of degraded ecosystems. Targeted programming for the youth is important to bring more youth on board and contribute towards building young citizenship which takes responsibilities and accountability on climate action.

4.7 Just Transition

Government's focus on a Just Transition is commendable. However, there remains room for improvement particularly on climate mitigation and with the coordination structures for climate policy implementation. South Africa is known for robust stakeholder engagements and buy-in through its participatory processes including efforts to ensure a Just Transition. Although the country undertakes consultative policymaking, increased efforts to raise awareness about the climate crisis could result in increased public support for the transition towards a low carbon society. It has predominantly been large industries exerting their influence and participation in with a transition by accelerating decarbonisation of the power sector.

The Climate Action Tracker estimates that South Africa's emission levels, by 2030, will be well above the upper bound of the updated NDC target range for the same year (around 46–82 $MtCO_2e$ higher). This takes into consideration the existing policies scenario' by the University of Cape Town for current policy projections and the higher-than-expected economic rebound in 2021 and 2022, post-Covid recovery and demonstrates the urgent need to accelerate any actions geared towards truncating emissions.

4.8 Youth Perceptions on Coal and the Energy Sector

Considering that coal remains the predominant source of energy for South Africa, the perceptions that respondents hold on the future of this sector, is critical.

Examining the issue of coal usage across the provinces (Figure 16), the majority of respondents had views on either phasing out of increasing support for the sector. In Gauteng, the economic hub of the country, there were more respondents who indicated that coal

should be phased out as opposed to being given more support. In KwaZulu Natal, more respondents were in favour of giving more support than those who favoured phasing it out completely.

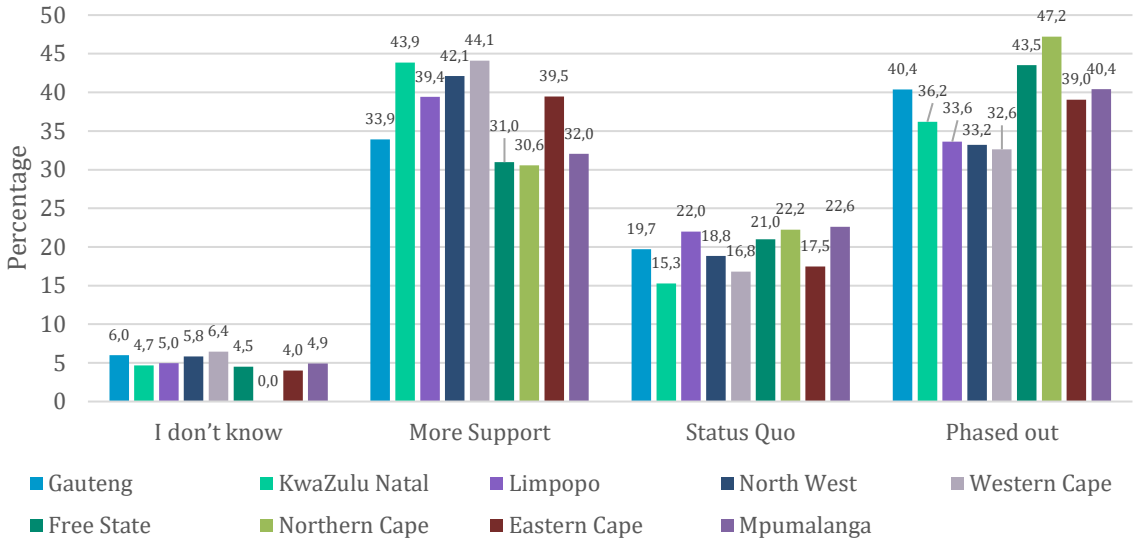

Figure 17: Action towards coal usage by province

The majority of mining activities in South Africa take place in the Limpopo and Mpumalanga Provinces in South Africa. In Limpopo, more respondents favoured more support than respondents who were in favour of phasing out coal, while in Mpumalanga, it was the opposite. Interestingly, in the Western Cape, with no significant coal mining activity, most respondents called for more support to the coal sector as opposed to those who were in favour of phasing it out. The variation of views across Provinces could not be determined.

When the data is considered at an aggregate level, as shown in Figure 18, there is almost an equal split 37% (3 727) and 38% (3 836) of respondents who are of the view that the government needs to give more support to the coal sector and those who are of the opinion it should be phased out. Given that the global consensus is that countries need to do more in terms of transitioning away from the coal industry, it would be critical to understand why there is still a significant number of young people who are in favour of government supporting the coal industry. It could, for instance, be driven by fears about jobs losses in communities or lack of confidence in the government's ability to spearhead the transition away from coal. Also, considering that about 20% of the respondents say that the current level of coal usage should be kept, these varied views need to be examined even more closely.

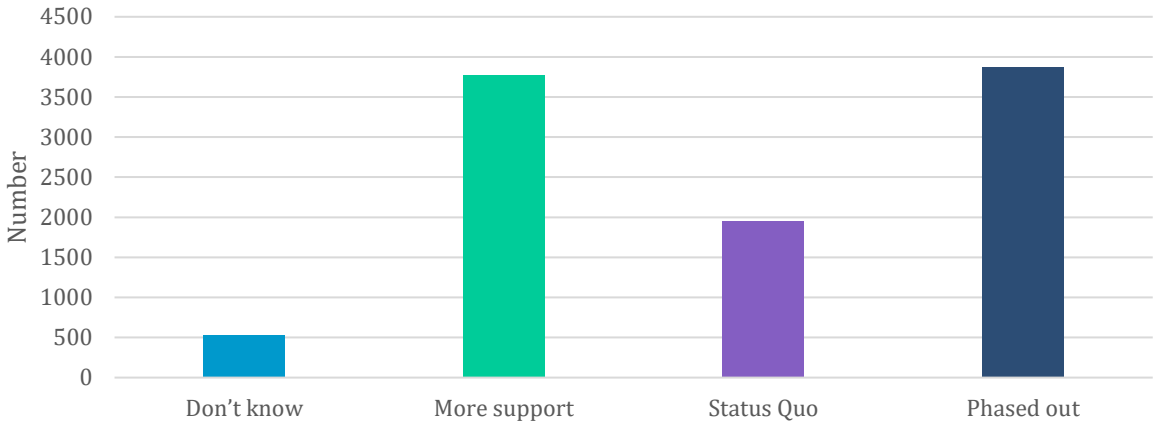

Figure 18: Thoughts on coal usage

When considering gender there is no clear distinction between gender in terms of views (equal split amongst males and females based on percentage respondents) (Figure 19).

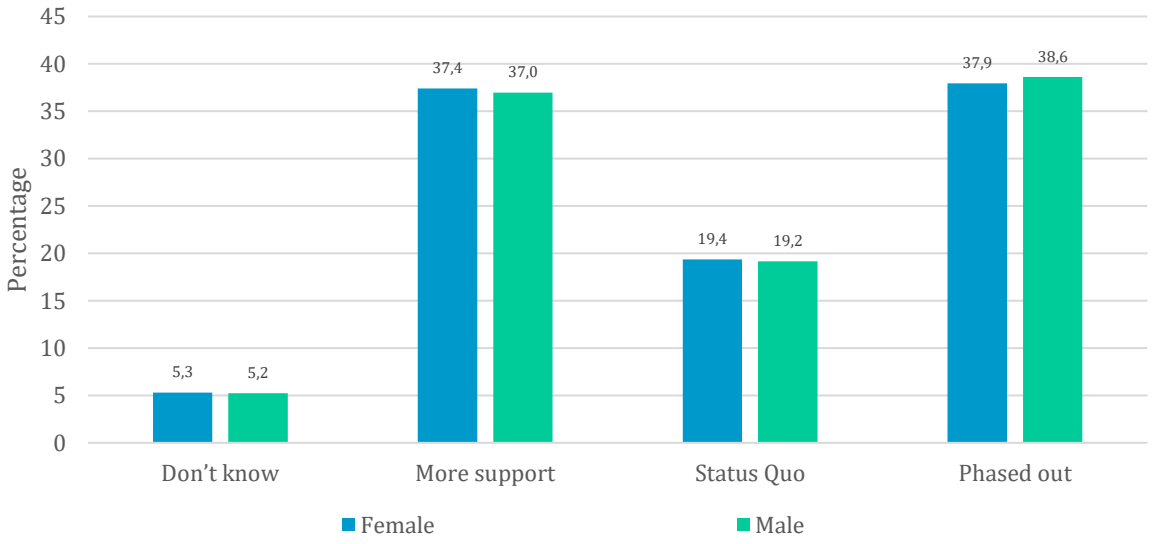

Figure 19: Views on coal usage by gender

Looking at age on the issue of coal usage (Figure 20), in the 25–29 age group more respondents (1 787) favoured phasing out coal compared to those in favour of giving more support (1 652) to the coal sector. In the 30–35 age group, just slightly more (1 069) indicated preference for phasing out goal as opposed to giving the sector more support (1 034).

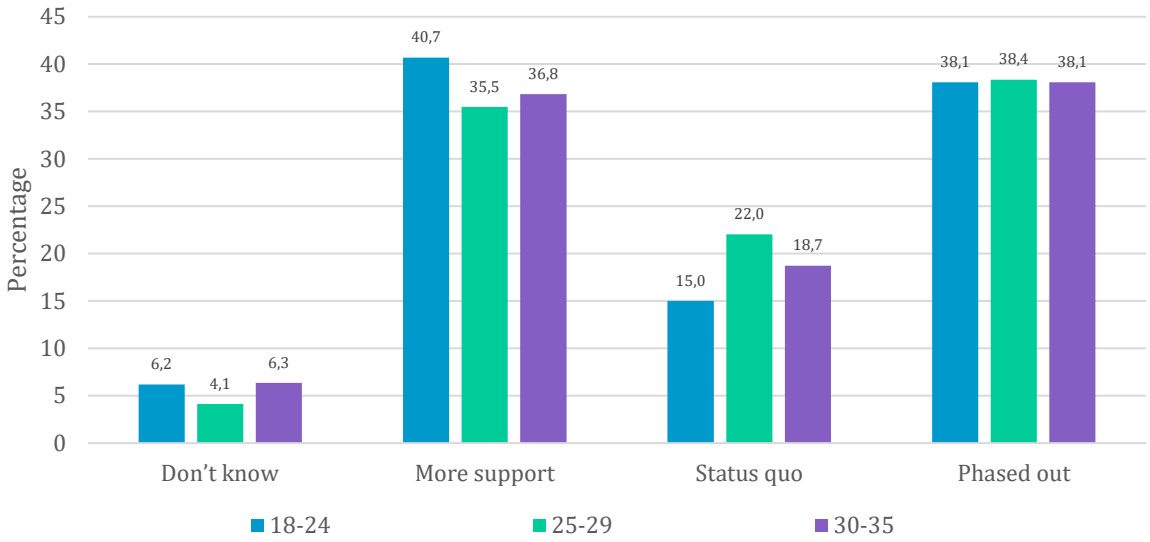

Figure 20: Views on coal usage by age

However, in the in the 18–24 age group the converse was true with 1 084 respondents indicating a preference for more support as opposed to the 1 015 who were for phasing out the coal sector. Still there was also considerable support across the age groups for maintaining status quo, a view held more strongly among the 25–29 age group than the other age groups.

In terms of education, (Figure 21) in relation to the views on the coal sector among those with a degree, a diploma, post-secondary and those with matric level education, there were more respondents who expressed favouring phasing out coal as opposed to giving more support to the sector.

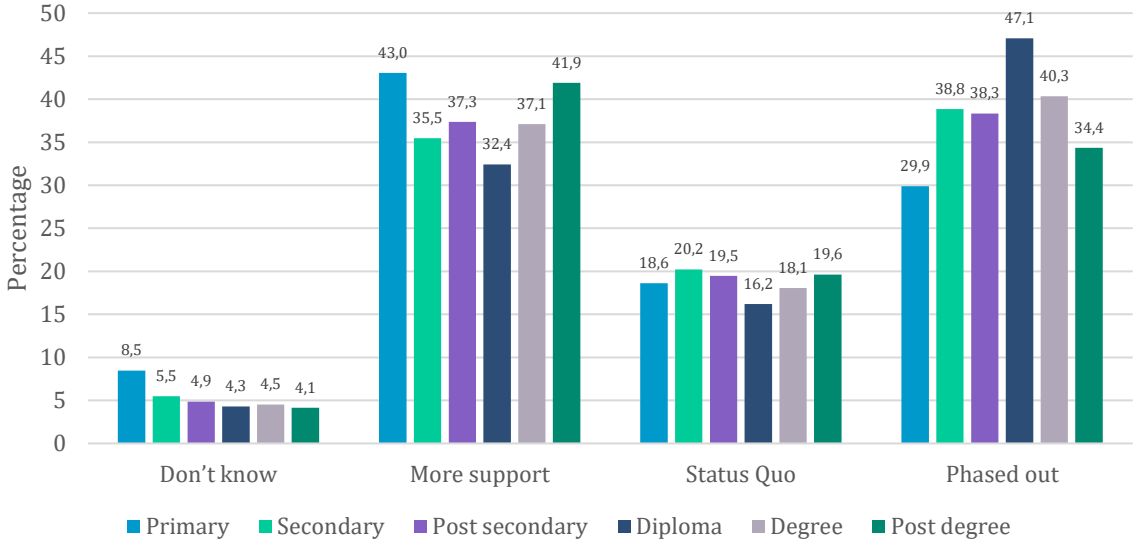

Figure 21: Views on the coal sector disaggregated by levels of education

5. Proposed Recommendations

The recommendations which follow emanate from the policy analysis as well as the survey findings. Both are important in that there are actions that need to be taken in terms of existing policy actions while on the other hand it is crucial to ensure that interventions are informed by youth perceptions as emerging from the survey. Based on analysis of the survey findings it is recommended that government:

1. Ramps up its dissemination and awareness among the youth to ensure that this cohort of the population is well aware of the current and planned interventions to address climate change particularly issues around policy and plans. Dissemination and awareness initiatives have to address any knowledge gaps as well as any potential fears that may exist in terms of initiatives towards transitioning away from a carbon intensive economy.
2. Gather more evidence on why a significant number of youth are not interested in sharing their views on climate change as this may affect the level of support for green economy initiatives, for instance those seeking to incorporate this cohort of the population–which could the affect their success;
3. Use evidence from the second recommendation to inform innovative initiatives that ignite youth interest in climate-change knowledge sharing activities;
4. Using appropriate levers, invest in community - level projects as there is interest at this level to participate in projects geared towards tackling climate change;
5. Through collaborative action with the private sector, such as investment and other forms of support, demonstrates to the youth that the green economy has opportunities that can benefit young people and propel their socio-economic upliftment. While policy pronouncement exists, more is needed in terms of implementing policy which will then accelerate the emergence of these opportunities–beyond just the stated intents; and
6. Considering there is still significant support amongst the youth (i.e survey pool) to continue with coal continue generated energy implies that there is imbalance between these interests and global commitments to truncate emissions– for instance, exploring opportunities in clean coal technology for energy generation.

The private sector also has a role to play, and it is recommended that the private sector:

1. Undertake education, outreach and awareness raising initiatives.
2. Invest in research and innovation activities for the development of diverse greener technologies.
3. Partner with government in ramping up investments in the uptake of proven green technologies and industries to unlock varied opportunities–among them employment creation.
4. Incubate youth and women-led green businesses to ignite more interest in opportunities in the green economy.
5. Facilitate access to opportunities for communities to access potential prospects - for example, in terms of supplier development–that may advance local socio-economic development.

Recommendations for youth-focused organisations:

1. Collaborate with government in information and knowledge dissemination on what is being done to tackle climate change;
2. Use their reach to ignite interest among youth in sharing knowledge on climate-change issues;
3. Initiate collaborative programmes, for example with government and the private sector, that make compelling value propositions that will capture the interest of the youth in taking advantage of current and future economic opportunities in the green economy; and
4. In collaboration with government, private sector and labour, leverage any connections to young people to build relevant skills needed to take advantage of opportunities in the green economy.

6. Conclusions

There are some important takeaways from the preceding analyses on youth perceptions to coal. Firstly, there is still significant support among respondents for the coal industry, though this is less than those who are in support of phasing out coal completely. This indicates that there is still some work to be done in terms of engaging with such views and making alternative value propositions that may ignite a move towards perspectives that resonate with the South African Government's agenda to transitioning to a green economy. There might be need to invest in knowledge dissemination to amplify awareness on the gamut of issues pertaining to transitioning away from a carbon intense economy to one this low carbon and inclusive in nature.

Whilst the Youth Barometer survey provides a lens through a small sample size (i.e. amounting to 0,048% of the total youth population in the country, calculated based on the total youth population in South Africa, as of 2022 being 20 560 000), it would require for a significant increase in sample size and fair representation across the provinces, including preferred language of communication, to ascertain a more realistic perspective on the views of youth on green economy, climate change, and just energy transition.

6.1 Greening South Africa's Carbon Intense Economy

The South African Government embraced the green economy as one of its major strategies to attain sustainable development goals and advance opportunities for poverty eradication, job creation and equity. The State's efforts in its pursuance for the green economy as a means to creating job creation and economic justice is well-documented through the existence of a panoply of green economy-related policies and strategies. Indeed, success in terms of transitioning to the green economy requires the necessary resources, tech uptake and operation of new and emerging industries for low carbon products, identification, and consumption of such products within domestic market and export market – skills and job opportunities for emerging workforces with adequate skills sets.

Arguably, there is still more work that is required in several areas. This includes having a robust and well-coordinated institutional mechanism for the transition to a green economy and accelerating development and implementation of relevant policies.

The Green Economy Accord was seminal in laying the initial foundations for the thought leadership that was then taken over in the NDP on issues pertaining to the economy and the just (energy) transition. Indeed, the NDP articulated the importance of having well-coordinated policies and strategies as a precursor to attracting investment and effectively transition South Africa to a green economy. Through the Industrial Development Corporation (IDC), the government introduced several financial vehicles targeting youth-owned businesses e.g., GRO-E Youth Scheme. The National LandCare Programme is an environmentally friendly programme supported by government targeting community-based projects geared towards sustainable natural resources management education and awareness, and job creation. The government through the now Department of Forestry, Fisheries and Environment (DFFE) established the Green Fund (allocation of R1.1 billion) to support the transition to a low carbon, resource efficient and climate resilient development path that generates high impact economic, environmental and social benefits[40] across varied sectors of society. Indeed, such initiatives could be expanded.

Agriculture is one of the vehicles through which the greening of the economy could be advanced. However, for young people to participate and benefit it is essential to have, for instance, pro-youth policies that enable easy access and cement security of tenure.

There is also potential to involve the youth in the manufacturing and supply chains of various industries as South Africa transitions away from a carbon intense economy. This could be in supplier development in solar panel manufacturing, installations, or provision of different and relevant components.

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[40] https://www.dffe.gov.za/projectsprogrammes/greenfund

7. References

CSIR., 2014., *Steering towards a Green Economy: A reference Guide*., Pretoria., https://www.csir.co.za/sites/default/files/Documents/GE%20guide.pdf

DEFF, DTI & C and DSI., 2020., *Green Economy Policy Review of South Africa's Industrial Framework*., Pretoria., Funded by European Union; https://www.dffe.gov.za/sites/default/files/reports/greeneconomy_policyreview.pdf

Godfrey, L., 2021., *The circular economy as development opportunity*., CSIR, Pretoria; https://www.circulareconomy.co.za/wp-content/uploads/2021/12/CSIR-2021-Circular-Economy-As-Development-Opportunity.pdf

Ismail, F., 2022. *Working Paper: A South African Perspective on Climate Change: From A Just Energy Transition to Climate Resilient Development*

Gaylor Montmasson-Clair Trade & Industrial Policy Strategies (TIPS), 2019., *Green Economy Policies and Strategies,* Working Paper., 10-11 January 2019 Partnership for Action on Green Economy (PAGE) Conference; https://www.tips.org.za/images/TIPS_for_PAGE_Green_Economy_Policy_and_Strategies.pdf

Nhamo, Godwell., 2013., *Green economy readiness in South Africa: A focus on the national sphere of government*., International Journal of African Renaissance Studies - Multi-. 8. 10.1080/18186874.2013.834628.; https://www.researchgate.net/publication/263339273_Green_economy_readiness_in_South_Africa_A_focus_on_the_national_sphere_of_government

United Nations Environment Programme (UNEP). 2020. *Green Economy Policy Review of South Africa's Industrial Policy Framework.*

PAGE (2017), Green Economy Inventory for South Africa: An Overview. Pretoria. South Africa.