



RESEARCH REPORT

JUNE 2024

PUBLIC PERCEPTIONS AND ATTITUDES RELATING TO CLIMATE CHANGE AND THE JUST TRANSITION IN SOUTH AFRICA:

**HIGH-LEVEL FINDINGS FROM A 2023
NATIONALLY REPRESENTATIVE SURVEY**



science & innovation

Department:
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Authors

Benjamin Roberts, Jarè Struwig and Thobeka Zondi



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Report prepared for the
Presidential Climate Commission (PCC)

Report prepared by
Human Sciences Research Council (HSRC)
Developmental, Capable & Ethical State (DCES) research division

Authors
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Contents

List of figures	v
List of tables	v
Glossary of terms	vi
Acronyms	ix
Acknowledgements	xi
Key messages	xii
Introduction	2
Methodology	3
Sample design	3
Data collection protocol	4
Fieldwork procedures and training	4
Data capturing and weighting	7
Conceptual framework	9
Survey results	11
Climate change: Environmental issues as a national priority and experience of climatic shocks	11
Climate change awareness, scepticism, concern and personal responsibility	14
Just Transition awareness and beliefs	18
Just Transition policy preferences	26
Conclusion	32
References	33
Endnotes	34
Index	35

List of figures

Figure 1:	A graphical representation of the 500 sampled small area layers	3
Figure 2:	An example of a small area layer map used to assist the fieldwork teams to navigate to the correct areas	6
Figure 3:	Conceptual framework for measuring public attitudes to climate change and Just Transition awareness, beliefs and preferences in South Africa	10
Figure 4:	Relative priority of the environment as a top national challenge (multiple response), 2023	11
Figure 5:	Impact of extreme weather events on respondents and their family in the last 10 years, 2023 (%)	13
Figure 6:	Exposure to extreme weather events, by province, 2023 (%)	14
Figure 7:	Climate change awareness, 2007–2023 (%)	15
Figure 8:	Climate scepticism 2020 and 2023 (%)	16
Figure 9:	Climate concern (excluding trend sceptics), 2017, 2022 and 2023 (%)	17
Figure 10:	Awareness of transition to other energy sources, 2023 (%)	19
Figure 11:	Knowledge of the term ‘Just Transition’, 2023 (%)	20
Figure 12:	Approval of actions being taken to change from coal to other energy sources, 2023 (%)	21
Figure 13:	Worry about the impact of the energy transition personally and on family, 2023 (%)	22
Figure 14:	Perceived negative elements of the Just Transition, 2023 (multiple response table, % that mentioned each option)	23
Figure 15:	Perceived positive elements of the Just Transition, 2023 (multiple response table, % that mentioned each option)	24
Figure 16:	Climate finance – Which of the following statements comes closest to your opinion?, 2023 (%)	28
Figure 17:	Entities most responsible for addressing the climate crisis (% that mentioned each option)	29
Figure 18:	Entities that should be involved and that are most trusted when considering Just Transition decision-making, 2023 (%)	30

List of tables

Table 1:	Sample realisation	7
Table 2:	Sample characteristics (unweighted and weighted), 2023	8
Table 3:	Factor analysis combining benefits and concerns with characteristics associated with each factor (2023)	25
Table 4:	Preference for policy options to mitigate negative impacts of Just Transition, 2023 (% and mean scores)	27

Glossary of terms

Attitudes: Individual opinions, beliefs, and emotional responses towards climate change and the Just Transition.

Awareness: The extent to which individuals perceive and understand climate change and the Just Transition.

Behaviour: Actions taken by individuals in response to their attitudes and awareness of climate change, including mitigation efforts and advocacy.

Bivariate analysis: The simultaneous analysis of two variables to explore the relationship between them. This type of analysis can help determine whether there is an association, correlation, or causal relationship between the two variables. This approach differs from multivariate analysis, which examines the relationships among three or more variables simultaneously.

Climate change scepticism: Doubt or denial of the scientific consensus on human-induced climate change and its impacts, often based on alternative interpretations of data or perceived uncertainties in climate science. The report examines trend scepticism, which relates to questions about the existence of long-term trends in global climate change, as well as attribution scepticism, which focuses on questions of whether human activities are responsible for observed climate changes.

Climate shocks: Refers to extreme weather events or phenomena associated with climate change that have a significant impact on communities, such as droughts, floods, or heatwaves.

Correlation coefficient: A statistical measure of the strength of a linear relationship between two variables. Possible values of the correlation coefficient range from -1 to $+1$, with -1 indicating a perfectly linear negative correlation and $+1$ indicating a perfectly linear positive correlation. In the report, absolute values of 0.0 to 0.2 are interpreted as a negligible association, 0.2 to 0.4 a weak association, 0.4 to 0.6 a moderate association, 0.6 to 0.8 a strong association, and above 0.8 a very strong association.

Environmental ethics: Moral principles guiding individual and collective responsibilities towards the environment, including stewardship and sustainability.

Environmental literacy: Knowledge and understanding of environmental issues, including climate change, promoting informed decision-making and sustainable practices.

Environmental sustainability: Practices and policies aimed at meeting current needs without compromising the ability of future generations to meet their own needs, encompassing economic, social, and environmental dimensions.

Extreme weather events: Severe and unusual weather occurrences, such as droughts, floods, and storms, attributed in part to climate change impacts.

Factor analysis: A statistical method used to identify underlying relationships between variables. In this context, it was used to categorise respondents into groups based on shared concerns and benefits related to the Just Transition.

Factor loadings: Coefficients that represent the relationship between observed variables and latent factors in factor analysis. They indicate how much a factor contributes to an observed variable. High factor loadings suggest a strong association between the variable and the factor, meaning the factor explains a large portion of the variable's variance. Factor loadings can be positive or negative, showing the direction of the relationship.

Greenhouse gas emissions: Gases that trap heat in the Earth's atmosphere, contributing to global warming and climate change, primarily carbon dioxide, methane, and nitrous oxide.

Intergovernmental Panel on Climate Change (IPCC): International body assessing climate science, impacts, and response strategies, providing authoritative guidance for policymakers.

Just Transition: A framework that aims to ensure a fair shift to a low-carbon economy, safeguarding workers and communities impacted by climate policies.

Logistic regression: A statistical technique used to examine the association between a dependent variable (e.g., approval of Just Transition) and one or more independent variables (e.g., socio-demographic factors).

Metropolitan areas: Large, densely populated urban regions that typically comprise a central city and its surrounding suburbs. South Africa has eight metropolitan areas namely City of Johannesburg; City of Tshwane (Pretoria); City of Ekurhuleni (East Rand); eThekweni (Durban); Nelson Mandela Bay (Gqeberha, formerly Port Elizabeth); Buffalo City (East London); Mangaung (Bloemfontein); and the City of Cape Town.

Mitigation: Actions and policies aimed at reducing greenhouse gas emissions and minimising the impact of climate change.

Multivariate analysis: A set of statistical techniques used to analyse data that involves multiple variables simultaneously. The goal is to understand the relationships between different variables and how they interact with each other. Multivariate analysis includes various methods, such as multiple regression, factor analysis, and cluster analysis. Multivariate analysis helps in identifying patterns, making predictions, and understanding the underlying structure of the data.

Ordered logistic regression: A statistical technique used for modelling ordinal response variables. Ordinal variables are categorical variables with a clear ordering of values but no fixed distance between categories (e.g. a 5-point agreement scale). In ordered logistic regression, the probability of the response variable falling into a particular category or below is modelled as a function of predictor variables. This method assumes proportional odds, meaning the relationship between each pair of outcome groups is the same. It is commonly used in fields such as social sciences where levels of agreements are tested.

Public awareness campaigns: Initiatives aimed at increasing public knowledge and understanding of climate change, promoting informed decision-making and engagement in mitigation efforts.

Pro-environmental norms: Social standards and expectations that encourage behaviours aimed at protecting and preserving the environment. Pro-environmental norms influence individual and group actions by promoting environmentally friendly practices, such as recycling, reducing energy consumption, and supporting sustainable products and policies. These norms are typically shaped by cultural values, education, public policies, and influential leaders or groups.

Renewable energy: Energy sources derived from natural processes that are constantly replenished, such as sunlight, wind, and geothermal heat, reducing reliance on fossil fuels.

Social norms: Collective beliefs and expectations regarding appropriate attitudes and behaviours towards climate change within society.

Socio-demographic variables: Characteristics of individuals or groups used to analyse how different factors like age, gender, education, income, and geographic location influence attitudes, knowledge, and behaviours related to climate change and the Just Transition.

Socio-economic factors: Economic and social conditions influencing perceptions, attitudes, and behaviours towards climate change, including income level, education, and employment status.

Statistical significance: Likelihood that an observed effect or relationship between variables is not due to random chance. It indicates whether the results are likely to be real and reproducible, based on a predetermined threshold (expressed in this report by a p-value). In the report, we report significance at the 95% ($p < 0.05$ *), 99% ($p < 0.01$ **) and 99.9% ($p < 0.001$ ***) levels.

Statistical weighting: Adjustments made to survey data to ensure it accurately reflects the demographic and geographic characteristics of the population being studied.

Survey methodology: The approach used to collect data on public perceptions and attitudes towards climate change, including sampling design, data collection protocols, and ethical considerations.

Subgroup analysis: A detailed examination of specific segments within a larger population or dataset, for instance certain age groups.

Urban towns: Urban towns are smaller (than metropolitan) urban areas that serve as significant local hubs of economic and social activity. Unlike metropolitan areas, urban towns typically have a smaller population and a more localised economic base, but they still exhibit urban characteristics such as higher population density, diverse housing, and various services and amenities.

Acronyms

ESS	European Social Survey
GHG	Greenhouse gas
HSRC	Human Sciences Research Council
NGO	Non-Governmental Organisation
NPO	Non-Profit Organisation
PCC	Presidential Climate Commission
REC	Research Ethics Committee
SAL	Small Area Layer
SASAS	South African Social Attitudes Survey
SSU	Secondary Sampling Unit
VBN	Value-Belief-Norm

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Key messages

South Africa is a frontrunner of the Just Transition movement, but little is known about public perceptions towards the Just Transition in-country. This report presents the first nationally representative survey on the Just Transition in South Africa and helps to fill a critical knowledge gap on the level of understanding and public support for policy change.

The main findings are:

- Environmental issues are a relatively low priority for most South Africans, with unemployment, crime and safety, and corruption, ranking as the top three issues.
- Nearly three-quarters of South African adults have been exposed to extreme weather events in the past decade. Those who were exposed were more aware of climate change, were more worried about climate change, and wanted to do something about it.
- Half of South Africans adults having at least a fair amount of awareness about climate change, but less than one fifth acknowledge that humans are the primary driver of climate change.
- Most South Africans who acknowledge that the climate is changing are also at least somewhat concerned about it, with only 15% reporting little to no concern. However, the proportion of South Africans reporting the highest levels of concern (very or extremely) decreased from 50% in 2017 and 2022 to 45% in 2023.
- Very few South Africans (9%) have heard the term 'Just Transition' and know what it means. However, a significantly larger share has heard a little bit (41%) or quite a bit/a lot (31%) about efforts to transition away from coal power to other forms of energy more generally. Respondents with higher levels of education, greater awareness of climate change, and those living in urban areas and the Western Cape were more likely to be aware of the energy transition.
- A majority (62%) of South Africans approve of the transition away from coal, but there are still concerns about potential impacts, with 28% reporting that they are extremely or very worried and 29% somewhat worried. One third of respondents were concerned that the Transition would result in high electricity prices, and 32% were worried about a loss of jobs.
- Just over half of South Africans (51%) see the transition away from coal to other forms of energy such as renewables as a possible way to end loadshedding. The transition was also seen as an opportunity to grow the economy and reduce electricity prices by 41% of respondents. Less than a quarter of respondents associate the transition with health or environmental impacts, either positive or negative.
- There is very strong support for social and economic policies to help mitigate the potential impacts of the transition, including: improving education to help people find new jobs (79% support); helping women, youth and vulnerable groups find jobs (77%); supporting local businesses and creating job opportunities in impacted areas (77%); training and skills programmes (75%) and short-term financial assistance (70%) for workers who lose jobs in the transition; and creating a basic income grant for all South Africans (70%).

- With respect to managing the Just Transition, there was some level of support for including each of the major stakeholder groups identified, but the highest support was for the national government (45%), business/private sector (28%) and local government (27%). The national government was rated as most trusted to manage the transition (26%), followed by business/private sector (19%) and a committee established by the president representing all major stakeholder groups (13%).

These results serve as a critical baseline on South African public attitudes and perceptions towards the Just Transition. It will be essential to repeat this survey at regular intervals to track how these factors change over time and measure progress in achieving the goals of the Transition in the eyes of the public. This work and future iterations of the survey will inform future Just Transition efforts in the country.

Introduction

Very little is known about the public's understanding and perceptions of the term and concept 'Just Transition', and empirical studies relating to this subject remain relatively limited

Prior research has underscored the interconnectedness between awareness, attitudes and behaviour. Studies have shown that heightened awareness correlates positively with favourable attitudes towards climate-related issues, increased support for policies addressing them and a greater willingness to act (Arkan & Günay, 2021). Therefore, conducting a study to gauge public awareness of the Just Transition and related matters can provide valuable insights for shaping effective policies and strategies to address climate challenges in South Africa. Very little is known about the public's understanding and perceptions of the term and concept 'Just Transition', and empirical studies relating to this subject remain relatively limited. To date, there has not been a comprehensive, nationally representative study conducted in South Africa to assess the public's conceptual understanding and awareness of the Just Transition. Yet, it is crucial to assess the extent of public knowledge and awareness of and support for the Just Transition, as well as climate action and related policies. Such empirical evidence is vital for guiding the strategic direction and interventions of the government and the Presidential Climate Commission (PCC).

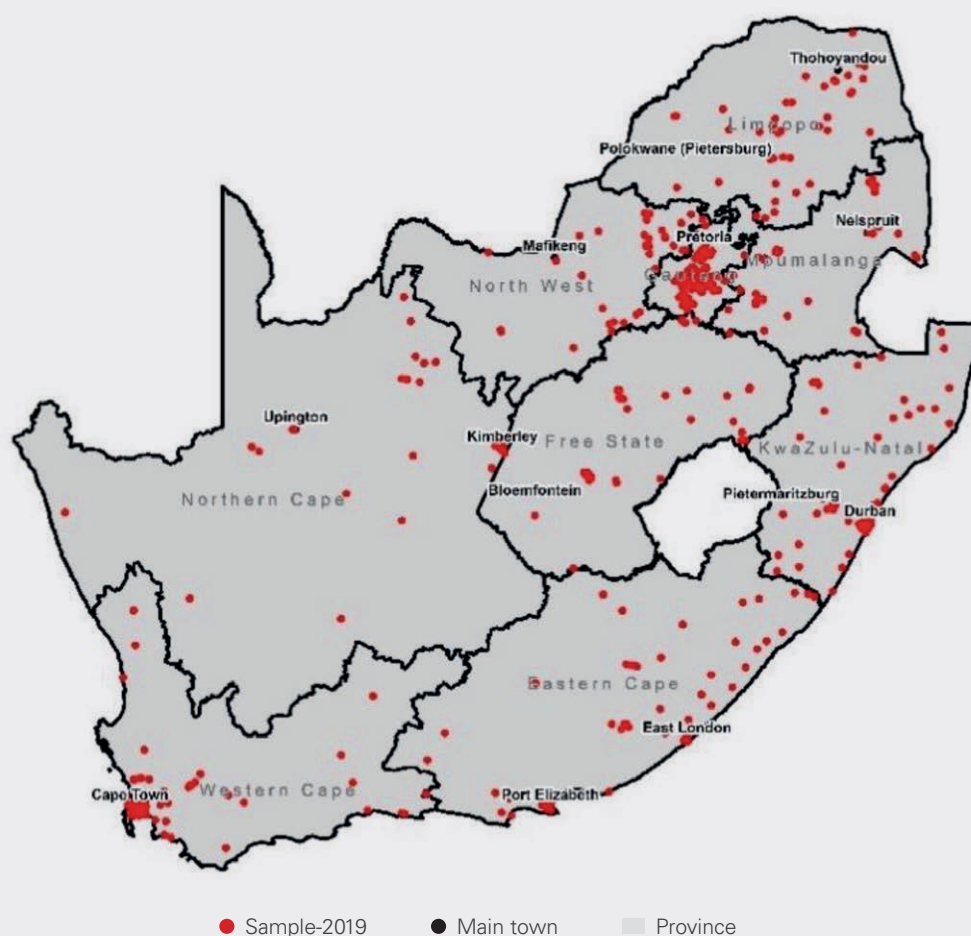
Within this context, the PCC partnered with the Human Sciences Research Council (HSRC) to conduct a national survey on perceptions of climate change and the Just Transition in South Africa. More specifically, the survey aimed to assess the following: awareness of and concern about climate change; personal experience with extreme weather events; perception of responsibility for addressing climate change; awareness of the general concept of the energy transition and familiarity with the term 'Just Transition' specifically; support for the transition away from coal towards renewable energy and perceived impacts of such a shift; support for various policy measures to mitigate against negative impacts of the transition; and perceptions of who should be involved in and responsible for the transition. This report provides high-level national results of the findings. A more comprehensive report, with results disaggregated by socio-demographics and analysing the interconnectedness of concepts, will be separately prepared and released.

Methodology

Sample design

The Just Transition survey was administered as part of the 2023 annual round of the HSRC's South African Social Attitudes Survey (SASAS) series. In accordance with the SASAS research infrastructure's standard approach, the survey was designed to yield a representative sample of 3 500 adults aged 16 years and older.¹ The sample provided a geographic spread across the country's nine provinces and was restricted to households. Special institutions (such as hospitals, military camps, old age homes, schools and university hostels), recreational areas, industrial areas and vacant small area layers (SALs) were excluded from the sample.

Figure 1: A representation of the 500 sampled small area layers



The SASAS series has three sampling stages as part of its design. SALs were the primary sampling units and, in the first stage, 500 SALs were randomly drawn nationwide (Figure 1). Estimates of the population numbers for various categories of census variables were obtained per SAL. Data for this stage were drawn from the 2011 census and updated using mid-year population estimates. Three explicit stratification variables were used to draw the SALs, namely province, geographic type and majority population group.

Dwelling units (also known as visiting points) in each SAL represented the secondary sampling unit (SSU). A dwelling unit is defined as 'separate (non-vacant) residential stands, addresses, structures, flats, homesteads, etc.' In the second stage, seven SSUs were selected per SAL. SSUs were drawn with equal probability in each of the selected SALs. SSUs were selected using a random starting point and counting an interval between households. The interval was calculated using the total number of households in the SAL. Finally, in the third sampling stage, a person was drawn with equal probability from all persons aged 16 years and older living at each selected visiting point. This person (i.e. the respondent) needed to be 16 years or older and have resided at the visiting point for at least 15 out of the past 30 days prior to interviewing. The fieldwork period started in August and ended in October of 2023.

Data collection protocol

The HSRC subscribes to a strict internal Code of Ethics. The study design and research tools were submitted for approval by the HSRC's Research Ethics Committee (REC). Each interview conducted by the HSRC is fielded only if the REC has approved it. Before an interview was conducted, the following protocols were observed:

Adult respondents and informed consent (older than 18 years): All respondents aged 18 years and older were asked for informed consent. A digital consent form explained the purpose of the study, emphasised that participation is voluntary and explained the likely duration of the interview. The form also explained how confidentiality is preserved, and offered an earnest appraisal of the risks/discomforts and benefits associated with participation in the study. Respondents were provided with details of the HSRC's toll-free ethics hotline and survey coordinator contacts.

Minors and written informed consent (persons under the age of 18 years): In instances where the selected research participant was a minor aged 16–17 years, the informed consent process adhered to the HSRC's Guidelines on Research with orphans and vulnerable children (OVC). A dual consent process was required, from both the minors and their parent/guardian.

Ensuring confidentiality of information: All personal information on the respondent was removed when the data was captured and analysed. Codes to identify respondents were used instead. Personal information is stored electronically with password protection at the HSRC. The SASAS team is compliant with all relevant legislation that protects the data of respondents.

Fieldwork procedures and training

The following protocols guided the fieldwork process:

- Fieldworkers and supervisors were required to notify the relevant local authorities that they would be working in the specific area. The purpose was twofold: 1) to increase safety protocols for fieldworkers; and 2) to reassure respondents, especially the elderly or suspicious, that the survey

was official. Official letters describing the project and its duration and relevant ethical issues were distributed to the authorities. This was done not only as a form of research and ethical protocol but also to ensure the safety of the fieldwork teams.

- Supervisors were advised to inform the local leader (e.g. the *inkosi* or *induna*) in a traditional authority area, while in urban formal or urban informal areas they had to report to the local police station. In some areas, the local councillor was also met and informed of the study prior to commencing work in the area.
- They were further advised that farms should be entered with caution and that they should report to the local Agri SA offices before doing so. Field supervisors were issued with 'Farm letters' which contained information on the purpose of the study and contact details in case they had queries.
- Consent forms needed to be successfully completed (electronically) prior to each interview.
- Fieldworkers were issued with name tags and letters of introduction to be used in the field. The introduction letter was translated from English into six other languages.
- Fieldworkers had to present their identity cards when introducing themselves.

A network of locally based fieldwork supervisors in all parts of the country assisted in data collection. Competent fieldworkers with a thorough understanding of the local areas were employed as part of this project. Two-day training sessions were held in all provinces. The training session included lessons on selection and sampling of households; fieldwork operating procedures; research protocol and ethical considerations. The questionnaire was discussed in detail. As far as possible, the training was designed to be participatory, practical and interactive, and gave fieldworkers the opportunity to seek clarification. A training manual was also developed as part of the training toolkit. All relevant remarks and instructions discussed during the training session were included in the training manual.

Once the training sessions were completed, a navigational toolkit was provided to fieldwork teams. These toolkits were developed to assist the field teams in finding the selected SALs. These kits assisted the supervisors and fieldworkers to locate the exact SAL where the interviews were to take place. The navigational kits included:

- Route descriptions, to assist the teams to navigate their way into the selected enumerator areas.
- Maps that, using aerial photographs as a base, identified the exact geographic location of the enumerator areas to be sampled throughout the country (see Figure 2 for an example).
- More detailed maps that identified the exact area, pinpointing street names and places of interest such as schools, clinics, hospitals, etc. These maps also included latitude–longitude GPS coordinates indicating the centroid of the SAL.

**Competent
fieldworkers with
a thorough
understanding of the
local areas were
employed as part of
this project**

HSRC researchers conducted random visits to selected areas and worked with the fieldworkers to ensure that they adhered to ethical research practices and that they understood the intent of the questions in the questionnaire. HSRC researchers also ensured that the correct selection protocols were followed to identify households and respondents in the household. The researchers also checked on procedures followed in administering the research instrument. Field backchecks were also conducted in all nine provinces. Telephonic backchecks were done on at least 10% of the total sample.

Figure 2: An example of a small area layer map used to assist the fieldwork teams to navigate to the correct areas

EA MAP | EA 77401439 | Jabavu, Soweto, Urban settlement, City of Johannesburg Metro | Gauteng



— Other roads — Minor roads — Main roads — Regional roads — National roads
— Freeway roads — Rivers — Sub places — EA boundary

Data capturing and weighting

The data were captured electronically by making use of tablets and the Dooblo SurveyToGo software. The data were transmitted to a central database. Once all the data was collected, it was downloaded and converted into Statistics and Data (STATA) and Statistical Package for the Social Sciences (SPSS) software formats, and the HSRC SASAS data manager embarked on a data-cleaning process. Data were checked and edited for logical consistency, for permitted ranges, for reliability on derived variables and for filter instructions. The targeted and realised sample sizes by province are presented in Table 1.

Table 1: Sample realisation

Province	Number of SALs	Ideal sample (N)	Realised sample (N)	Realisation rate (%)
Western Cape	65	455	323	71
Eastern Cape	65	455	442	97
Northern Cape	37	259	219	85
Free State	38	266	244	92
KwaZulu-Natal	93	651	611	94
North West	37	259	212	82
Gauteng	83	581	538	93
Mpumalanga	38	266	256	96
Limpopo	44	308	267	87
Total	500	3 500	3 112	89

The data were weighted to take account of the fact that not all respondents included in the survey had the same probability of selection. The weighting reflected the relative selection probabilities of the individual at the three main stages of selection: visiting point (address), household and individual. In order to ensure representativity of smaller groups (e.g. Northern Cape residents or Indian/Asian people), weights needed to be applied. The marginal totals for the benchmark variables were obtained from mid-year population estimates as published by Statistics South Africa. The total number of people successfully interviewed for the SASAS 2023 round was 3 112 (Table 1). When weighted, this total represents 42 486 164 South Africans aged 16 years and older. Key demographic characteristics of the final dataset (unweighted and weighted) are presented in Table 2.

The total number
of people successfully
interviewed was 3 112.
When weighted,
this total represents
42 486 164
South Africans aged
16 years and older

Table 2: Sample characteristics (unweighted and weighted), 2023

	Unweighted		Weighted	
	N	%	N	%
South Africa	3 112	100	43 148	100
Gender				
Male	1 410	45	20 784	48
Female	1 701	55	22 363	52
Age group				
16–19 years	141	5	4 180	10
20–29 years	629	20	9 742	23
30–39 years	727	23	10 817	25
40–49 years	551	18	7 595	18
50–64 years	681	22	6 958	16
65+ years	383	12	3 855	9
Population group				
Black African	1 923	62	34 126	79
Coloured	558	18	3 897	9
Indian/Asian	329	11	1 256	3
White	293	9	3 869	9
Geographic type				
Metropolitan urban	1 223	39	18 778	44
Non-metropolitan urban	1 119	36	11 653	27
Rural	770	25	12 716	29
Province				
Western Cape	323	10	5 468	13
Northern Cape	442	14	4 367	10
Eastern Cape	219	7	918	2
Free State	244	8	2 061	5
KwaZulu-Natal	611	20	7 815	18
North West	212	7	2 967	7
Gauteng	538	17	12 338	29
Mpumalanga	256	8	3 357	8
Limpopo	267	9	3 858	9

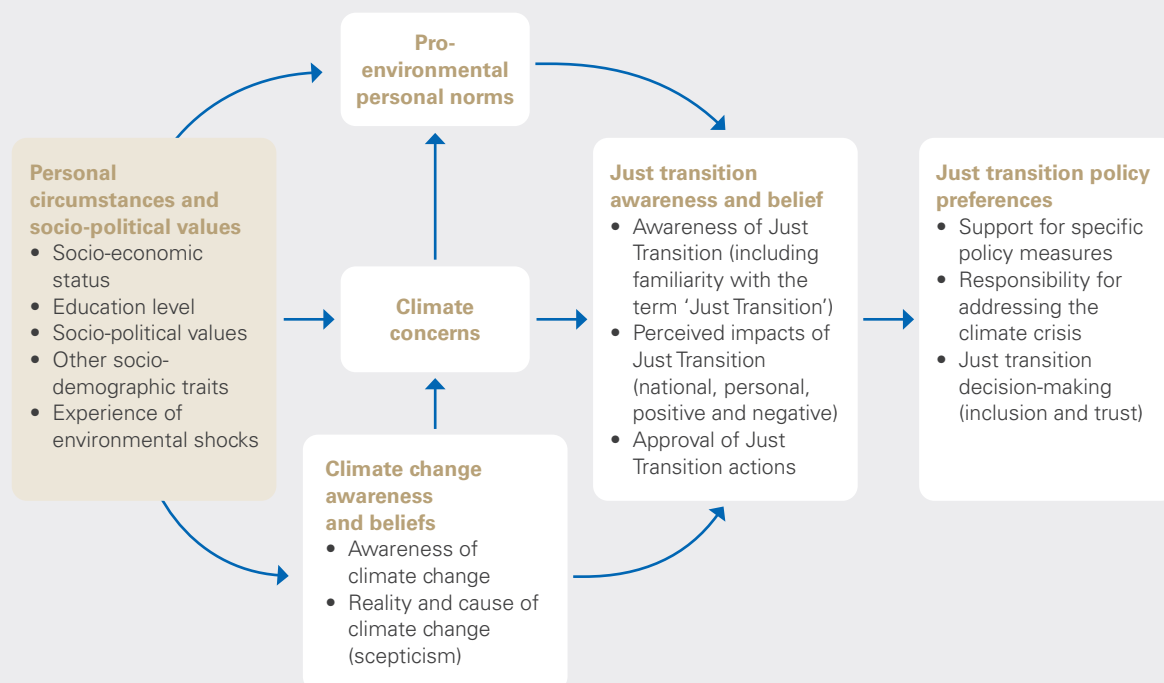
Conceptual framework

The HSRC has been collaborating with the European Social Survey (ESS) on issues related to climate change since the mid-2010s. The ESS is a cross-national European Research Infrastructure Consortium (ERIC) consisting of 31 European members and undertook extensive survey work on climate change and energy preferences as part of ESS Round 8 in 2016.² The ESS undertook a systematic and detailed comparison of public attitudes to climate change, energy security and energy preferences (Poortinga et al., 2014) and addressed critical components of the social transformation to a low-carbon Europe. This survey and questionnaire module conformed to a high standard of rigour and contained questions that are the best effective direct measures of the topics and concepts being examined. As such, some of the questions designed for this PCC survey project in South Africa replicated some of the items from the ESS Round 8 climate change module. In addition, the conceptual framework adopted by the ESS for this research also formed the foundation of the PCC study.

In line with the conceptual framework used by the ESS, the current survey used Stern's (2000) value-belief-norm (VBN) model as a general framework, covering four broad areas: 1) beliefs about climate change and the energy transition; 2) concerns about climate change and the energy transition; 3) personal norms, efficacy and trust; and 4) policy preferences. The VBN theory of environmentalism suggests that pro-environmental personal norms are influenced by the belief that environmental conditions pose a threat to the things that an individual places value on, and that an individual possesses the ability to reduce the threat. These personal norms influence an individual's behaviour. Behaviour-specific personal norms and other social-psychological factors, such as the perceived personal costs and benefits of an individual's action and beliefs about the efficacy of particular actions, may affect pro-environmental behaviours (Stern, 2000). According to the VBN model, pro-environmental personal (moral) norms are at the core of linking climate change concerns to energy-related preferences and behavioural choices (European Social Survey, 2016).

Pro-environmental personal norms are influenced by the belief that environmental conditions pose a threat to the things that an individual places value on, and that an individual possesses the ability to reduce the threat

Figure 3: Conceptual framework for measuring public attitudes to climate change and Just Transition awareness, beliefs and preferences in South Africa



For the current study, the conceptual model was adapted (Figure 3) to align better with the aims of the research study, as well as the specific focus on the Just Transition. We explore individual awareness and salience of climate change, beliefs focusing on the reality of climate change, perceived causes, and the envisaged impact of climate change, and then determine the degree to which these shape concern about climate change. We then examine whether these constructs influence how South Africans feel about personal responsibility to take action to address climate change. These are elements considered by the VBN model to be important for understanding climate change perceptions, and are seen as key variables that would subsequently motivate climate actions. In this instance, it was hypothesised that greater levels of climate awareness, concern and personal responsibility would all influence awareness and beliefs relating to the Just Transition and, by extension, promote support for specific Just Transition policy preferences.

The model recognises that an individual's circumstances and socio-political values impact the various dimensions measured in the model. For instance, employment prospects play a critical role in South Africa and beliefs about whether the Just Transition is likely to impede or enhance job prospects may significantly impact views on the Just Transition. To this effect, the model considers the respondent's socio-economic status, educational level, socio-political values as well as experience of climatic shocks.

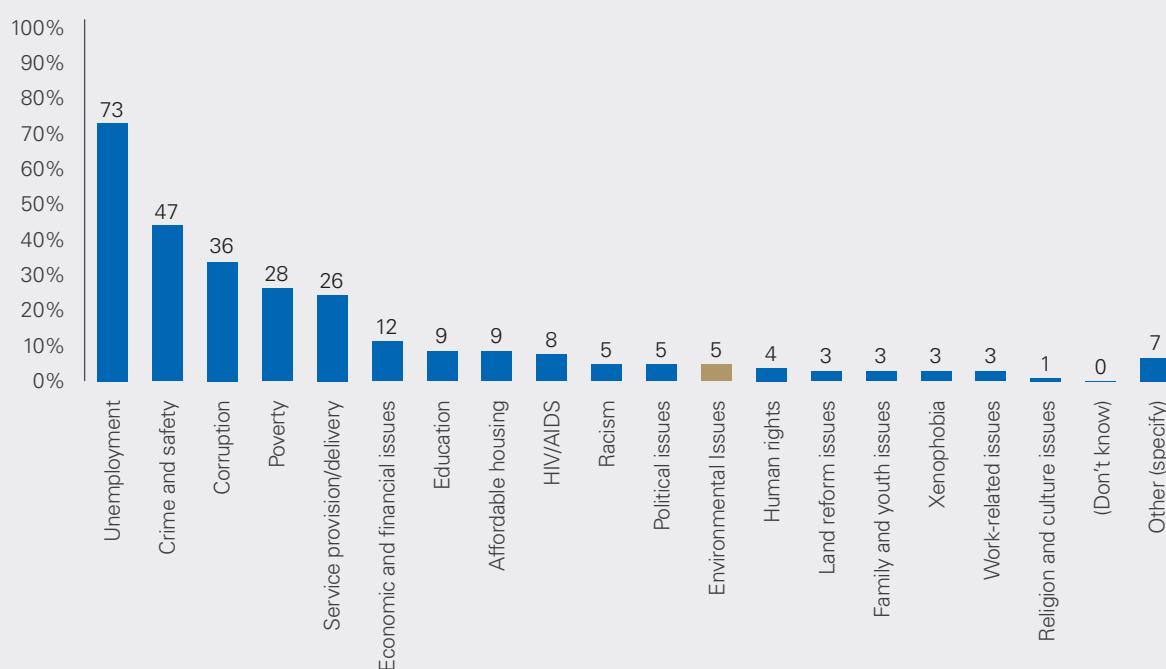
Survey results

Climate change: Environmental issues as a national priority and experience of climatic shocks

Relative importance of climate change among other national challenges

Climate change represents one of the most significant challenges of our time, with far-reaching consequences for the world and its diverse regions. South Africa, like many other nations, is vulnerable to the impacts of climate change. Despite this, and with many parts of the country having experienced the impact of climate change in recent years, nationally representative survey evidence suggests that the South African public tends to place environmental problems and climate change very low on the ranked list of priority issues facing the country. Instead, unemployment, cost of living/inflation, crime and corruption, and service delivery issues tend to be the highest-ranked concerns (HSRC SASAS 2003–2023; Mpako & Govindasamy, 2023; Ipsos, 2024). The PCC survey project was no exception in this regard, with only 5% of adults mentioning environmental issues (including climate change) as a priority issue relative to other pressing concerns (Figure 4). This was based on a survey question where respondents were specifically asked: 'Please tell me what you think are the THREE MOST important challenges facing South Africa today?' and were required to mention up to three open-ended responses.

Figure 4: Relative priority of the environment as a top national challenge (multiple response), 2023



Source: HSRC SASAS (2023)

Individuals play a pivotal role in adopting sustainable practices, such as reducing carbon emissions, embracing renewable energy sources and promoting eco-friendly lifestyles

While economic, safety and service delivery concerns are undoubtedly of critical importance and tend to be given high political priority, climate change is likely to impact these issues further and exacerbate many of South Africa's other existing challenges (Khine & Langkulsen, 2023). Addressing the challenges posed by climate change is therefore crucial and requires a collective shift in attitudes and behaviour. Individuals play a pivotal role in adopting sustainable practices, such as reducing carbon emissions, embracing renewable energy sources and promoting eco-friendly lifestyles. Meaningful climate change mitigation strategies and initiatives will only succeed if they are elevated as a priority concern and given greater priority status among the public and key stakeholders (Bromley-Trujillo & Poe, 2020; Bouman et al., 2020; Roberts et al., 2022). It is therefore crucial to understand the public's attitudes towards climate change given that people are at the centre of decision-making and actions relating to mitigation strategies.

Apart from the advocacy role, it is also important to develop climate change resilient societies. The climate change phenomenon is expected to worsen, and adapting to the inevitable impacts of climate change is critical. This involves fostering knowledge and attitudes towards climate change that enhance preparedness for climate-related disasters. This will in turn lead to more sustainable infrastructure and community collaboration to withstand and recover from extreme events.

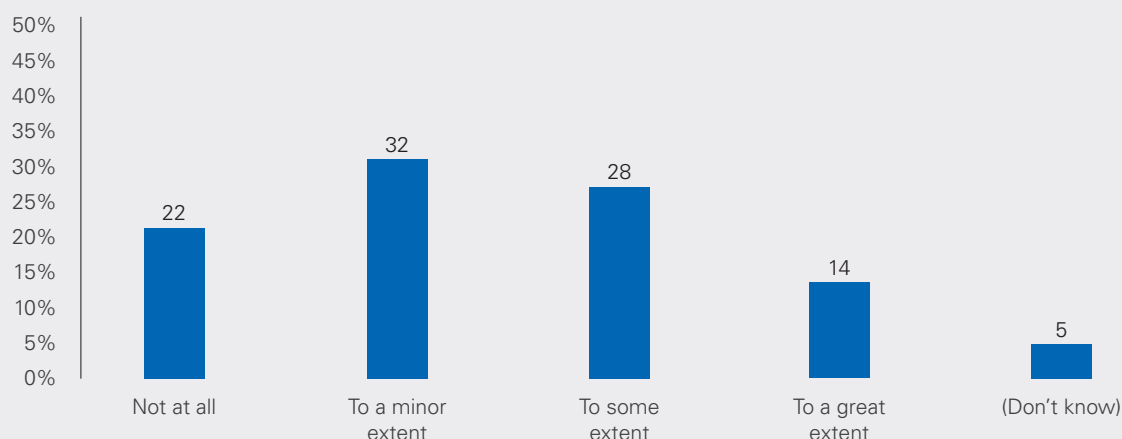
Public attitudes have the ability to influence political will and policy decisions. Active engagement and advocacy for policies that promote environmental sustainability could potentially lead to faster action. This includes supporting regulations aimed at reducing greenhouse gas (GHG) emissions, protecting natural habitats and encouraging sustainable development. Attitudinal change is also closely linked to awareness and education. Promoting environmental literacy can empower individuals to make informed choices and advocate for sustainable practices within their communities.

Exposure to extreme weather events

Climate change has led to a rise in global temperatures and contributed to a myriad of environmental changes, including more frequent and severe weather events, rising sea levels and disruptions to ecosystems. The consequences are being witnessed across the globe, affecting agriculture, water resources, biodiversity and human health. In South Africa, the impact of climate change is increasingly evident. The country faces increased temperatures, changing precipitation patterns and more frequent extreme weather events, such as droughts and floods. These changes pose significant threats to key sectors of the economy, particularly agriculture, which

is crucial for food security. In the conceptual framework presented earlier, it was suggested that exposure to extreme weather events could potentially impact climate change awareness, beliefs and concern, and in turn influence pro-environmental norms. In this section we determine to what extent people have been exposed to impactful extreme weather events.

Figure 5: Impact of extreme weather events on respondents and their family in the last 10 years, 2023 (%)



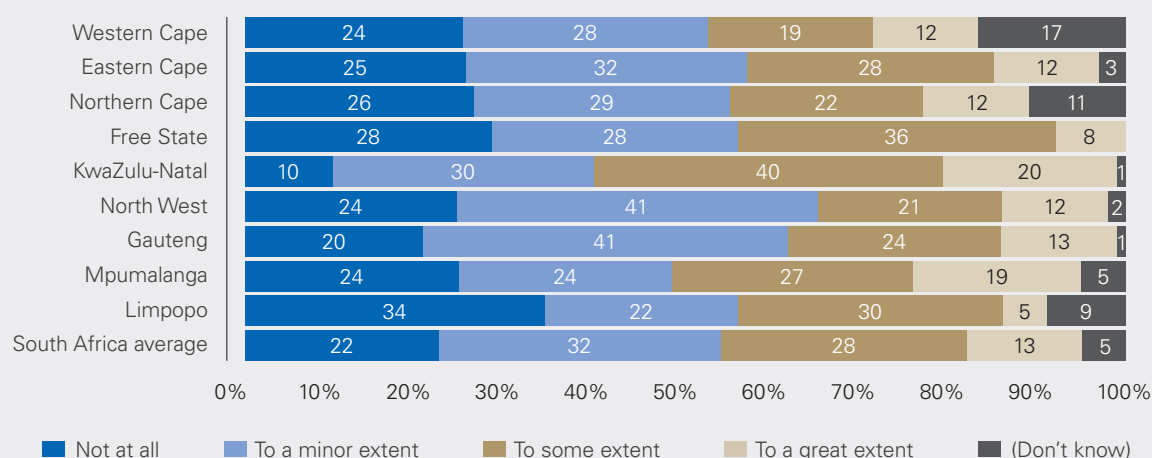
Source: HSRC SASAS (2023)

Figure 5 provides insight into the reported impact of extreme weather events on individuals and their families over the past decade. A significant portion (74%) of respondents experienced some level of impact, varying from being exposed 'to a great extent' (14%), 'to some extent' (28%) and 'to a minor extent' (32%). Just over a fifth (22%) reported having never experienced any form of extreme weather event. Additionally, a small share (5%) indicated uncertainty or a lack of knowledge regarding the impact of such events. It is crucial to consider regional and demographic variations when interpreting these results, as different areas may be more prone to certain types of extreme weather events.

As an example of the kind of spatial variation that can be observed in reported exposure to extreme weather events, Figure 6 presents the provincial differences in exposure. The share responding that such shocks have occurred and have impacted respondents and their households to 'some extent' or 'a great extent' ranged from a low of 31% in the Western Cape and 33% in North West province to a high of 60% in KwaZulu-Natal. The latter could be linked to the devastating floods that impacted the province in 2022.

When undertaking an ordered logistic regression (results not shown), it was found that exposure to extreme weather conditions was positively associated with concern about climate change, climate change awareness and pro-environmental norms. People who had been exposed to such extreme weather conditions were therefore also more aware of climate change, worried more about climate change and wanted to do something about it. All these associations, whether separately tested or together, were significant. This finding will be further outlined in the accompanying in-depth analytical report.

Figure 6: Exposure to extreme weather events, by province, 2023 (%)



Source: HSRC SASAS (2023)

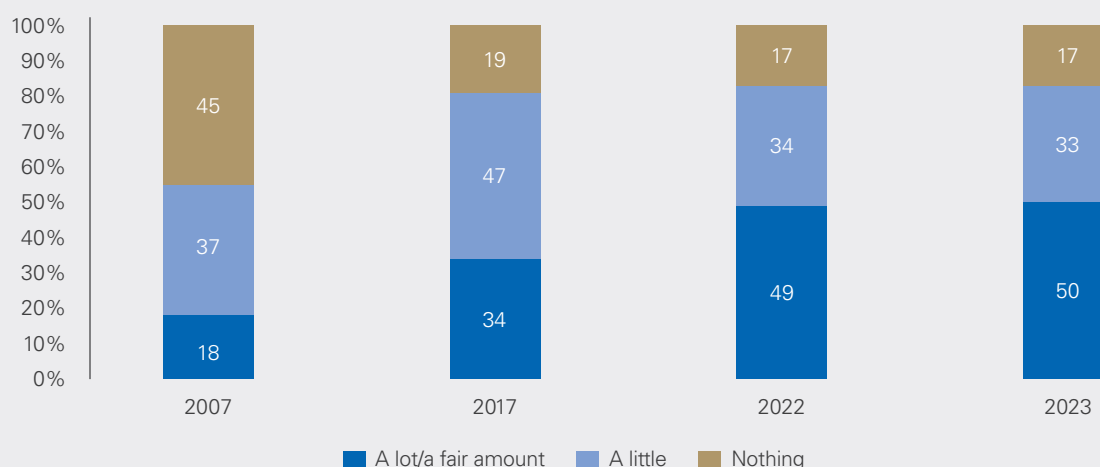
Climate change awareness, scepticism, concern and personal responsibility

Climate change awareness

Overall, determining awareness of climate change is essential for building public support, driving action and promoting effective responses to this global challenge. In this section we determine awareness of climate change and indicate the distribution of self-reported levels of knowledge about climate change among respondents for 2007, 2017, 2022 and 2023.

As is evident from Figure 7, a significant shift in awareness occurred between 2007 and 2017, with the share of people knowing 'a lot' or 'a fair amount' about climate change almost doubling during that period. Conversely, those knowing nothing at all about this subject matter more than halved during the same period (from 45% to 19%). A smaller but significant increase in awareness also occurred between 2017 and 2022 (from 34% to 49%). As could be expected, no radical shifts in awareness were observed between 2022 and 2023.

Considering the most recent results from 2023, it shows that half of South Africans acknowledged having at least a fair amount of awareness of climate change. Of this proportion, a minority (17%) indicated an advanced level of knowledge, while a third (33%) indicated having 'a fair amount' of knowledge. A third of respondents declared possessing 'a little' understanding of climate change, collectively contributing to an accumulated knowledge base of 83%. The rest professed having no knowledge of climate change. These findings reveal a diversified spectrum of knowledge within the sampled population and show some degree of familiarity with climate change, with varying degrees of depth in understanding.

Figure 7: Climate change awareness, 2007–2023 (%)

Note: Respondents were asked: ‘How much, if anything, would you say you know about climate change?’

Source: HSRC SASAS (2007, 2017, 2022, 2023)

Climate change scepticism

The overwhelming scientific consensus is that climate change is primarily caused by human activities. These activities, especially the burning of fossil fuels (such as coal, oil and natural gas) and deforestation, release GHGs into the atmosphere. The most significant of these gases include carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). These gases trap heat in the Earth’s atmosphere, leading to a warming effect commonly referred to as the greenhouse effect. The Intergovernmental Panel on Climate Change (IPCC), a leading international body that assesses climate science, has also concluded that human activities are the dominant cause of the observed warming since the mid-20th century (IPCC, 2023). Other factors, such as natural climate variability, also play a role, but their influence is much smaller compared to human-induced factors.

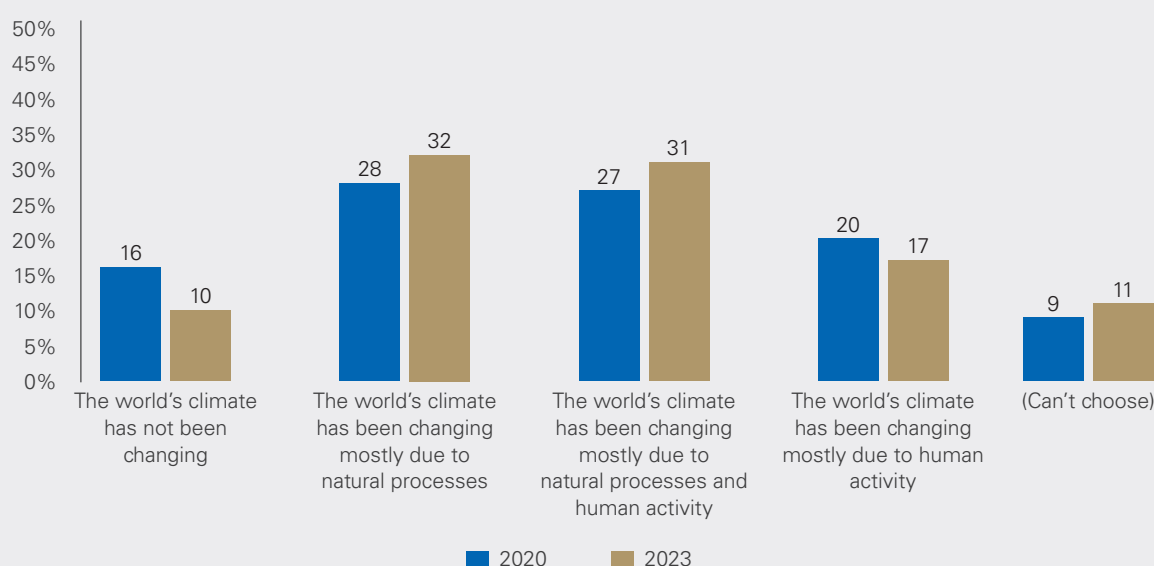
Efforts to address climate change typically involve reducing GHG emissions, transitioning to renewable energy sources, and implementing sustainable practices to mitigate further environmental damage. The recognition of human influence on climate change is a key driver behind international agreements such as the Paris Agreement, where countries commit to taking actions to limit global temperature increases and adapt to the impacts of climate change.

Despite overwhelming scientific consensus that climate change is caused by human activity, or at the very least exacerbated by it, there is a school of thought that denies this and questions the extent of human influence on climate change or the severity of its potential impacts. Although scepticism is a healthy and integral part of scientific inquiry, the term ‘climate change sceptics’ is often associated with those who reject or downplay the scientific consensus that human activities, particularly the burning of fossil fuels, contribute significantly to global warming. This position is not supported by credible scientific

evidence since the overwhelming majority of climate scientists agree that human activities are a major driver of climate change, and that this consensus is supported by extensive research, data and peer-reviewed publications (Yale Climate Connections, 2022).

To determine how common climate scepticism is among South Africans, four statements were presented to respondents, who were asked to indicate which statement best represented their view. As Figure 8 shows, in 2023, climate change scepticism was evident among a tenth of respondents, based on the share who believed that the world's climate has not been changing. This group's views align with those of climate change trend sceptics, who deny any significant alterations in global climate patterns. The largest proportion of responses, accounting for 32% of the public, asserted that climate change is occurring but primarily as a result of natural processes. This viewpoint aligns with some climate change sceptics who attribute observed changes to natural variability rather than human-induced factors. This implies that, in 2023, a large cluster of South Africans (42% – a figure that increases further if 'don't know' responses are omitted) either denied the reality of climate change or ascribed it to natural causes, thus making it beyond the control of human actions.

Figure 8: Climate scepticism 2020 and 2023 (%)



Source: HSRC SASAS 2020, 2023

Another substantial segment (31%) believed that climate change is a combination of natural and human influences. This perspective may resonate with individuals who acknowledge some impact from human activities but remain sceptical about the true extent of the human contribution. Less than a fifth (17%) attributed climate change primarily to human activity. This group is less sceptical and more aligned with the mainstream scientific consensus, acknowledging the role of human actions in driving climate change. About 11% of respondents expressed indecision or uncertainty about the causes of climate change.

The varying attributions to natural processes, human activity or a combination of both suggest that scepticism exists and is the dominant narrative, reflecting a concerning tendency among the South African public. Interestingly, those who indicated they know a lot about climate change were not more

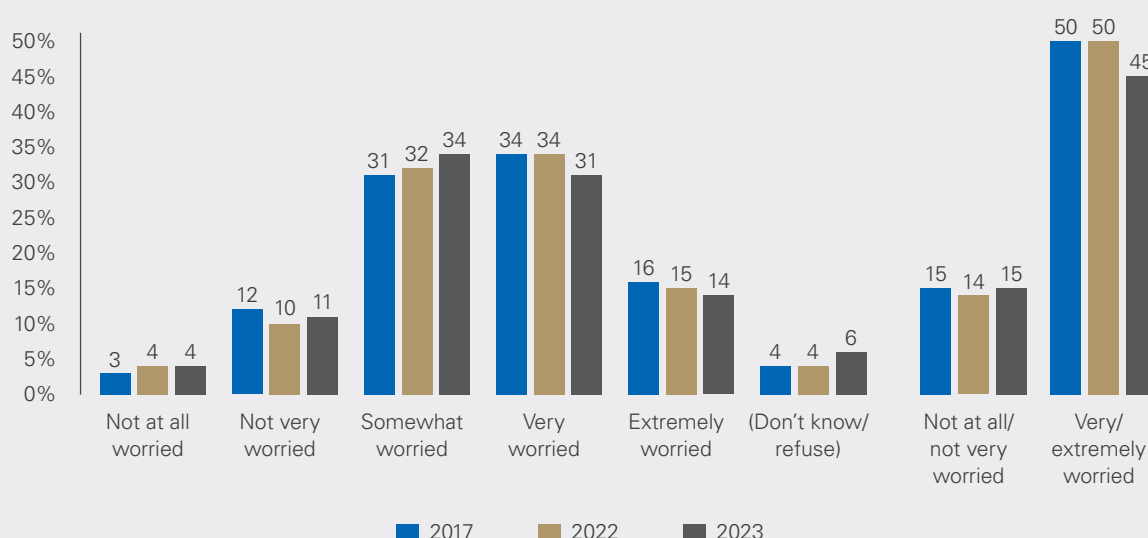
likely to ascribe climate change to human activity than those who said they know 'a fair amount' or 'a little'. Knowledge of climate change did, however, play a critical role in acknowledging that the world's climate is changing, with people exhibiting no knowledge of climate change being statistically much more likely to state that the world's climate has not been changing. Knowledge of climate change therefore plays a critical role in acknowledging the phenomenon but does not necessarily imply that the human contribution to climate change is recognised as the predominant cause.

Compared to the 2020 results, the 2023 results reveal that there has been a slight shift in views in the past three years. In this period, the proportion that believed the world's climate has not been changing displayed a statistically significant decrease, from 16% to 10%. There was a marginal, statistically significant increase in the proportion that believed climate change was mostly due to natural processes (from 28% to 32%) or due to an equal mix of natural processes and human activity (from 27% to 31%). Somewhat concerning is the finding that fewer people in 2023 than in 2020 attributed climate change mainly to human activity (a decline from 20% to 17%). Although these changes in attribution are small, one would have expected there to be an increase over time in the proportion attributing climate change mostly to human activity rather than to natural processes.

Concern about climate change

The survey provided valuable insights into the varied levels of concern among South Africans regarding climate change, ranging from minimal worry to extreme apprehension. This question was fielded in 2017, 2022 and 2023, we are thus possible to track changes in concern over this period. As is evident from the aggregated totals in Figure 9, 45% were 'extremely' or 'very' worried about climate change in 2023. Interestingly, this figure declined by 5% between 2022 and 2023, which seems somewhat counterintuitive given the experiences of more extreme weather patterns in South Africa in the last five years. Approximately 14% of respondents expressed an extreme level of concern about climate change. A fair share of South Africans expressed modest concern (were 'somewhat worried') about climate change.

Figure 9: Climate concern (excluding trend sceptics), 2017, 2022 and 2023 (%)



Source: HSRC SASAS 2017, 2022, 2023

Conversely, it was found that low percentages of South Africans stated they are 'not at all' concerned or 'not very' concerned (15%), indicating a segment of the population that is not worried about the issue. A minority (6%) expressed uncertainty. These results indicate that the majority of South Africans who are aware of climate change are concerned.

Personal responsibility to protect the environment

Having established the pattern of climate concern in the country, it was important to determine to what extent South Africans felt some obligation to do something about climate change. Respondents were asked to indicate the extent to which they feel a personal responsibility to try and protect the environment. Responses were captured using a 0-10 scale, with 0 representing little to no sense of personal responsibility for environmental protection, and 10 indicating a strong sense of personal responsibility. The average score for South Africa using this scale was 6.23 suggesting, that, in general, respondents felt a moderate to strong sense of personal responsibility for environmental protection. Examining the results by socioeconomic status showed that individuals in wealthier households tended to have a higher sense of personal responsibility than those in poorer households. In accordance with the conceptual model guiding the research, those with higher levels of climate concern were more likely to report a greater sense of personal responsibility to try and protect the environment. For instance, the average personal responsibility score for those that were extremely worried about climate change was 7.15 out of 10, compared to a substantially lower score of 4.53 for those who reported being not worried at all about climate change.

Just Transition awareness and beliefs

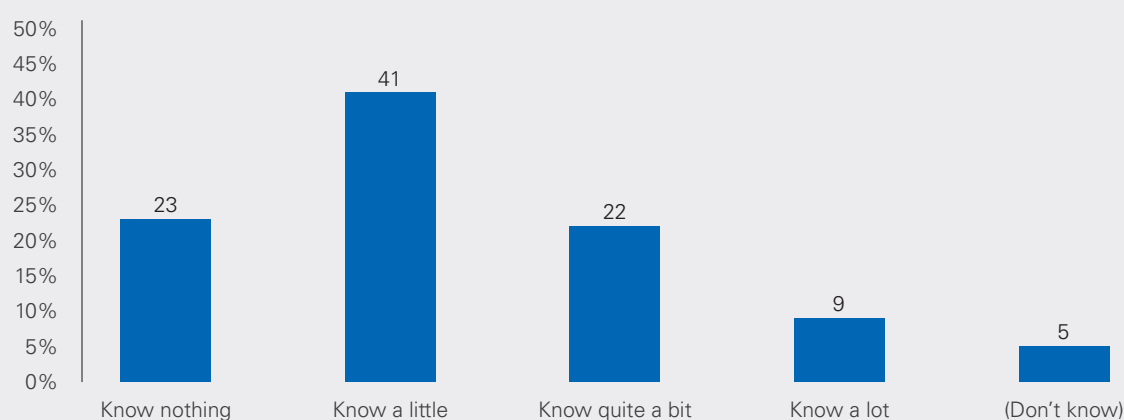
Awareness of energy transition/Just Transition

The second section of the survey module focused more specifically on perceptions toward Just Transition, especially the Just Energy Transition. According to the Presidential Climate Commission, people must be at the heart of the climate change response and the notion of the Just Transition entails 'seizing the opportunities and managing the risks associated with climate change, with an overarching goal of improving the lives and livelihoods of ALL South Africans, particularly those most impacted' (PCC, 2022:3). More specifically, the PCC states further that the Just Energy Transition 'focuses on the transition of South Africa's energy sector as the country navigates the shift away from coal towards cleaner sources of energy,' and that achieving this will require 'ensuring that the lives and communities that are tied to high-emitting energy industries (e.g., coal) are not left behind in the shift towards a low emissions economy.' The Commission places a strong emphasis on the fact that the energy transition must be 'fair and perceived to be fair', and that it can stimulate the creation of new and better employment opportunities, while advancing national development priorities such as poverty reduction and social justice.

In anticipation of the possibility of low awareness of the term 'Just Transition' or 'Just Energy Transition', respondents were introduced to the concept more generally as 'moving away from coal to other renewable energy sources'. The specific introductory statement was the following: 'Most of South Africa's electricity currently comes from coal. There are now actions being taken to change from coal power to other sources of energy (like solar and wind)'. The first question posed to respondents was whether they had heard or read about any of these efforts. As Figure 10 shows, the most common response provided by the public (41%) was that they had read or heard 'a little' about this,

while a further 31% responded that they knew ‘quite a bit’ or ‘a lot’ about this subject. At the time of surveying, almost three quarters of South Africans had therefore heard or read something about the energy transition. It is however concerning that almost a quarter (23%) had never heard of the transition, with another 5% providing ‘don’t know’ responses. These findings highlight the spectrum of familiarity with the energy transition within the surveyed population, ranging from complete unawareness to substantial exposure. These findings, together with the pattern of higher and lower awareness across social and demographic subgroups, are invaluable for designing targeted educational campaigns and policy interventions aimed at enhancing understanding and engagement with energy transition initiatives.

Figure 10: Awareness of transition to other energy sources, 2023 (%)



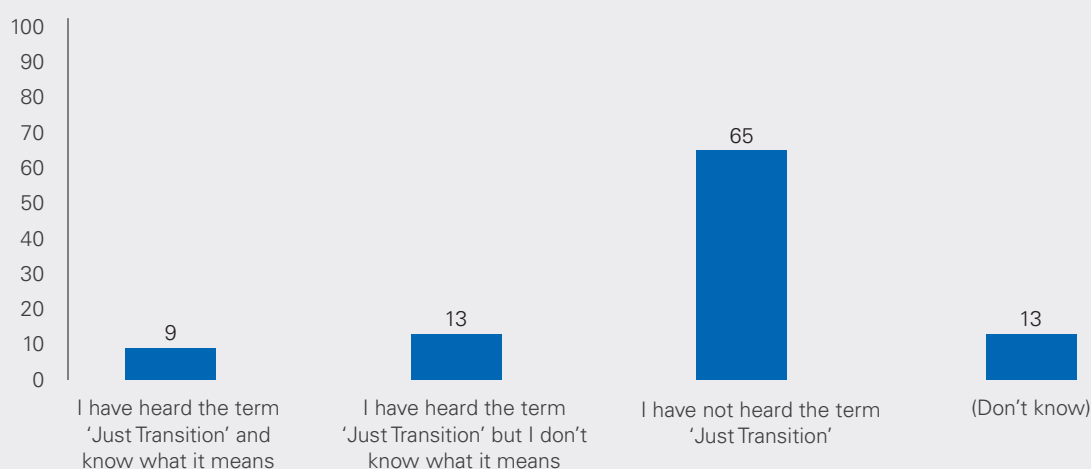
Source: HSRC SASAS 2023

In order to test the assumption that not many South Africans know the term ‘Just Transition’, the specific term was read out to the respondents, and they were then asked to indicate how familiar they were with it. In line with the study’s assumption, the results presented in Figure 11 confirm that a significant portion of South Africans (65%) had never heard of the term, a tenth (13%) had heard of the term but did not understand what it meant, while 13% stated that they did not know how to respond. This essentially points to a broad-based lack of understanding of the technical term. Barely a tenth (9%) indicated that they understood ‘a lot’ about the term. This therefore reveals that although there is general awareness of the concept of the energy transition in South Africa, there is very little understanding of the specific term ‘Just Transition’.

A logistic regression was undertaken between awareness of the energy transition (using the broader definition) and select socio-demographic variables (age, race, gender, education, socio-economic status, province and type of geographic location). The results of this analysis (not shown) revealed that an increase in education was positively associated with an increase in knowledge of the transition. An increase in the severity of the experience of climatic shocks also led to an increase in knowledge of the transition. Education was found to be positively correlated with knowledge of the energy transition, implying that an increase in education led to an increase in awareness of the Just Transition.

Residents from Limpopo, North West, KwaZulu-Natal, Northern Cape and Eastern Cape were less knowledgeable about the Just Transition than residents from the Western Cape. People residing in urban informal areas as well as rural areas were also less likely to be knowledgeable about the Just Transition than people residing in metropolitan areas. The regression results confirmed that the association between awareness of the Just Transition and awareness of climate change, concern about climate change and pro-environmental norms was significant and positive, implying that an increase in awareness of climate change, concern about climate change and pro-environmental actions all contributed to a greater awareness of the energy transition.

Figure 11: Knowledge of the term 'Just Transition' (%)



Source: HSRC SASAS 2023

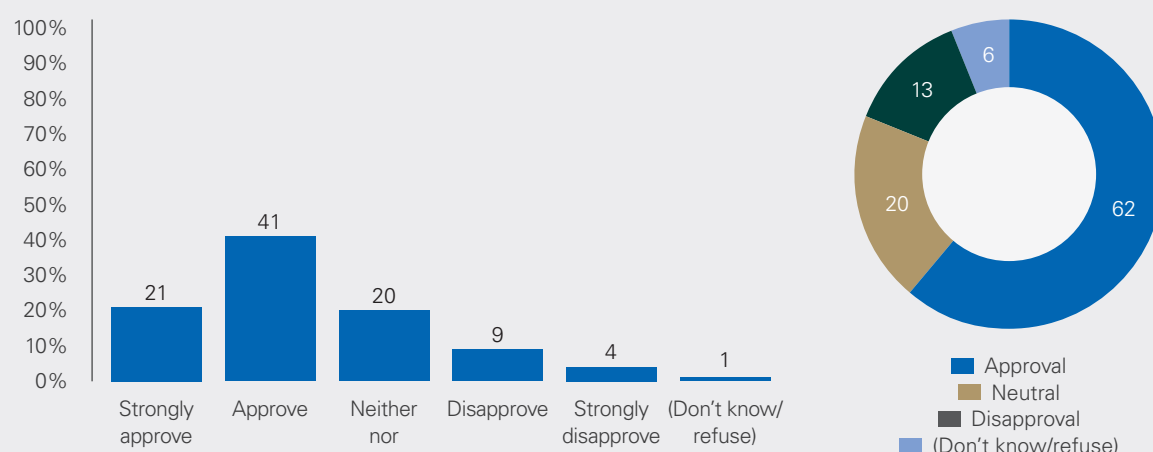
Testing the conceptual model by using a regression model and inputting both socio-demographic and other variables relevant to the model into the analysis and thus determining the relevant strength of the variables put together, revealed insightful findings. Pro-environmental norms, concern about climate change and knowledge about climate change were all positively associated with knowledge of the Just Transition, implying that higher levels of concern and knowledge about climate change as well as pro-environmental norms increased the knowledge of the Just Transition. People who believed that the climate is changing mostly due to human activity were also much more likely to have an increased knowledge of the Just Transition than people who were climate sceptics.

Among the biographical variables, a negative association between knowledge and age was found, implying that younger individuals tended to have slightly higher levels of knowledge. White adults also tended to have higher knowledge than black African adults. Individuals with more years of education tended to have higher levels of Just Transition knowledge. Western Cape residents exhibited statistically higher levels of knowledge than those residing in any other province. Knowledge of the Just Transition was statistically lower in rural areas than in metropolitan areas. Experience of climate shocks did not have a statistically significant effect on knowledge levels. Similarly, gender, socio-economic status (asset index) also had no significant bearing on knowledge of the transition.

Approval of Just Transition actions

Responses to a general question on approval of actions being taken to transition from coal to other energy sources shows that a significant portion, constituting 21% of respondents, strongly approved of the actions being taken to shift from coal to alternative energy sources (Figure 12). Furthermore, a substantial majority, 41%, expressed moderate approval, further indicating widespread support for the efforts to transition to alternative energy sources. Therefore, more than three fifths (62%) support the shift, which may reflect a recognition of the potential environmental sustainability benefits associated with such transitions. A smaller percentage, 9%, expressed disapproval of the actions taken to transition from coal, while 4% strongly disapproved of the actions. This could stem from concerns about economic impacts, job losses, or other factors associated with the shift away from coal-dependent industries. A notable 20% neither approved nor disapproved, suggesting a segment of the population adopted a more neutral stance on the matter.

Figure 12: Approval of actions being taken to change from coal to other energy sources, 2023 (%)



Source: HSRC SASAS 2023

The combined percentage of those strongly approving and approving (62%) indicates broad support for the actions taken to shift the country from coal to alternative energy sources. The percentages expressing disapproval and strong disapproval (13%) highlight that there is a small segment of the population expressing reservations or opposition to the current actions. Understanding the specific concerns of this latter group could be important for policymakers. The 20% with a neutral stance could benefit from education and communication efforts that underscore the reasons for transitioning away from coal.

Provincially, residents of Gauteng showed the highest approval for the transition compared to those from other provinces (Figure 13). Free State residents were more supportive of these actions than those in Limpopo and the Western Cape. Similarly, residents of Mpumalanga, North West and KwaZulu-Natal were more likely to favour these actions than those in Limpopo, the Western Cape and the Eastern Cape.

A logistic regression of approval of the transition was undertaken, with select socio-demographic variables (age, race, gender, education, socio-economic status, province, geographic residence and experience of climatic shocks) included as predictor variables. The results revealed that approval of the Just Transition declines as age increases. People with a higher asset index (thus a higher socio-economic status) were also more likely to support the Just Transition than those with a lower socio-economic

status. Compared to those living in the Western Cape, residents from Gauteng were more likely to approve of the Just Transition actions, while those residing in Limpopo province and the Eastern Cape were less likely to approve Just Transition actions. Residents of urban towns were more likely than people from metropolitan areas to approve of Just Transition actions.

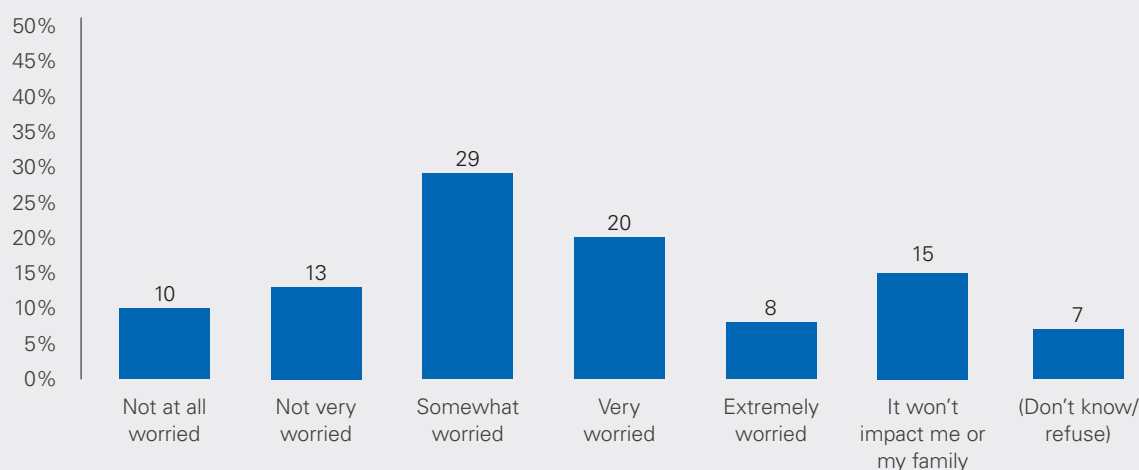
Overall concern about the impact of the Just Transition

General worry about personal impacts

To gauge concern about possible negative impacts of the energy transition on individuals and their families, respondents were initially asked the following broad question: 'How worried are you that you and your family will be negatively affected by the change from coal to other energy sources (like solar and wind)?' From Figure 14, it is evident that only a relatively small share of the public (10%) was not worried at all about being negatively affected by the energy transition. This implies that only a relatively marginal segment of society felt secure in terms of these changes at the time of surveying. A slightly larger group, 13%, expressed low levels of concern, demonstrating a sense of confidence or minimal anticipated impact on themselves and their families. The largest percentage, 29%, opted for the category of 'somewhat worried'. This suggests that a significant portion of respondents acknowledge that there might be negative consequences, but do not appear to perceive the potential impact as severe.

A notable 20% reported a high level of worry about the potential personal negative effects of the energy transition. A smaller but significant 8% expressed extreme worry. A substantial portion, 15%, believed that the energy transition would not impact them or their families at all.

Figure 13: Worry about the impact of the energy transition personally and on family, 2023 (%)



Source: SASAS 2023

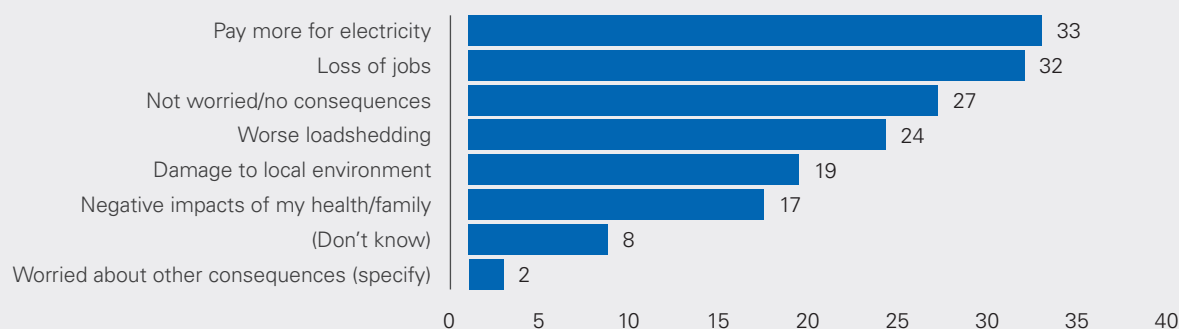
The responses reveal a diverse range of perceptions regarding the potential negative effects of the energy transition, with varying degrees of worry among respondents. More than half (57%) were either 'somewhat', 'very' or 'extremely' worried about this issue. Localised community engagement and education efforts could be beneficial in addressing concerns and ensuring that the public is well informed about the goals and benefits of the energy transition.

We conducted a logistic regression of the influence of select socio-demographic variables (age, race, gender, education, socio-economic status, province, geographic residence and experience of climatic shocks) on the perceived personal impact of the Just Transition. The analysis revealed that an increase in the level of personal impact of climate shocks in the decade prior to surveying was associated with an increase in concern about personal negative impacts of the Just Transition. This counter-intuitive findings will be explored further in the in-depth report that accompanies this summary of findings. Residents of North West province were more likely to be worried about the impact than those living in the Western Cape. People residing in urban towns and informal areas were less likely to be concerned with the Just Transition's impact on families and personal lives than those in formal urban areas in metropolitan municipalities.

Specific personal concerns relating to the Just Transition

Survey respondents were given a list of potential impacts and asked whether they were concerned that any of these might affect them and their families due to the change from coal power to other forms of energy. This was administered in the form of a multiple response question, so respondents could select one or more of the listed options. The pattern of responses is presented in Figure 15, ranked in descending order from the most to the least mentioned option. The concern that was most frequently mentioned (by a third of all respondents) was the possibility of higher electricity costs, indicating a fear of being exposed to higher energy prices. A similar share (32%) was concerned about the possibility of job losses. These concerns are legitimate, and policies need to be considered that would help mitigate increases in electricity prices and support economic stability.

Figure 14: Perceived negative elements of the Just Transition, 2023 (multiple response table, % that mentioned each option)



Source: HSRC SASAS 2023

A substantive proportion (24%) indicated that they were worried about the reliability and availability of electricity supply during the transition. This finding highlights the need for ensuring a smooth transition to more sustainable energy sources without compromising energy security and points to the impact that the experience of loadshedding has had on public confidence in the reliability of supply. A fifth of South Africans (20%) were specifically concerned about the potential harm to the local environment. This was somewhat surprising given that the primary reason for the global energy transition is due to environmental concerns. Worries about negative health impacts were expressed by 17% of the public. This underscores the importance of prioritising public health considerations and implementing measures to safeguard community well-being. Environmental and health worries may also highlight a lack of

understanding of the transition and its projected impacts, given that a move away from coal is generally seen as benefitting public health and the environment.

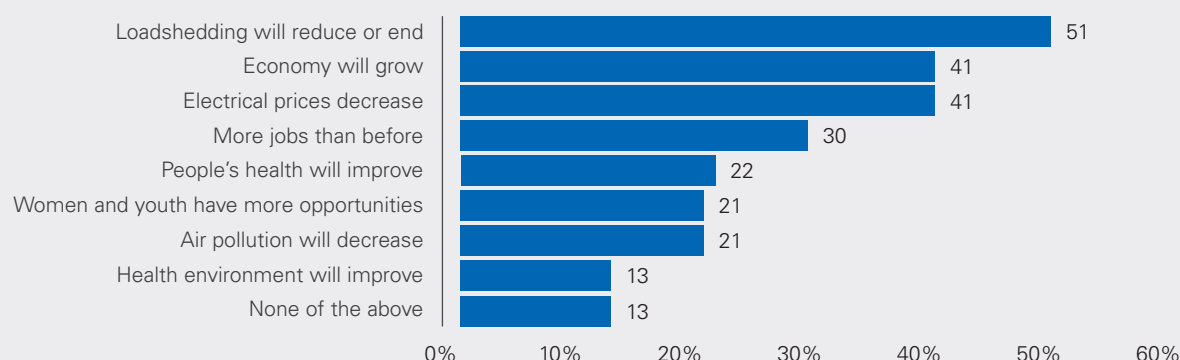
Approximately a quarter (27%) of the public not express concern about any potential personal consequences of the transition. This could either indicate confidence in the transition process or a lack of awareness about potential impacts. A further tenth (8%) indicated uncertainty or lack of knowledge about potential consequences of the transition. This group could benefit from transparent communication and accessible information, ensuring that people are well informed and engaged in the transition process. A minority of respondents (2%) expressed concerns about other consequences of the transition.

Overall, these responses reflect a range of concerns and priorities among stakeholders regarding the transition to a more sustainable energy system. Addressing these concerns requires a comprehensive approach that balances economic, social and environmental considerations while ensuring equity, resilience and inclusivity throughout the transition process. Education and outreach efforts indicating how all these issues will be dealt with will be critical in engaging the public and addressing any possible misconceptions.

Specific perceived benefits

As a counterpoint to the above question, South Africans were also asked which positive impacts the Just Transition could potentially have on the country. This was again structured in the form of a multiple response question, and the responses are presented in Figure 16 in descending order. The most mentioned benefit, referred to by just over half of the public, was that loadshedding would reduce or end. This benefit stands out as the most significant, indicating a substantial envisaged improvement in the reliability of electricity supply. Two fifths (41%) of respondents expected it to have a positive impact on the economy, while a similar proportion felt that electricity prices might decrease as a result of the transition.

Figure 15: Perceived positive elements of the Just Transition, 2023 (multiple response table, % that mentioned each option)



Source: HSRC SASAS 2023

To better understand the concerns and benefits expressed by the South African public, factor analysis was performed combining the perceived concerns and benefits of the Just Transition. Factor analysis is valuable in creating profiles of certain subgroups in society. It thus provides a basis for understanding how variables cluster together, which leads to meaningful categorisation or segmentation of individuals based on shared characteristics, behaviour, or attitudes. Factor scores for each respondent were saved as a variable, which

created clusters for analysis. In the in-depth report, these clusters will be analysed in further detail. As can be seen from the results of the factor analysis (Table 3), four factors or groups emerged when considering the concerns and benefits among the public.

The first group that emerged was characterised by a relatively lower level of concern about several key issues. This group was less worried about potential job losses (factor loading of -0.622), loadshedding (-0.492), higher electricity costs (-0.541), and the impacts on health (-0.415) and the environment (-0.421) arising from the Just Transition (see Glossary for an explanation of factor loading). These individuals generally tend not to worry, as indicated by the positive loading on 'there will be no negative impact' (0.852), suggesting they are characteristically dismissive of potential personal negative consequences. This group was termed the 'unconcerned cluster' and comprised 15% of the South African adult population. Some prominent characteristics associated with this group is that they generally exhibit lower knowledge of climate change and the Just Transition. They exhibit low pro-environmental norms and have lower levels of concern about climate change. This group generally disapprove of actions being taken to change from coal to other energy sources. They have lower levels of education and are found in rural areas and on farms, with a large proportion residing in the Western Cape.

Table 3: Factor analysis combining benefits and concerns with characteristics associated with each factor (2023)

Variable	Unconcerned cluster (15%)	Energy optimists (39%)	Environment and health optimists (14%)	Economic optimists (32%)
Jobs will increase				(+)
Economy will grow				(+)
More opportunities for women/youth				(+)
Loadshedding will decrease		(+)		
Energy prices will decrease		(+)		
People's health will improve			(+)	
Air pollution will decrease			(+)	
Environment will improve			(+)	
No benefits		(-)		
Worry about job loss and income	(-)			
Worry about more loadshedding	(-)			
Worry about paying more for electricity	(-)			
Worry about impact on health	(-)			
Worry about the environment	(-)			
Worry about other impact	(-)		(+)	
There will be no negative impact	(+)			
Don't know about negative impact		(-)		

Notes: Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.

Shaded cells denote highest correlation and signs (+) (-) indicate whether the association is a positive or negative one.

Source: HSRC SASAS 2023

A second group that emerged from the analysis, comprising 39% of the adult population, was termed the 'energy optimists'. This group believed that the Just Transition would be beneficial mainly due to the benefits that it would yield in terms of reducing load shedding (0.702) and decreasing electricity prices (0.620). This group was less likely to believe there would be no benefits emanating from the transition (−0.675) or have no knowledge of the potential negative impacts of the Just Transition (−0.596). The energy optimist group tended to have greater levels of knowledge about climate change and the Just Transition than the unconcerned group and also expressed greater concern about climate change. Those falling within this group were also more inclined to acknowledge that they have experienced climatic shocks that personally affected them and their families. A large contingent of this group tended to reside around big cities and a large proportion resided near or in metropolitan areas in Gauteng.

Finally, the fourth identified group regarded the benefits of the Just Transition mainly as being in relation to job creation, economic growth, and expanded opportunities for the vulnerable. This group was referred to as 'economic optimists' and comprised 32% of the public. Respondents overwhelmingly expressed optimism towards economic growth and job opportunities. Statements such as 'Jobs will increase' (loading of 0.679), 'Economy will grow' (loading of 0.507), and 'More opportunities for women and youth' (loading of 0.588) were strongly associated with belonging to this cluster. This indicates a collective belief in positive economic developments among the respondents. This group has middling levels of knowledge about climate change and the Just Transition as well as worry concerning climate change. This group tends to agree that actions should be taken to transition from coal to other sources. There is also a positive association with pro-environmental norms. This group tends to reside in smaller cities or villages.

A fourth group saw the benefits mainly in relation to job creation, economy and opportunity to the vulnerable. This group was coined the community optimists and comprised 32%. Respondents overwhelmingly expressed optimism towards economic growth and job opportunities. Statements such as 'jobs will increase' (loading of 0.679), 'economy will grow' (0.507) and 'more opportunities for women and youth' (0.588) were strongly associated with a positive component. This indicates a collective belief in positive economic developments among the respondents. This group has middling levels of knowledge about climate change and the Just Transition as well as worries concerning climate change. The group tends to agree that actions should be taken to change from coal to other sources. There is also a positive association with pro-environmental norms. This group tends to reside in smaller cities or villages.

Just Transition policy preferences

Support for specific policy measures to mitigate possible negative effects emanating from the Just Transition

South Africans were presented with six policy options that could be enacted to help mitigate potential negative impacts from the transition (Table 4). They had to indicate to what extent they agreed or disagreed with each policy option using a standard 5-point agreement scale. In response to the dynamic challenges facing the South African workforce, a comprehensive set of policies has been proposed, aiming to address the multifaceted issues surrounding unemployment, skills development and social support. The data reflects public sentiment on these proposed policies, categorised into levels of agreement, neutrality and disagreement. (Table 4).

The policy option that received the highest level of support was improving education to facilitate the entry of individuals into new sectors. Almost four-fifths (79%) supported this policy, reflecting an understanding of the role of education in preparing the workforce for emerging industries and the need

for continuous investment in educational infrastructure. A notable 77% of respondents supported initiatives targeted at assisting women, youth and vulnerable groups to find employment. This indicated a commitment to targeted interventions to ensure inclusive economic participation. Similarly, there was strong support, also at 77%, for policies aimed at supporting local businesses and creating job opportunities in areas affected by economic challenges. The majority of respondents expressed agreement with the idea of implementing training and skills programmes for workers who lose their jobs, with a substantial 75% in favour.

Short-term financial assistance for individuals struggling to secure new employment immediately after job loss as well as a Basic Income Grant (BIG), intended for all South Africans, (BIG) received a solid 70% approval. This suggests an understanding of the transitional challenges workers may face and the need for a safety net that would provide financial safety to all South Africans. Interestingly, policies that were based on education and opportunities for employment and personal advancement were supported more than short-term solutions or social grants. While the majority of respondents expressed agreement with the proposed policies, a notable proportion remained neutral or in disagreement, ranging between 19% and 28% across the six policy measures. It is critical to understand which segment of the population tended to oppose or feel ambivalent about these different policies, and this task will be undertaken in the accompanying in-depth report.

Table 4: Preference for policy options to mitigate negative impacts of Just Transition, 2023
(% and mean scores)

Policy option						
	Improve education to help people find jobs in new sectors	Help women, youth and vulnerable groups find jobs	Support local businesses and create job opportunities in affected areas	Training and skills programmes for workers who lose jobs	Short-term financial help to workers who lose jobs and can't find new ones right away	Create a Basic Income Grant that all South Africans would receive
Agree	79	77	77	75	70	70
Neutral	13	15	14	18	19	16
Disagree	6	5	6	4	8	12
(Don't know/refuse)	2	3	3	3	3	2
Total	100	100	100	100	100	100
Mean score (1–5 scale)	4.035	4.023	4.024	3.986	3.850	3.846

Note: Mean scores are based on a reversed agreement scale, where 1=strong disagreement and 5=strong agreement. 'Don't know' and 'refusal' responses were omitted.

Source: HSRC SASAS 2023

When undertaking correlation analysis between these policy support variables, it was apparent that these six items were at the very least moderately correlated (a correlation coefficient of between 0.37 and 0.58). Testing showed that they would work well together to produce a reliable index (Cronbach α coefficient=0.84). The items were therefore combined to create an index which included all these policy preferences, and the scale was then transformed into a 0–100 score, where 0 referred to strong policy

opposition and 100 strong policy support. This was done to determine which attitudes and socio-demographic characteristics aligned with an increase in agreement with these policy preferences.

Using a linear regression model, it was found that that knowledge of climate change, pro-environmental norms, knowledge of the Just Transition, and approval of the Just Transition all contributed to an increase in the approval of these policies (using the policy index as the dependent variable). Somewhat surprisingly, concern about the potential personal implications of the Just Transition was negatively associated with increased support for these policy preferences. It is difficult to identify the reasons for this at this stage, but this may include elements such as: misinformation and lack of understanding about the long-term benefits of the Just Transition; a resistance to change due to a concern that the policies may produce unintended consequences; socio-cultural factors that shape a strong attachment to traditional energy sources such as coal over renewable sources; and even questions of trust in government and institutions to manage the transition effectively. The regression analysis also found that people with lower educational levels tended to support these policies more than people with higher education levels. In contrast, people who scored high on the asset index were more inclined to endorse these policy options. In addition, residents from KwaZulu-Natal, North West, Gauteng, Mpumalanga and Limpopo were all more in favour of these policies than people residing in the Western Cape. Rural residents were also more supportive of these policies than metropolitan residents.

In Figure 17, the responses to an additional policy question regarding climate finance are presented. Specifically, the item examined opinions on whether South Africa should accept international financial assistance for the Just Transition and whether the government should manage such funds. Diverse perspectives within the surveyed population again come to the fore: a significant portion, 30%, supported the idea that South Africa should accept financial help, and that the government should be responsible for managing those funds. This perspective likely reflects a belief in the government's role in overseeing and allocating resources. A slightly larger group, 34%, believed that South Africa should accept financial assistance but preferred that the government should not directly manage the funds. This perspective is likely linked to distrust in government, hence the notion that alternative methods of fund management should be sought.

Figure 16: Climate finance – Which of the following statements comes closest to your opinion?, 2023 (%)



Source: HSRC SASAS 2023

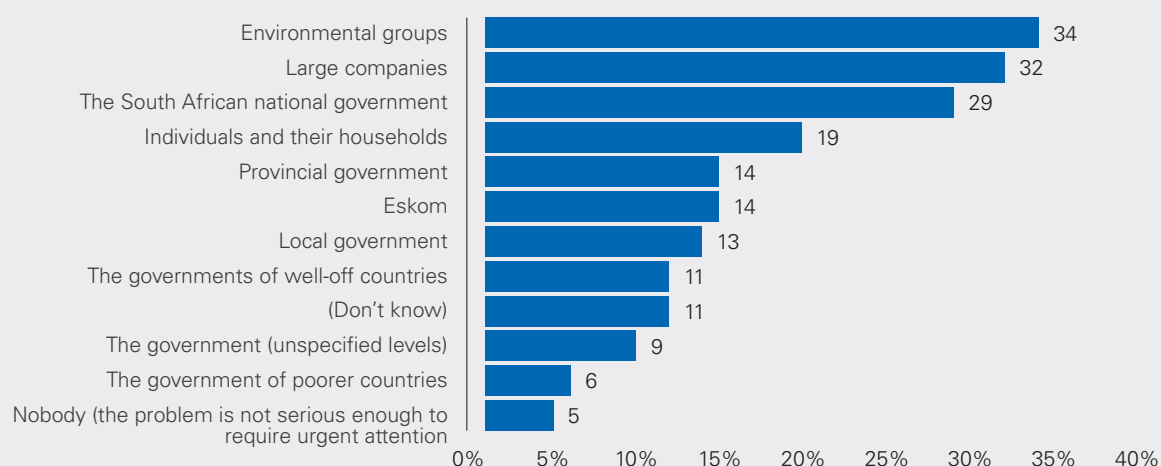
A notable share (14%), was of the opinion that South Africa should not accept financial help at all. This perspective may stem from concerns about the conditions attached to external assistance or a belief in self-sufficiency. A significant portion (17%) did not have a clear opinion on the matter, indicating a level of uncertainty. A smaller percentage (5%) responded with 'Don't know', suggesting a level of uncertainty or lack of knowledge about the best course of action.

Responsibility for addressing the climate crisis?

South Africans were given a list of entities and they had to indicate who they thought should bear the most responsibility for preventing climate change from getting worse. They were informed that they could select up to three options. As reflected in Figure 18, environmental groups received the most support as the entity that South Africans believed should be most responsible for addressing climate change. A considerable 34% saw environmental groups as having a crucial role, potentially reflecting a belief in the influence of advocacy and activism in addressing climate issues (Figure 17). The second highest option, supported by 32%, was that large companies should bear most responsibility. A significant proportion (29%) perceived national government as primarily responsible, which may indicate a strong expectation for comprehensive national-level action.

A fifth (19%) placed responsibility on individuals and their households, highlighting the belief in personal accountability for addressing climate change. Just over a tenth (14%) felt that provincial government should be most responsible for addressing climate change, recognising the significance of regional efforts. A similar share attributed responsibility to Eskom, the national electricity supplier, indicating a recognition of the role of energy producers in addressing climate change. Local government was nominated by 13%. A tenth (11%) felt that it should be the responsibility of well-off countries, perhaps signifying the global nature of the issue. A fraction of respondents (6%) believed that the responsibility lies with the governments of economically less affluent nations.

Figure 17: Entities most responsible for addressing the climate crisis (% that mentioned each option)



Source: HSRC SASAS 2023

A notable portion (9%) attributed the responsibility to governments generally, without specifying a level. Taken together, the role of government, whether national, provincial, local or unspecified, was mentioned

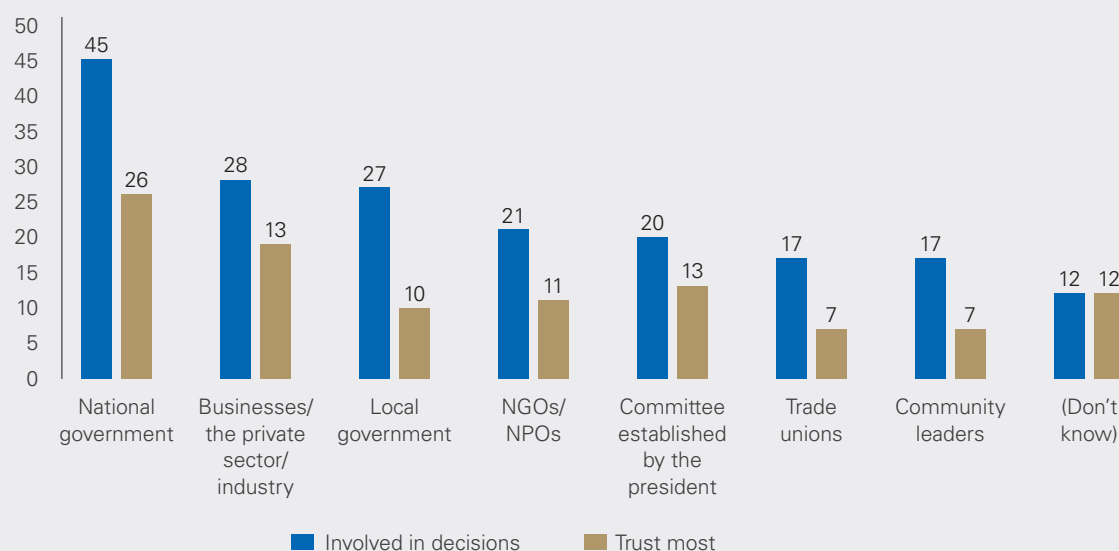
by 52% of the public, an indication that slightly over half of South Africans believe that some form of government should be involved in addressing climate change. A small percentage of respondents (5%) indicated that the problem is not severe enough to warrant immediate attention.

Who should be involved in managing the just energy transition?

When asked who should be involved in decisions relating to the transition from coal to other energy sources, a diverse array of entities was selected, ranging from local community leaders to the national government. Respondents were informed that they could select any entities that they felt were relevant. As is evident from Figure 18, almost half (45%) of South Africans wanted national government to be involved in the management of the transition. This reflects a recognition that centralised governance should navigate and coordinate the shift from coal to alternative energy sources.

Almost a third of South Africans (28%) wanted businesses and the private sector to have a stake in managing the transition. Local government involvement was the third most popular choice, with just over a quarter (27%) supporting their involvement in the transition. The trust placed in both national and local government emphasises that people tend to believe that different government spheres should be involved in the transition. The involvement of NGOs and NPOs as well as the Presidential Climate Commission were supported by around a fifth of South Africans. A further 17% supported the involvement of trade unions and community leaders, respectively, in Just Transition decision-making processes.

Figure 18: Entities that should be involved and that are most trusted when considering Just Transition decision making (%)



Source: HSRC SASAS 2023

Most trusted entity when considering Just Transition decision-making

In Figure 19, we also present responses to a follow-up question on which entity the public trusted the most to manage the Just Transition. The responses show that the most trusted entity was national government. More than a quarter (26%) of the respondents indicated that they trusted national government the most in relation to Just Transition decision-making. A significant portion, 13%, placed trust in businesses and the private sector, with a similar proportion preferring a multi-stakeholder approach in the form of the PCC. Just over a tenth (11%) supported NGOs/Non-profit organisations the most to be part of the process, with 7% supporting community leaders, signifying a form of community engagement and participation in decision-making processes. Approximately 7% expressed trust in trade unions to manage the transition, which might reflect a belief in the advocacy and negotiating power of trade unions in ensuring a fair and Just Transition. A significant portion (12%) provided 'Don't know' responses, indicating a level of uncertainty and a lack of a clear preference regarding who is most trusted to manage the transition.

These survey results highlight the complexity of public trust in managing the transition from coal to other energy sources, emphasising the need for inclusive and collaborative approaches in policy and decision-making processes.



Conclusion

Efforts towards a Just Transition to renewable and other lower emissions energy sources are currently under way in South Africa, and it seems that these efforts are supported by a majority of respondents

This report underscores the critical importance of addressing climate change in South Africa, despite it being overshadowed by other pressing concerns in the public eye. While the country faces significant challenges such as unemployment, crime and corruption, and service delivery issues, the impact of climate change exacerbates these problems and poses additional threats to the economy, environment and public health. The findings reveal a growing awareness of climate change among South Africans, although scepticism persists regarding its causes and severity. Nonetheless, there is an appreciable level of climate concern among respondents, coupled with a sense of personal responsibility to protect the environment.

Efforts towards a Just Transition to renewable and other lower emissions of sustainable energy sources are currently under way in South Africa, and it seems that these efforts are favoured by a majority of respondents. However, there is a need for a clearer understanding and communication of the term 'Just Transition' to ensure widespread support and engagement.

Policy preferences emphasise the importance of education, support for local businesses, and financial assistance for affected workers in mitigating the negative impacts of the transition. Transparency in managing financial aid is crucial for building trust and ensuring equitable outcomes. Responsibility for addressing the climate crisis is seen as shared among environmental groups, large companies and government entities. Trust in various stakeholders to manage the transition underscores the need for inclusive decision-making and collaboration at all levels.

This report serves as an initial high-level overview document. A more detailed analysis is forthcoming, which will utilise bivariate and multivariate techniques to delve deeper into climate change attitudes in South Africa. This comprehensive report will specifically examine differences by subgroup, for example geographic locations, to assess whether factors like proximity to coal-powered plants influence attitudes towards climate change and the Just Transition. A sectoral analysis (e.g. those in the coal value chain vs those in more future-proof sectors) will also be analysed as part of the more comprehensive report.

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Endnotes

- 1 Although, according to law, an adult is a person who is 18 years and older, the SASAS survey includes 16 and 17 year olds to capture the attitudes, opinions and experiences of South African youth who are on the verge of transitioning to adulthood. This demographic group represents an important segment of the population, with distinct generational perspectives and concerns.
- 2 For more information, see <http://www.europeansocialsurvey.org/data/themes.html?t=climate>.

Index

Note: Tables and figures are indicated in italic.

A

attitudes 2, 10, 12, 32

B

Basic Income Grant 27

behaviours vi, vii, viii, 2, 9, 12 *see also* value-belief-norm model

willingness to act 2, 10, 18

pro-environmental 9, 10, 13

choices and 9

biographical variables vii, viii, 8, 10, 19-23, 25, 28

bivariate analysis vi, 32

C

carbon emissions vii, 12, 15

climate change

advocacy 12

attitudes to vi, 2, 10, 12 *see also* perceptions

awareness/knowledge vi, 2, 10, 13, 14, 15, 17, 32

beliefs 9, 10, 15-17

causes 15, 16

challenge prioritisation 11-12, 32

concern 17-18, 20

consequences/impacts 10, 11-14 *see also* extreme weather events

economic threats 12-13

efforts to address 15

knowledge 16-17

mitigation 12

perceived causes 10

resilience 12

responsibility for addressing 2, 10, 29-30, 32

climate change scepticism vi, 10, 15-17, 20, 32

climate finance 28-29

climate-related policies 2, 12, 27

preferences 9, 10, 26-28, 32

climate shocks vi, 10, 19, 20, 23 *see also* extreme weather events

coal 2, 15, 18, 21-26, 28, 30, 31, 32

correlation analysis vi, 27

D

data 4, 5, 7-8

E

energy

- preferences 9

- prices 23, 25

- producers 29

- renewable/sustainable vii, 2, 12, 23, 24, 32

- security 9, 23

- sources 15, 18, 21, 23, 25, 28, 30, 31, 32

energy transition 18 *see also* Just Transition

- approval 21-22

- awareness of 19

- impact concerns 21, 22-24

- management 30-31

- perceived benefits 24-25

environment 9

- Just Transition and 23-25

- personal responsibility for 18, 32

- as priority challenge 11-12

environmental groups 29, 32

environmental literacy vi, 12

environmental shocks *see* climate shocks

European Research Infrastructure Consortium (ERIC) 9

European Social Survey (ESS) 9

extreme weather events vi, 17

- climate change awareness and 13

- consequences/impact 12, 13, 23

- personal exposure to 2, 12-13, 14

- by province 13, 14

F

factor analysis vi, vii, 24-26

fieldwork 4-6

fossil fuels 15

- coal 2, 15, 18, 21-26, 28, 30, 31, 32

G

Greenhouse gas (GHG) emissions vii, 12, 15

H

Human Sciences Research Council (HSRC) 2, 3, 4, 6, 9

I

Intergovernmental Panel on Climate Change (IPCC) vii, 15

J

jobs 10, 21, 23, 24-27
Just Transition vii, 2, 10 *see also* energy transition
 approval 21-22
 attitudes to 10, 22-26
 awareness/understanding 2, 10, 18-20, 28
 beliefs, concerns about 9, 10, 22-24
 goals 18
 job prospects and 10, 21, 23, 24-27
 management 30-31
 mitigation policies 10, 26-28
 potential benefits 24-26
 potential negative impacts 22-24, 28
 responsibility for 2
 term 18-20, 32
 trusted decision makers 10, 30
 worries 22-24

L

linear regression modelling 28
loadshedding 23, 24, 25
logistic regressions vii, 19, 21, 23
 ordered vii, 13

M

metropolitan areas vii, 8, 20, 22, 23, 26, 28
mitigation vii, 2, 12
multivariate analysis vi, vii, 32

N

norms
 personal 9, 10, 12
 pro-environmental vii, 9, 13, 20, 25, 26, 28

O

optimists 25-26

P

Paris Agreement 15
perceptions *see also* climate change, attitudes to
 of climate change 2
 of the Just Transition 2
personal agency, responsibilities 9, 10, 12, 18
personal norms 9, 10, 12
policies *see* climate-related policies

Presidential Climate Commission (PCC) 2, 11, 18
priority challenges, concerns (national) 11-12
pro-environmental norms vii, 9, 13, 20, 25, 26, 28, 32

R

renewable energy viii, 2, 12, 15, 28, 32
rural areas 8, 20, 25, 28

S

Secondary Sampling Unit (SSU) 4
small area layers 3, 6
socio-demographics 2, 10
 variables viii, 19, 20
socio-economic factors viii, 10, 18, 20
South African Social Attitudes Survey (SASAS) 3, 4, 7, 11
statistical significance viii, 13, 14, 17, 19, 20, 22, 28, 29, 31
statistical weighting viii, 7, 8
subgroup analysis viii, 24, 32
survey
 aims 2
 conceptual model 9-10, 20
 data collection/capturing 4, 7
 data weighting viii, 7, 8
 design 3-4
 factor analysis 25
 fieldwork 4-6
 protocols 4
 fieldwork protocols *see* fieldwork
 rationale 2
 sample areas map 3
 sample realisation 7
 sample characteristics 8
sustainable development/infrastructure 12
sustainable practices 12, 15

T

trust 9, 30, 31, 32

U

urban areas/towns viii, 5, 6, 8, 20, 22, 23

V

values (human) 10
value-belief-norm model (VBN) 9-10 *see also* behaviour



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