



# **SMMES AND THE GREEN ECONOMY: MUDDY WATERS AND MURKY FUTURES**

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**An investigation into the sustainable practices  
of small medium and micro manufacturing  
enterprises in South Africa's Gauteng Province**

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***“Symbiotic relationships mean creative partnerships. The earth is to be seen neither as an ecosystem to be preserved unchanged nor as a quarry to be exploited for selfish and short-range economic reasons, but as a garden to be cultivated for the development of its potentialities of the human adventure. The goal of this relationship is not the maintenance of the status quo, but the emergence of new phenomena and new values.”***

**– René Jules Dubos (1901 – 1982)**

## CONTENTS

Foreword	5
Executive Summary	6
Section 1: Introduction	8
Defining the Landscape	9
SMMEs and the Green Economy	10
South Africa and The Green Economy	12
Section 2: Motivation Towards Sustainable Practices	18
Theoretical background	19
Research Findings	20
Implications of the findings	23
Case Study: GSA Campbell	24
Section 3: A Taxonomy of Sustainable Practices	26
Theoretical background	27
Research Findings	29
Implications of the findings	32
Case Study: Remarkable Waste Management Solutions	33
Section 4: Competitive Advantage	34
Theoretical background	35
Research Findings	37
Implications of the findings	38
Section 5: Conclusion and Recommendations	40
Recommendations	41
Taxonomy	44
Final Words	46
Bibliography	48
Appendix A: List of Green Economy Initiatives	52

## TABLES & FIGURES

Table 1:	Key metrics for South African SMME manufacturing sector	10
Figure 1:	Principles of the Green Economy	11
Figure 2:	Sustainable Development Goals	12
Figure 3:	Eight focus areas of South Africa's Green Economy	13
Figure 4:	Gauteng province's contribution to South African economy	14
Figure 5:	Challenge to Gauteng's Green Strategic Programme	15
Figure 6:	Total employment in South Africa	16
Table 2:	Income (billions) in manufacturing by sector in South Africa	17
Figure 7:	The theory of reasoned action	19
Figure 8:	Staff awareness of sustainability and sustainable practices	20
Figure 9:	Desire to trade profits for environmental practices	21
Figure 10:	Attitude toward government support for sustainability initiative	22
Figure 11:	Economic growth strategy	28
Figure 12:	Business continuum	28
Figure 13:	Social engagements by SMMEs	29
Figure 14:	Economic engagements by SMMEs	30
Figure 15:	Environmental engagements by SMMEs	31
Figure 16:	Porter's Five Forces model	35
Figure 17:	Competitive sustainability model	36
Figure 18:	SMME taxonomy guide	45

## ACRONYMS

CPR	Common Pool Resources
CSR	Corporate Social Responsibility
DEA	Department of Environmental Affairs
MNC	Multi-national corporation
OECD	Organization for Economic Cooperation and Development
RBV	Resourced-based view
SDG	Sustainable development goals
SME	Small medium enterprise
SMME	Small, medium and micro enterprise
UNDP	United Nations Development Programme
UNED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme

## FOREWORD

In a world that is moving at an alarming rate of change, with massive technological and industrial development often undertaken at the expense of the environment; it was revealed at the 2017 World Economic Forum in Davos that, by 2030, global warming could cast 122 million more people into poverty.

In recognition of the critical need to address the massive environmental challenges being faced, and to ensure that people are being taken along with development and progress, an all-encompassing framework called the 2030 Agenda for Sustainable Development was created, building on the thinking that underpinned the Millennium Development Goals. The Agenda recognises the strong need for people-driven progress that protects the planet while creating prosperity.

A parallel challenge is dealing with the crisis of unemployment which in a continent like Africa, often praised for its "youth demographic dividend", threatens to create a socio-economic implosion. South Africa, with one of the highest youth unemployment rates in the world, is equally burdened with low economic growth and high levels of inequality. The vicious cycle created by the unemployment challenge and environmental degradation highlights the importance of building a vibrant green economy, which can; with the right skills, resources and support, contribute to jobs being created and innovative green solutions. At the recent Forum in Davos, the large numbers of people employed within current green industry businesses was mentioned – "3.5 million in Bangladesh, 1.4 million in Brazil, 2 million in Germany".

With the growth in social and environmental consciousness, the somewhat nebulous term "green economy" has now become a catch-phrase that holds much promise. It is most useful as a lens that can be applied to any industry or sector, providing exciting approaches to innovate for sustainable development. It offers the potential for economic growth; the environmental benefits are more diverse based on the originality and entrepreneurial nature of the space; and the social stability generated through sustainable livelihoods is part of the rationale for it being defined as a national priority sector.

Having been thus recognised by South Africa, a good foundation of relevant policies and investments towards building the green economy has been created. However, a supportive ecosystem needs to be built around this policy-based foundation to ensure that there is an enabling environment for the small businesses that are at the heart of the green economy.

This essential study, supported by J.P. Morgan, seeks to understand what the inhibitors are to manufacturing-based small businesses in this sector, and to unearth where the opportunities may exist. The significance of the research lies in its positioning at the intersectionality between small business, the manufacturing sector which is perceived to be a high growth area for jobs, and the green economy. In addressing the real and practical challenges faced, we hope to provide a meaningful contribution to driving the sector forward; and to enable more sustainable businesses with the ability to generate further employment.

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# EXECUTIVE SUMMARY

The challenge of sustainability has been a long-standing debate within society in general and the business community in particular. Garrett Hardin in his seminal article 'The Tragedy of the Commons' eloquently highlighted the tension that exists between self-maximisation and profit growth and its commensurate impact on society – in particular the environment (Hardin, 2009). He structured his argument around the typical English 'commonage'<sup>1</sup>, arguing that as each individual in a community attempted to maximize his/her profit through additional livestock, this placed an increased burden on common land. It also prompted others to add to their herd, under the belief that the addition of a few animals makes little or no difference to the overall wellbeing of the commonage. Hardin's thesis was that, taken collectively, the sum of each person's additional livestock places the commonly-held asset into environmental jeopardy. Each individual seeks to maximize his/her own profit and assumes that the other will care for the common land.

Despite the 50 years since Hardin's article, he could have been writing about the world today. Sustainability is now sharply in focus for business, government and the international development community. While pressure to address sustainable development continues to be placed on multi-national corporations (MNC), this burden is now shared with small medium and micro enterprises (SMME<sup>2</sup>), which are seen as essential social and economic contributors to local, regional and national economies. The concept of 'sustainable entrepreneurship' has

emerged (Choi & Gray, 2008) as a multidimensional construct to explain the efforts of SMMEs to address environmental challenges, economic development and social inclusion. Impetus for increasing the instance of sustainable and inclusive development has been provided by OECD countries (OECD, 2016) which, in 2015, adopted the United Nation's Sustainable Development Goals (SDG). Pathways to these goals include new investment models in the form of blended finance, social impact investing, and responsible business conduct. It is this final pathway that is the key focus of this report.

SMMEs are an essential driver of economic growth, especially in emerging economies, contributing up to 45% of total employment and 33% of gross domestic product. The contributions are significantly higher when informal SMMEs are included. The World Bank predicts that's in the next 15 years, 600 million jobs will need to be created, the majority of these in Asia and Sub-Saharan Africa, where four out of every five jobs created, is by a small medium enterprise.

This report explores responsible and sustainable practices among SMME manufacturing businesses in South Africa's Gauteng Province. In addition, this report seeks to illustrate the entrepreneur's understanding of, and engagement with, sustainable manufacturing practices that could be seen as valuable inputs into addressing the SDGs.

This report is guided by three lines of enquiry: -

1. The **motivation** for SMMEs to undertake sustainable manufacturing practices;
2. The nature of sustainable manufacturing practices among SMMEs, leading towards the creation of a **taxonomy of practice**; and
3. The manner in which sustainable manufacturing processes can be seen as a **competitive advantage** among manufacturing-focused SMMEs.

The findings of this research indicate that SMMEs are extrinsically motivated to participate in or adhere to sustainable manufacturing practices. Although the findings have highlighted that SMMEs view sustainable practices as potentially forming part of a long-term strategy, it is something they perceive to only be attainable should their businesses enjoy greater financial stability. A taxonomy of practice has been developed which yields a scale of engagement upon which entrepreneurs can measure progress towards integrated and holistic sustainable activity. The majority of respondents to this study have engaged in a low level of sustainable practice. Finally, SMMEs indicated that they don't as yet see sustainable practices as a competitive advantage, except in the instances where it is imposed upon them by valued clients or customers. In this instance one could argue that it is less of an intrinsically motivated competitive advantage and more of an order qualifier (Hill, 1993).

This research suggests that while knowledge of sustainable manufacturing practices is evident among SMME manufacturing businesses, there is, in spite of a number of government initiatives, a low intrinsic adoption of such practices. This would appear to be a function of marketing by government agencies and lack of awareness by entrepreneurs, rather than low personal motivation for engaging in sustainable practices. This study has yielded a taxonomy against which SMMEs can measure their progress and it is a key recommendation of this report that this scale of engagement be adopted as a structure for policy implementation. The lack of appreciation of sustainable practice as a competitive advantage may be a result of the stressful economic circumstances in which many SMMEs find themselves. Apart from continued pressure placed upon SMMEs from customers and clients, the value of sustainable practices needs to be emphasized at all spheres of engagement with SMMEs and incentive programmes provided to enhance adherence and compliance.

1 The right to pasture animals on common land.

2 Note: the term Small Medium and Micro Enterprise is a South African construct whilst Small Medium Enterprise (SME) is used internationally. These terms are understood to be interchangeable. For the purposes of this report SMME will be used.





# SECTION 1: INTRODUCTION

## DEFINING THE LANDSCAPE

The continued degradation of environmental assets – so called Common Pool Resources (CPR) – is evidenced by food insecurity, water scarcity and diminishing natural resources, and the exploitation of resources by single users who through their actions reduce resource availability for others (Ostrom *et al.*, 1999). Actions to address the threat and impact of modern life on natural resources are broadly communicated through the term ‘sustainability’. This term is understood to mean ‘development which meets the needs of the present without compromising the ability of future generations to meet their needs’ (White, 2013). This concept is increasingly being understood to be the cornerstone from which to build the Green Economy. The Green Economy<sup>3</sup> is described as an economic system that is based on sustainable development which results in improved social equity and human wellbeing, while significantly reducing ecological scarcity and environmental risk (Carfi & Schiliro, 2011).

Following the United Nations Conference on Environment and Development (UNED) in 1992, sustainable development, under the overarching banner of the Green Economy, has seen increased interest and focus from business,

civil society, governments and development agencies. In 2012, the Rio+20 conference once again highlighted the importance of the Green Economy in the context of sustainable development and poverty eradication within the institutional framework for sustainable development. A framework which is steeped in the creation of shared value is needed to counter the argument that business is prospering at the expense of the broader community (Porter & Kramer, 2011).

The Green Economy has been expanded upon by the United Nations Environment Programme (UNEP, 2015) as the ‘Inclusive Green Economy’. This is an economic model that supports low carbon, clean and efficient production, is also inclusive in terms of consumption and outcomes and is based upon sharing, circularity, collaboration, reliance, solidarity, opportunity and interdependence. More importantly, this definition recognises that there are multiple pathways for nations to achieve a state of inclusivity with regards to their Green Economy. The principles of the Inclusive Green Economy are contained in Figure 1 and provide a comprehensive framework for the achievement of sustainable development.

<sup>3</sup> Note that the term ‘Green Economy’ will be used in this paper and is understood to be inclusive of and synonymous with terms such as sustainable development and Green Growth.

Developing a Green Economy is a structural phenomenon; it relies as much on the actions of business and civil society as it does on policy and government intervention. A three-phase model for measuring policy intervention has been suggested by the United Nations Environment Programme. This model has an initial stage which measures the broad indicators for environmental issues and targets, an intermediate phase which addresses policy interventions and a final stage which looks to the impact of policy on well-being and equity (UNEP, 2012). A more fine-grained set of measures has been developed and applied by the Global Green Economy Index. This compares perceptions and performance of four domains including

leadership, sectoral efficiency, investment and environment. Interestingly, South Africa ranks itself at 20<sup>th</sup> out of 80 countries (perception) yet ranks 59<sup>th</sup> on actual performance (GGEI, 2016).

It is commonly agreed that environmental challenges are linked to issues of social and economic exclusion; these are often addressed through policy actions that seek to support productive entrepreneurship (Hall, et al, 2012). The primary actors in the entrepreneurial landscape are SMMEs and the section to follow briefly discusses the role that these businesses play in advancing towards an Inclusive Green Economy. The structure and definitions of SMMEs in South Africa is detailed in Table 1.

## SMMES AND THE GREEN ECONOMY

Entrepreneurship – the process and output of Small Medium Micro Enterprises – is a critical ingredient in creating new job opportunities, perpetuating the innovation cycle and revitalising regional economies and identity (Silajdžić, 2015). Increasingly, developing economies are placing the role of SMMEs in achieving sustainable and green development, at the forefront of their agenda. SMMEs account for up to 99% of all enterprises and two-thirds of employment across the OECD (Usui & Martinez-Fernandez, 2011), emphasising the key role that they play in transitioning economies towards sustainable business practices. In developing countries,

Small and Medium Enterprises, often comprising less than 50 employees per enterprise, create twice the level of employment than large-scale registered businesses or the public sector (SEED, 2012). These SMMEs are essential actors in the local and regional Green Economy, often providing innovative solutions that challenge problems such as renewable energy production, wind and solar installation, smart metering and battery development. **SMMEs have the capacity and motivation to develop radical environmental innovations that are often neglected by established firms, sometimes challenging existing business models.**

A number of initiatives (see Appendix A) exist to support SMMEs in their path towards improved sustainability and full participation in the Green Economy. The European Commission's Green Action Plan for SMMEs is one such emblematic initiative. Key objectives of this initiative – common to many such programmes – are to raise awareness of the Green Economy and sustainability as a competitive driver for growth, as well as to help businesses to drive down costs, create 'green' jobs, and contribute

Size	Total full-time equivalent of paid employees	Total annual turnover	Total gross asset value
	less than:	less than:	less than:
Medium	200	R40.00m	R15.00m
Small	50	R10.00m	R3.75m
Very small	20	R4.00m	R1.50m
Micro	5	R0.15m	R0.10m

**Table 1:** Key Metrics for the South African SMME Manufacturing Sector

1. The Green Economy is a means for achieving sustainable development;

2. The Green Economy should create decent work and green jobs;

3. The Green Economy is resource and energy efficient;

4. The Green Economy respects planetary boundaries or ecological limits or scarcity;

5. The Green Economy uses integrated decision making;

6. The Green Economy measures progress beyond GDP using appropriate indicators/metrics;

7. The Green Economy is equitable, fair and just – between and within countries and between generations;

8. The Green Economy protects biodiversity and ecosystems;

9. The Green Economy delivers poverty reduction, human wellbeing, livelihoods, social protection, and access to essential services;

10. The Green Economy improves governance and the rule of law. It is inclusive, democratic, participatory, accountable, transparent and stable;

11. The Green Economy internalizes externalities.

## PRINCIPLES OF A GREEN ECONOMY

Source: UNEP

**Figure 1 (opposite):** Principles of a Green Economy



to the circular economy<sup>4</sup>. Interim results from this action plan are not dissimilar from other such initiatives, with SMMEs focusing on waste minimization, lowering energy usage, and managing materials supply chains (European Commission, 2015). Solutions for SMMEs within the Green Economy, especially within developing

markets, are increasingly being seen through the lens of motivation by the entrepreneur for participating in green initiatives as well as the structure of business models that support inclusive and sustainable development, growth and economic activity (Chigora & Zvavahera, 2015).

## SOUTH AFRICA AND THE GREEN ECONOMY

South Africa, one of the largest economies in Africa, is a country rich in natural resources and diverse culture with a growing population – currently 54.5 million people. In spite of its young democracy, South Africa has a constitution that is progressive and inclusive, blended with an emerging market economy and first-world infrastructure. South Africa suffers, as do many African countries, from severe social challenges, many exacerbated by the reliance of the economy on natural resources for economic growth and sustained livelihoods. South Africa is a signatory to the Millennium Development Goals and the Sustainable Development Goals

– a set of seventeen goals that seeks to end poverty, create prosperity and protect the planet (see Figure 2). These goals are the building blocks of the Green Economy, and South Africa is seen as an economy in the process of ‘green transition’ (UNEP, 2015). Interim findings of the United Nations Environment Programme show that South Africa has an unenviable challenge of balancing developmental needs with the environmental challenges that come from being a highly-industrialized society. South Africa’s engagement with the Green Economy has been focused on the following four areas:



Figure 2: Sustainable Development Goals

4 A *circular economy* is one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles (source: [www.ellenmacarthurfoundation.org](http://www.ellenmacarthurfoundation.org))

1. Mitigation of and adaption to climate change;
2. Transition to a low-carbon and resource-efficient economy;
3. Integration into global supply chains; and
4. Improving societal well-being through sustainable growth and development.

The UNEP (2015) reports that South Africa has been making substantial strides forward in terms of policy development related to the Green Economy. Much of this has occurred following South Africa’s hosting of the 2010 Green Economy Summit, and evidence is appearing of engagement across all spheres of government on issues related to the environment, ecology and sustainability. Co-ordination of the Green Economy falls within the remit of the Department of Environmental Affairs (DEA), which acknowledges the interrelated nature of policy and interventions, especially those related to mining, housing, energy, water and manufacturing. Eight focus areas have been identified by the DEA (see Figure 3) that act as the framework for both policy and programme initiatives.

These have been enacted through several national, provincial and local government projects, including additional policy formulation and project implementation.

At a national policy level, the government has addressed the Green Economy through the following interventions.

- The New Growth Path which includes the green economy as a key sector for economic growth and employment generation;
- The National Development Plan which allocates a substantial chapter to addressing green economy issues;
- The National Skills Development Strategy III which lists the need to develop skills in support of the green economy as a national priority; and
- The Integrated Youth Development Strategy for South Africa that highlights the need to develop a Green Economy Training Academy which will place an emphasis on short learning programmes.



## 8 FOCUS AREAS OF SOUTH AFRICA’S GREEN ECONOMY

Figure 3: Eight focus areas of South Africa’s Green Economy

# GAUTENG PROVINCE

 Population: 13.2 million

 33.9% Contribution to South Africa's GDP

 10% Contribution to Africa's GDP

 41% of South Africa's construction activity

 39% of South Africa's finance, business & real estate activity

 35% of South Africa's wholesale, accommodation & motor trade

 32% of South Africa's transport, storage & communication

 38% of South Africa's general government services

## INITIATIVES IN GAUTENG

Gauteng Province, while South Africa's smallest province by landmass (1.4% of the land) has the highest per capita income of all South Africa's provinces and is a substantial producer of economic output and activity – not only in South Africa but in Africa as well (see Figure 4).

Gauteng has a long history of environmental impact and degradation, begun during colonial dispossession and expansion, alienating the majority of South Africans from the land (Sowman, Fuggle & Preston, 1995). Gauteng's exponential growth, and its role as an economic hub and gateway to trade for the rest of Africa, has started to place pressure on many aspects of this province. With an increase in economic activity, comes the compounded pressure for available land, natural resources and logistics systems. Coupled with the negative impact specific industries have on the environment and deteriorating bulk infrastructure, Gauteng requires a solution to respond to the necessary resources it requires to continue its upward growth trajectory whilst developing and maintaining a sustainable foundation. Several initiatives have been drafted and implemented to address environmental issues in Gauteng, which has embarked on a transformative shift towards a more sustainable and green orientation by engaging in the following focus areas:

- **Food security:** reducing food imports and increasing local food production.
- **Energy security:** reducing dependence on oil- and coal-based sources of energy by increasing the supply of renewable energy and improving energy efficiency.
- **Water security:** reducing total water consumption by 15% by improving efficiencies, introducing recycling, increasing public education and reversing pollution via more effective management of Gauteng's water resources and associated eco-system services.

Figure 4: Gauteng Province contribution to South Africa and Africa's economy (source: Statistics South Africa, IMF)

- **Zero waste:** seeing all waste outputs as potentially productive inputs, measures will be introduced to reduce, recycle and re-use.
- **Sustainable mobility:** reducing dependence on oil and limiting carbon emissions, accelerating investments in public transport systems so that the number of trips in private vehicles can be reduced by 15%.

The development of a Green Gauteng, in the form of the province's Green Strategic Programme, comes with an equal distribution of challenges and opportunities. Specific challenges are outlined in Figure 5.

Whilst Gauteng makes a significant contribution towards South Africa's total carbon footprint through manufacturing and mining sectors, the fact that the province has plans in place to wean itself off these energies, generate more green jobs and promote sustainable development within its cities, is commitment enough that, as a province, Gauteng is geared towards a new growth strategy for the 21<sup>st</sup> century.

## TERMS OF REFERENCE

The research report aimed to gain insights into the nature of sustainable practices among Small, Medium and Micro Enterprises in the manufacturing sector in South Africa's Gauteng province. The report is guided by three lines of enquiry:

1. The **motivation** for SMMEs to undertake sustainable manufacturing practices;
2. The nature of sustainable manufacturing practices among SMMEs, leading towards the creation of a **taxonomy of practice**; and
3. The manner in which sustainable manufacturing processes can be seen as a **competitive advantage** among manufacturing-focused SMMEs.

The **South African manufacturing sector contributes over 15% to National GDP, making it the third largest contributor after services and public administration.** The manufacturing sector is broadly understood to comprise six main sub sectors – agro-processing, automotive, chemicals, metals processing, information & communication technology and textiles, clothing & footwear. Statistics South Africa breaks the sector down further, providing

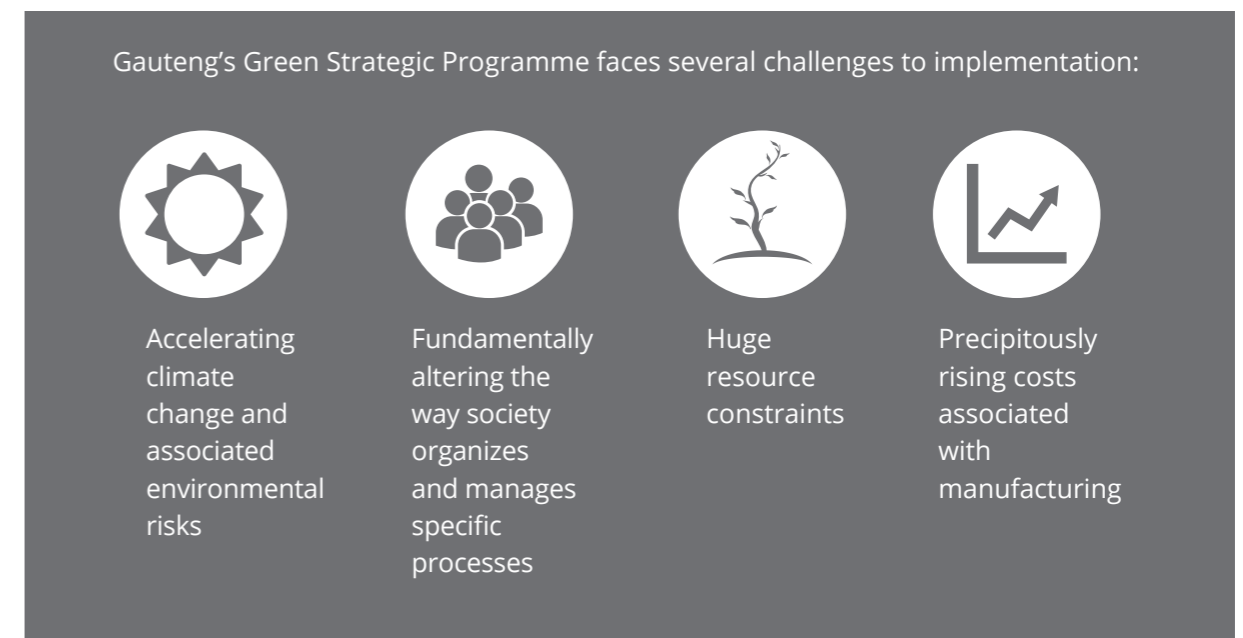


Figure 5: Challenges to Gauteng's Green Strategic Programme (source: Gauteng Department of Economic Development)



key metrics of each sub-sector to the South African economy. Figure 6 illustrates the 2015 total employment figures for the South African manufacturing sector. The chart also highlights the ten sub-sectors of the broader manufacturing sector in South Africa. Manufacturing is essential for economic growth. According to the Brookings Institute (2012), **manufacturing has the ability to help grow high wage jobs for the economy**, especially for those workers who would have earned low or no wages; manufacturing activity leads to innovation, and is also linked to service innovation that often flows from product-level innovation; and manufacturing is essential in lowering large trade deficits through reduced imports. Finally, manufacturing has the potential to contribute to sustainability; as the sector has the ability to make use of clean energy and green manufacturing techniques, it is poised to make a positive contribution.

The manufacturing sector in South Africa can be further segmented based on Table 2, which reflects each sector and the income by enterprise type for each sector.

Based on the information in Table 2, the sub-sectors highlighted in blue were selected

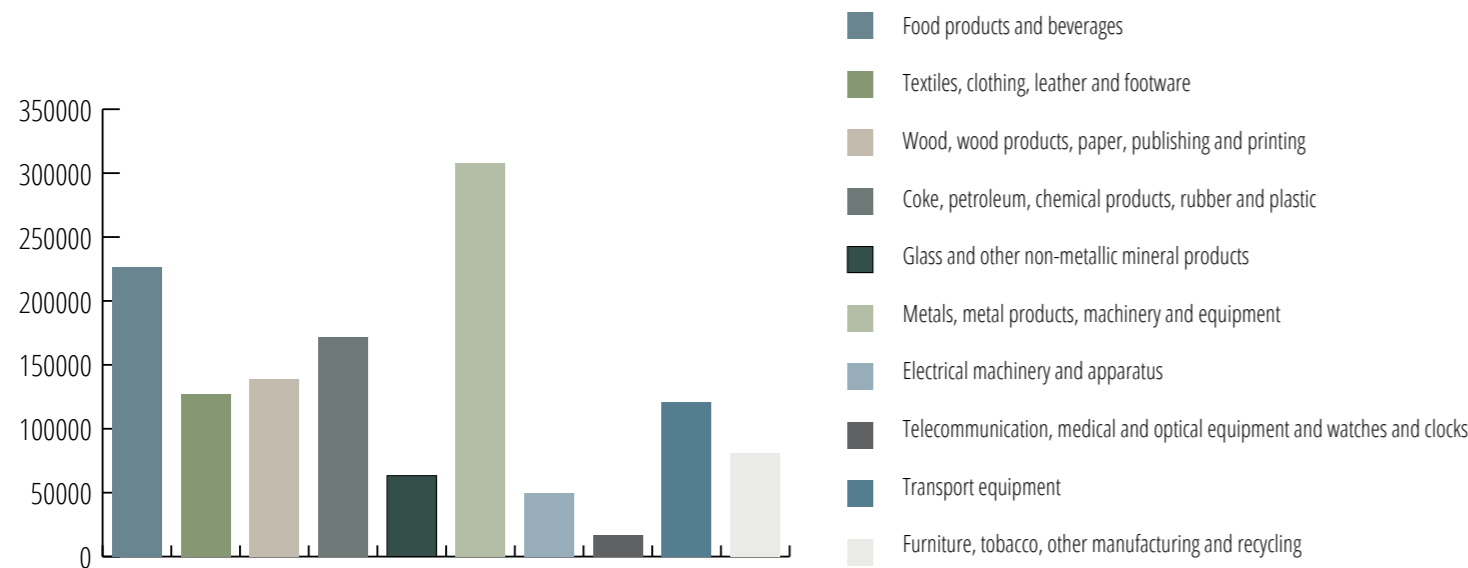
for inclusion in this study, based upon the contribution of the sector to overall National GDP. An appropriate sample was selected that represented a population of significant manufacturing sectors in Gauteng South Africa; the sample size that participated in the study ensured that the results are statistically significant.

This report made use of a self-administered survey as well as in-depth interviews with industry experts and selected best-practice case examples. The survey made use of a five-point rating scale; one representing 'strongly disagree' and five representing 'strong agree'. The advantage of using a survey approach lies in the ability to produce large amounts of data, based on real-world observations and a representative population, in a relatively short period of time. Whilst there is the possibility of the data lacking in-depth detail, the current report overcomes this challenge by engaging in detailed interviews with industry experts.

This report focuses on SMMEs in South Africa's Gauteng province, specifically those in the manufacturing sector and the role they play with regards to sustainable manufacturing practices. With almost half of South Africa's formal SMMEs operating in Gauteng and

various provincial programmes being rolled out, it can be argued that Gauteng is an ideal incubator for SMME growth and economic development. Whilst the manufacturing sector, specifically, is not a major contributor to green growth and sustainability, it has the potential to drive this agenda to new heights given enough support, structure and encouragement.

A limitation of the work has been equal representation across all manufacturing sectors in South Africa, and that the South African manufacturing sector is incredibly diverse – ranging from information technology to waste disposal. Hence the findings from this report need to be measured carefully against any policy and/or programmatic implementation strategies.

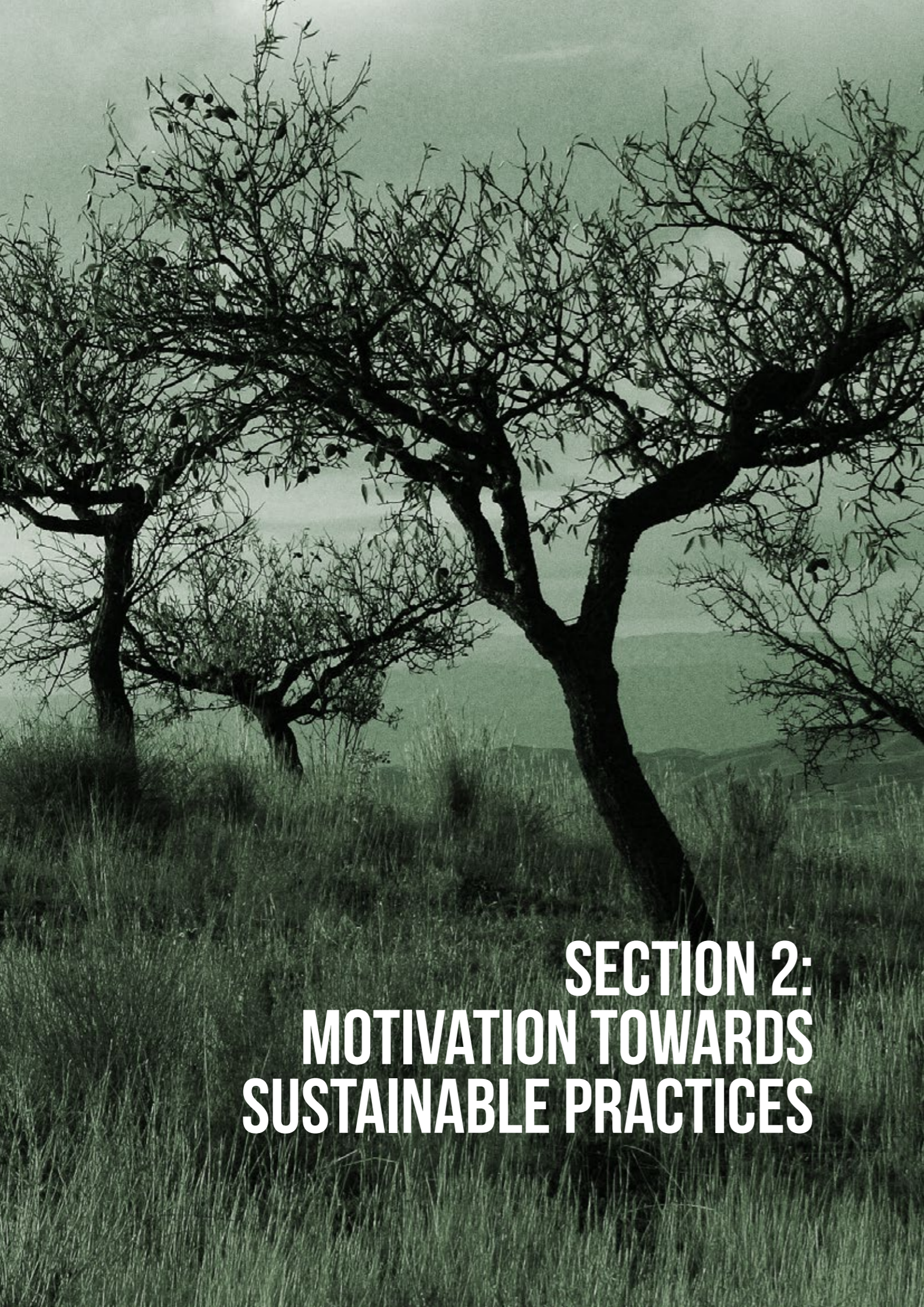


**Figure 6:** Total manufacturing sector employment in South Africa (source: Statistics South Africa)

Type	Micro	Small	Medium	Large	Total	SMME %
Food products and beverages	3 018	4 457	13 368	200 280	221 123	9%
*Textiles, clothing, leather and footwear	2 635	3 570	10 213	26 882	43 300	38%
Wood, wood products, paper, publishing and printing	4 378	5 174	13 376	75 978	98 906	23%
Coke, petroleum, chemical products, rubber and plastic	2 184	4 557	17 176	425 512	449 429	5%
Glass and other non-metallic mineral products	1 640	1 836	6 007	39 068	48 551	20%
*Metals, metal products, machinery and equipment	14 925	17 296	42 787	236 596	311 604	24%
*Electrical machinery and apparatus	887	1 151	4 878	27 372	34 288	20%
Telecommunication, medical and optical equipment and watches and clocks	898	813	2 515	8 646	12 872	33%
Transport equipment	2 195	3 132	11 468	229 903	246 698	7%
*Furniture, tobacco, other manufacturing and recycling	3 856	4 073	7 867	43 935	59 731	26%

**Table 2:** Income (Rand billions) in manufacturing by sector in South Africa (source: Statistics South Africa).





## SECTION 2: MOTIVATION TOWARDS SUSTAINABLE PRACTICES

### THEORETICAL BACKGROUND

The formulation of sustainable ventures, especially those that continue to become iconic firms renowned for their environmental policies and practices (for example Ben & Jerrys' Ice Cream, Whole Foods and Stonybrook Farms), follows a very similar process in their early formation, strategies for growth and ultimate harvest (Choi & Gray, 2008) to that of other firms. What differentiates them from other firms, large and small- that don't have a defined focus on sustainability- is motivation. Motivation to promote and inculcate environmentalism in an entrepreneur's business can be understood through two lenses - institutional theory and rational action (Marshall, Cordano & Silverman, 2005). Institutional theory seeks to explain the influence of social pressure outside the business. This includes the nature of the extent to which the 'organisational field'<sup>5</sup> exerts pressure on the business to participate in legitimate and socially required action. The organisational field consists of a range of actors including governments, suppliers, customers, investors and funders, professional and trade associations and special interest groups. The inculcation of

sustainable practices among all business, including SMMEs in the manufacturing sector, is a function of the continued dialogue between these actors and the business itself. Institutional theory research regarding environmentalism has shown that the practice of sustainable manufacture has evolved from coercive (imposed upon the business) to normative (accepted as 'normal' behaviour within a sector or industry), to cognitive (internally driven).

The externalism of institutional theory can be understood alongside rational action, regarded as the nature of managerial decision-making that leads to choices among different strategic options. Rational action explains the motivations that underpin the decisions that managers (or entrepreneurs) make when faced with multi-choices. Any observed behaviour, in the instance of this report and the inclusion of sustainable manufacturing practices among SMMEs, is preceded by behaviour intention - an individual's personal attitude and response to subjective norms (social pressure) that in turn forms the behaviour (see Figure 7).



Figure 7: The theory of reasoned action (adapted from Fishbein, M., & Ajzen, I. (1975)).

5 The organizational field is explained as a community of organizations that partakes in a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field (Scott, 1995, p. 56).



Within the context of environmental action and activity, including actions that positively contribute to the Green Economy, an important construct in reasoned action is the perceived ability of the entrepreneur to implement that intended action (Marshall, Cordano & Silverman, 2005). This is often problematic within larger organisations given the many layers of approval and support that are required for strategic changes. However, within SMMEs across most industry sectors, this doesn't appear as a challenge, as in most instances the owner/manager is making the strategic decisions. Research suggests that entrepreneurs will voluntarily implement environmental preservation strategies if they are perceived as opportunities for the business to grow (Dean & McMullen, 2007). Alongside this, SMME entrepreneurs will usually proactively engage with meeting regulatory requirements, seeing non-compliance as a potential negative differentiator amongst competitors.

Environmental issues that drive Green Economy practices and actions are essentially social problems. They stem from the aggregation of human behaviour that threatens and destroys the environment and natural resources. These negative business practices are the result of behaviour which in turn is linked to attitude. An understanding of the psychology that drives environmental practices, usually through the lens of attitude and motivation is the beginning point for gaining an insight into how to inculcate positive environmentalism (Zelezny & Schultz, 2000). The section to follow provides findings from this report's empirical research to explain the nature of attitude and motivation towards environmental practice among SMME manufacturing businesses in Gauteng, South Africa.

## RESEARCH FINDINGS

### AWARENESS

Across all business size categories, the majority of respondents indicated an understanding of sustainability and sustainable practices. This indicates good overall awareness of environmentalism and possibly even of the role that business can play in promoting positive sustainable practices. Respondents were also asked to indicate their perception of their staff's understanding of and enactment of sustainable practices as part of their work within the business. This response rate was lower than expected, with only 53% of respondents indicating in the affirmative. Of interest is the perception that staff knowledge of sustainable practices declines, as the business gets professionally larger (see Figure 8).

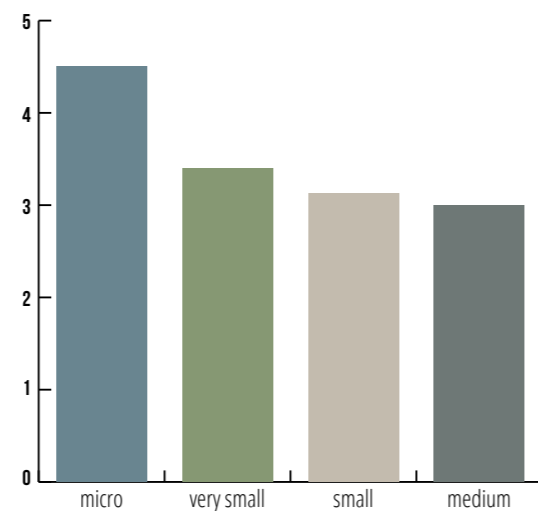


Figure 8: Staff awareness of sustainability and sustainable practices

The data reflected in Figure 8 indicates a concerning trend that as a business gets larger and there is greater pressure on employees to deliver on the strategy of owners/managers, there is no understanding or support from those employees to move towards sustainable practice. This could mean a lack of alignment between vision and action.

**“Some [SMMEs] don’t understand sustainability as a concept...sustainability should play a role in all levels of a business.”**

– Waste Disposal SMME

### RATIONAL ACTION

In understanding rational action, respondents were asked to reflect on the extent to which they made business decisions while considering environmental issues. Intrinsic motivation was also tested to understand whether respondents had a proactive behavioural attitude towards sustainable practices. To test these attitudes and motivations, respondents were asked to balance profit against sustainable practice in their decision making. The findings yielded a predictable pattern in that the majority of respondents indicated that addressing environmental concerns is ‘the right thing to do’ and that they will consider the environment in their day-to-day decision making. However, when the above results are considered alongside the inherent tension between profit and sustainability, an interesting picture emerges. A substantive majority of respondents indicate a neutral or negative response. This could be interpreted as SMMEs indicating support for the *idea* of sustainable practice but not where it might negatively affect the economic sustainability of the business. Interestingly, the question did not propose the loss of all profit in favour of sustainability; some degree of sacrifice of profit was intended in exchange for a sustainable business. However, with this mind, respondents were largely not supportive

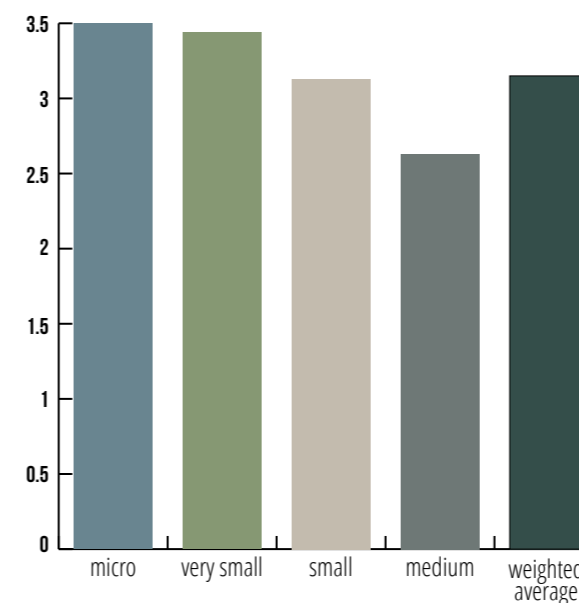


Figure 9: Desire to trade profits for environmental practices

of forgoing profit for purpose. One could then argue that as the business grows in size and shows greater economic security, it may show a more positive response to sustainable practices in exchange for some profit. In fact, the data showed the contrary trend (see Figure 9), with a diminishing desire to trade profit for better environmental practices, with small and medium businesses reflecting scores below the weighted average.

**“...it’s [being sustainable] quite a difficult one because as it is there’s a lot of pressure on SMME’s to make money, we’re fulfilling a big employment role in this country.”**

– Entrepreneur; Textile Manufacturing

### INSTITUTIONAL PRESSURE

Institutional pressure refers to the extant factors that drive an entrepreneur to engage in sustainable practices. Respondents were asked if their adherence to environmental practices was a result of legal compliance, and whether they received pressure from their customers and shareholders to engage in such practices. SMMEs were also asked about their perception of government support for the inclusion of sustainable practices in the manufacturing sector. The majority of respondents felt **no pressure from customers or from shareholders for the inclusion of sustainable initiatives in their manufacturing practice.** A large number of respondents indicated that they perceived this pressure as ‘neutral’ – possibly implying that some pressure was felt but not enough to affect their day-to-day practice. Given that most, if not all the businesses are owner/managed, it is unlikely that the SMMEs in this research would experience the same pressure from outside shareholders as one might in a listed or publically held company. This was reflected in the data along a similar pattern to that of customer pressure to be more environmentally friendly. Of particular interest was the



set of responses from SMMEs regarding sufficient government support for the development of sustainable practices among manufacturing businesses. Respondents (over two thirds) indicated that government is not doing enough to support SMMEs in their desire to be more sustainable. As per Figure 10, this was experienced by all business sizes, but most prominently by 'medium' size businesses. This in itself is curious, as these businesses (with turnover in excess of R40 million per annum) could well afford to initiate their own sustainable practices without direct support from government. This question may have elicited a general dissatisfaction with government's support from SMMEs rather than a response focused solely on support for environmental issues.

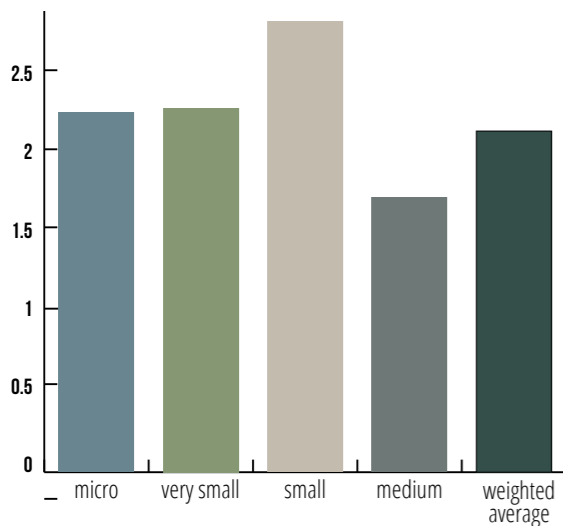


Figure 10: Attitude toward government support for sustainability initiative

## BENEFITS AND PAYOFF

Respondents were asked to reflect on the potential benefits from participating in sustainable manufacturing practices as further indication of their motivation to include such schemes in their day-to-day work. These benefits were focused on acquiring new customers, building the firm's brand, developing long-term commercially advantageous relationships, and increasing operational efficiency and reducing waste. Respondents were also asked to indicate if implementing sustainable practices could be perceived as a cost burden for the company. The data indicates that as the company increases in size (based on turnover, staff count and asset base), the perception of sustainability being an increased cost is experienced by owners/managers. Medium-sized enterprises experienced this increased cost perception above the weighted average, further supporting earlier findings that notwithstanding the increased availability of financial resources, medium size enterprises appear not to see value in committing to sustainable practices. Micro and very small enterprises see advantage in sustainable practices with regards to their development of new customers, brand enhancement and building long-term relationships. This could be due to the early-stage of these businesses and the need to develop all and any competitive advantage in order to win business and retain customers. Small and medium enterprises score well below the average, indicating less perceived value for their customer relationships from sustainable practices. This could be the result of an existing and established customer base that doesn't require the added benefit provided by the veneer of sustainable practice.

**“They [government] are quite vocal, but when it comes to implementing [sustainable programmes for SMMEs]...I don't think the government is doing enough in terms of supporting SMME's.**

– Manufacturing SMME respondent

## IMPLICATIONS OF THE FINDINGS

The findings above indicated, so some extent, a predictable pattern of awareness, motivation, action and benefit for SMMEs in the Gauteng manufacturing sector. Worryingly, medium enterprises appear the most disengaged from the process of sustainable practice, while also the most critical of government at the perceived lack of support for the inculcation of sustainable manufacturing processes. Research findings would seem to indicate that Micro and very small enterprises are largely positive supporters of the importance and value of sustainable practices, although this may be linked to the need for survival and the tendency to adopt any practice that may lead to more profitable business.

## KEY IMPLICATIONS

Key implications from this line of enquiry are as follows:



While owners/managers of SMMEs show awareness of sustainability and environmentalism, this is not reflected in perceptions of staff awareness. This could be due to low levels of staff training and skill within the sector. This is concerning because as businesses grow, greater emphasis for implementing sustainable practices rests with employees rather than owners/managers.



Institutional pressures are not seen as motivators for the implementation of sustainable practices, although legal compliance is a concern for micro enterprises. The perceived lack of government support for the implementation of sustainable practices is concerning, given the plethora of such initiatives at a local, provincial and national level. A greater level of marketing and awareness-building is required from all spheres of government.



While respondents support rational action with regards to sustainable practices, this is usually overshadowed by the need to generate profit. Profit maximisation is not seen as a scale against which costs of sustainability can be weighed, but rather as an absolute construct.



Medium and small enterprises don't see customer value in the development of sustainable enterprises, possibly because of secured existing relationships. Micro and very small enterprises are focused on building stronger value relationships with customers around issues of sustainability.

**“So their [SMMEs] priority will be paying their staff at the end of the month, not installing a solar panel. So the key thing for Small Medium is affordability.”**

– Industry Expert; Sustainability Reporting

## CASE STUDY: GSA CAMPBELL

As one of the largest and most active sustainable development consultancies in South Africa, GSA Campbell is focused on initiating and increasing a return on environmental investment and a return on environmental objectives for its clients. With a leadership team that has a combination of over four decades of experience in corporate sustainability and Green Economic practices, GSA Campbell possesses a multitude of skills which are both deep and wide in terms of identifying and implementing environmental interventions and opportunities that are realistic and measurable. Its services extend to the SMME sector as well as various multi-nationals and government parastatals which recognize that a rigorous corporate sustainability programme promotes resource efficiency, legal compliance and acts as a key competitive advantage.

### DEVELOPMENT IS HOLISTIC

Having worked with organizations from various industries, GSA Campbell recognizes the need for a holistic take on sustainable practices that addresses implementation, reporting and education. Based on its expertise, GSA Campbell suggests the following points should be considered by SMMEs in order to achieve holistic sustainable development:

- Sustainable practices comprise more than just 'green' activities. Businesses often approach corporate sustainability from an environmental perspective without fully understanding and taking advantage of the remaining three pillars namely, social, economic and governance.
- Overlooking the competitive advantages which arise from tackling the social aspect of sustainability is an impediment to businesses that are seeking to leverage their position in the marketplace. With government regulations in place regarding BBBEE, and specific procurement policies being implemented, it makes sense for SMMEs that wish to be awarded certain tenders, to follow a sustainability strategy which focuses on social upliftment as well as the addressing environmental issues.

- Despite there being certain government programmes in place that focus on developing sustainability and Green Economic activities within the SMME sector, communication remains complicated and inadequate. Government needs to play a more substantive role in providing the SMME sector with information that not only promotes holistic sustainable practices as good business acumen, but also provides a detailed outline on how this can be achieved.
- With access to finance being one of the more significant hurdles for SMMEs, it's important that the SMME sector actively takes advantage of any government programmes which it recognizes as being focused on sustainability and the Green Economy.
- Education around corporate sustainability and Green Economic practices needs to be modified and adjusted to suit the varying levels within businesses. Many businesses are already tackling sustainability for no other reason than to reduce costs in the long-term. While this is by no means a negative, it needs to be acknowledged that for SMMEs, the route towards all-inclusive corporate sustainability takes time and dedication in educating a workforce and promoting buy-in. Acknowledging what to communicate, how to communicate it and at which level within the organization to communicate it, is key to achieving those goals.

### DEEP ENGAGEMENT

GSA Campbell's experience indicates that whilst a proportion of SMMEs within South Africa are focused on sustainable practices, their efforts are still only surface level. A deeper and more attentive approach surrounding the principles and practices of corporate sustainability will need to be understood and adopted if South African organisations are to meet the levels set by their international counterparts. Leveraging off and marketing a successful and measurable sustainable profile will become increasingly important in this sector, as will education and communication around holistic approaches to corporate sustainability.

**“Government needs to play a more substantive role in providing the SMME sector with information that not only promotes holistic sustainable practices as good business acumen, but also provides a detailed outline on how this can be achieved.”**

- GSA Campbell







## SECTION 3: A TAXONOMY OF SUSTAINABLE PRACTICES

### THEORETICAL BACKGROUND

This section of the report addresses the second line of enquiry into developing a taxonomy<sup>6</sup> of sustainable practices that contributes to the Green Economy associated with SMME manufacturing businesses. This taxonomy is framed around three constructs – **social practices, environmental practices and economic practices** – all found to be essential pillars of sustainable manufacturing processes (Zubir et al., 2012). While environmental practices are usually solely linked to sustainability, the inclusion of social and economic practices suggests the importance of a holistic approach to sustainability and the Green Economy. The continued role of government within the development of a taxonomy, exists at a policy level, especially with regards to moving towards a cross-sectoral focus and going beyond a traditional ‘do-no-harm’ model to proactive policy creation and implementation (OECD, 2014). However, the primary ‘actor’ in this taxonomy is the owner/manager of an SMME. The development of a sustainable manufacturing process is regarded as a key element of competitive advantage, or sustainable performance, (see following section) among all manufacturing businesses.

Social practices are often identified with corporate social responsibility (CSR). This is the act of being ‘a good corporate citizen’ and is as much a role of SMMEs as it is of big business. CSR is a construct that reflects the social imperative and

social consequence of business success (Matten & Moon, 2008). The notion of CSR falls between the profit-generating mission of the firm and the social responsibility of government. This report argues that an extension of the firm’s social responsibility should be made to include a range of other normative practices that indicate fully what it means to be a ‘good corporate citizen’. These include legal compliance, fair trading, and requisite safety standards.

Environmental practices are more easily associated with the Green Economy. These have traditionally followed an approach of pollution control/prevention and product/resource stewardship (Rusinko, 2007). Pollution prevention practices include efforts to reduce the use of resources including energy and water, reduction in the creation of solid waste, and activities related to recycling. These activities, while requiring some initial investment, lead ultimately to cost savings alongside environmental benefits. Product stewardship practices extend the environmental perspective to the company value chain and ecosystem, including R & D, design and suppliers. Examples of product stewardship practice include designing environmentally friendly products and packaging, use of renewable resources, and supporting and encouraging up and downstream integration of sustainable manufacturing programmes.

6 A taxonomy is a classification into ordered categories, usually associated with science and biology



Figure 11:

## ECONOMIC GROWTH STRATEGY

SMMEs must develop an economic growth strategy that takes into account the following agenda:

- Social and environmental supply chain
- Inclusion of young entrepreneurs in the ecosystem
- Retention of skilled workers through ownership participation
- Creating a networked economy based on trust, reputation and relationship building
- Acknowledging the evolving regulatory environment
- Acceptance of ethical and green consumerism.

Economic sustainability, while seemingly an obvious function in every business, is a point of tension – especially for SMMEs – as they grapple with the challenge of how much growth to pursue and at what cost. Economic growth is more often associated with business success, especially among emerging firms. New ventures have to balance growth against value creation, especially in highly competitive industries (Davidson et al., 2009). Growth is also seen as a proxy for profitability, however not all growth leads to profit; it leads to survivability, especially for the smallest actors in a market or industry. What SMMEs need to develop is an economic growth strategy that takes account of a sustainable agenda (Grayson & Dodd, 2007). See Figure 11.

The inculcation of principles such as those listed in Figure 11, is the work of a new breed of entrepreneur – the ecopreneur. While entrepreneurs seek to uncover new opportunities, and bring about change, for themselves and their communities, the adoption of sustainable and environmentally responsible business practices has the potential to open a further range of entrepreneurial opportunities (Schaper, 2002). The framework below illustrates the positioning of the ecopreneur against the continua of market position and business goals (Schaltegger, 2002).

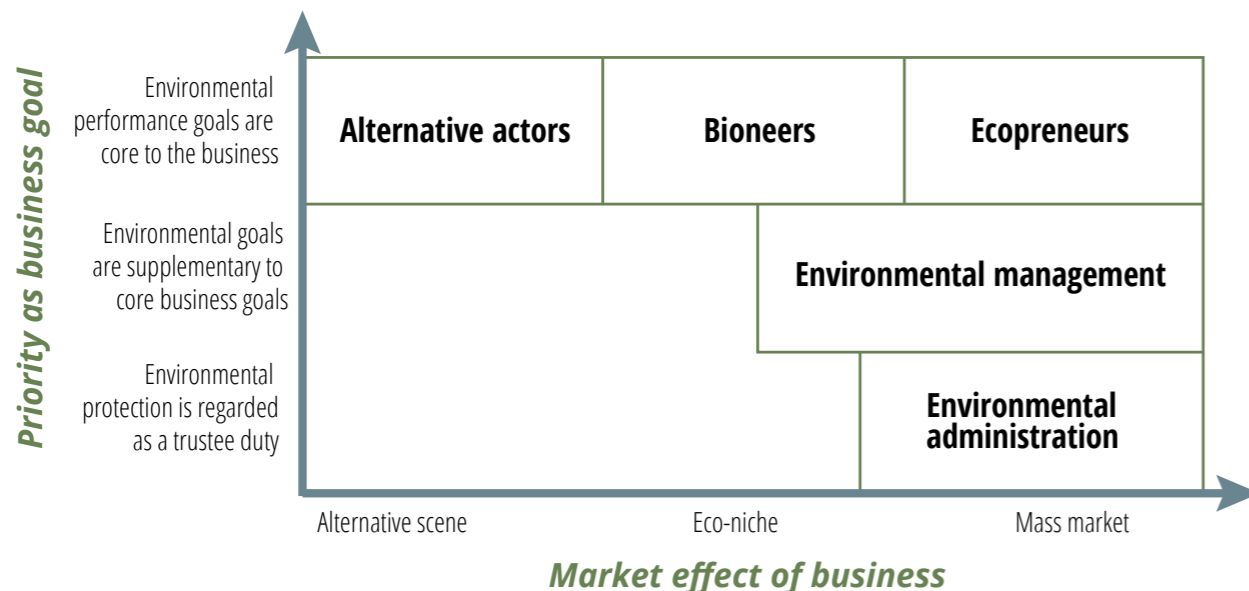


Figure 12: Business continuum: the relationship between the priority given to environmental issues as business goals and the market effect of the business (Adapted from Schaltegger and Petersen, 2001:10)

## RESEARCH FINDINGS

### SOCIAL

In investigating the extent to which SMMEs considered social compliance and engagement as part of their sustainable activities, five themes framed their responses. The themes are:

- Complying with the law
- Respecting human rights
- Conducting good community relations
- Treating suppliers fairly
- Ensuring product safety

The research findings indicate that the social drive for SMMEs to conduct sustainable manufacturing practices was above average. Compliance with the law is high, although one would expect that all categories of business would score this at 100%, and possibly the pressure on very small enterprises to fully comply with all rules and regulations places an undue burden on these businesses. Respect for human rights is lower than anticipated; it is not clear what aspects of human rights are not being considered, although with the influx of foreign nationals to South Africa over the last two decades, it could be surmised that labour might

be an exploited resource. Efforts to build relationships with the community are substantial, save for medium enterprises. This should be of concern as these businesses, showing turnover in excess of R40 million per annum, should be playing a greater role in building a positive and sustainable relationship with the community. Fair trade with suppliers and product safety follow a similar trend: with micro enterprises not considering this as part of their activities and small and medium enterprises ranking this towards the high end of the scale.

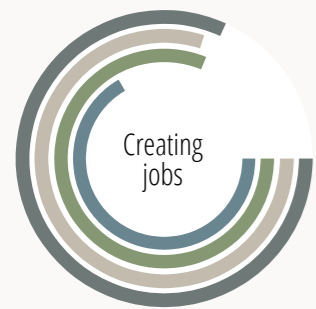
Figure 13 illustrates the comparison of compliance with each metric across all categories of business size.

**“We have a bigger social problem than we have an environmental problem in this country.”**

– Industry Expert; Sustainability Consulting

Figure 13: Compliance with social engagement metrics across categories





## ECONOMIC ENGAGEMENT BY SMMES

- Medium
- Small
- Very small
- Micro



**Figure 14:** Compliance with economic engagement metrics across categories



### ECONOMIC

Respondents were asked to indicate the practices they considered as being integral to economic sustainability. Responses were framed as follows:

- Driving innovation
- Generating sales and profits
- Paying tax responsibly
- Contributing to the local economy
- Creating jobs
- Investing in infrastructure
- Combating bribery and corruption

Highlights from the data show that a focus on innovation and infrastructure investment was surprisingly low for medium enterprises which one would expect to be driving innovation as a way of building market share. As expected, small enterprises placed a focus on innovation presumably as a mechanism for growth. Of concern from these results is the focus on legality – paying taxes in a responsible manner and combating bribery and corruption. While medium enterprises indicated they paid taxes, as required, very small and micro enterprises were alarmingly low on this metric. One could assume that medium enterprises are under greater scrutiny and have less opportunities for evading tax, however for smaller enterprises, there seems to be a lack of appreciation as to the importance (and legality) of being a part of the tax net. Enterprises on a whole placed little value on combating bribery and corruption, which is possibly a response to the endemic corruption in South Africa’s public service. Job creation features high for all business sizes and this illustrates the recognition from businesses of the dire unemployment situation in the country and the role that every business has to play in addressing this social issue.

Figure 14 illustrates the comparison of compliance with each metric across all categories of business size.

**“I think if we were in a country where our businesses were supported or we had a government that was honest, my attitude would be completely different and I would go out and get a green sustainability expert person to come in and advise us”**

– Entrepreneur; Textile Manufacturing

### ENVIRONMENTAL

The key areas surrounding environmental activities with which the SMME respondents were asked to identify, included:

- Minimising the use of hazardous substances
- Using energy and resources efficiently
- Protecting biodiversity
- Minimizing waste and emissions
- Using environmentally sound materials and energy

The data shows very high levels of environmental action by micro enterprises, which, given results for other areas of this report, is an unlikely response from businesses. This could be due to a misunderstanding of the question or more likely a ‘halo effect’ where respondents provided answers they believed were correct or expected. Most business sizes showed concern for reducing or minimising waste and emissions, however very little regard was had for protecting biodiversity. This could be attributed to the ‘distance’ that manufacturers may experience from biodiversity, being in a large industrialised city, and the need to maintain economic

sustainability which could place profit before purpose. Remaining metrics are promising, although the low score from medium enterprises for using environmentally sound materials and energy is of concern, since these entities have greater resources at their disposal to make long-term investments in sustainable materials supply chains.

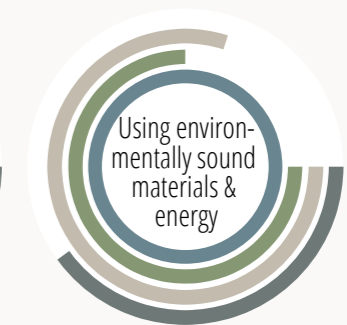
**“...we suffer from a communication problem I think in the way that it’s [sustainability and green economy] communicated to these small businesses, it seems complicated and inadequate.”**

– Industry Expert; ICT

Figure 15 illustrates the comparison of compliance with each metric across all categories of business size.

**Figure 15:** Compliance with environmental engagement metrics across categories

- Medium
- Small
- Very small
- Micro



## ENVIRONMENTAL ENGAGEMENT BY SMMES

## IMPLICATIONS OF THE FINDINGS

The findings above provide both a promising and concerning picture of the activities that SMMEs engage in as part of their contribution to the Green Economy. Social engagement is mostly promising, although a low respect for human rights has a long-term consequence with respect to South Africa's brand internationally. The high degree of support for legal compliance is curiously at odds with the attitude of many businesses to paying taxes responsibly and combating corruption and bribery. This seems to indicate a belief in observing the law but some flexibility with regards specific commercial elements such as taxation and bribes. This too sets a worrying long-term trend towards poor governance; something that becomes endemic and then virtually impossible to end. As stated previously, the government's

poor track record in this regard provides some implied permission for some businesses to act with impunity. Environmental engagement follows a predictable pattern with a focus on managing inputs and outputs, however there is little regard for the businesses ecosystem and their engagement with the broader community.

**“To have a sustainable business is to have a business that will survive into the future and so to create surety and security for our clients if they are going to invest in us.”**

– Entrepreneur; ICT Manufacturing

**“Sustainable practices need to be a long-term investment.”**

– Nelisiwe Radebe, CEO

## CASE STUDY: REMARKABLE WASTE MANAGEMENT SOLUTIONS

Nelisiwe Radebe is the founder and owner of Remarkable Waste Management Solutions, an SMME operating in Gauteng and providing services to the public and private sector in the form of waste removal, recycling and education about correct waste management processes and behaviour.

Having established her business in 2007, she has experienced the hardships which many entrepreneurs face in terms of accessing finance, building up a client base and operating in an increasingly competitive environment.

The reasons for Nelisiwe's decision to build a business in the waste management sector were twofold: her primary goal was economic stability for herself and her family and to provide meaningful employment for her staff, and secondly to make a contribution to the improvement of the environment and society as a whole through the direct activities of the business. Nelisiwe's approach to the green economy is holistic in nature; she believes that green economy activities are about positively impacting the environment, and ensuring sustainability through job creation whilst reducing carbon emissions, disposing of waste effectively and ecologically and educating her staff, clients and the communities about sound environmental practices.

Remarkable Waste Management Solutions is exploring the next level of sustainable activity through the upcycling of waste into reusable items and even new forms of energy. This long-term approach to sustainability is central to Nelisiwe's business strategy and is unique when compared to her peers who are inclined to focus on short-term and immediate activities within this industry.

Like so many SMMEs in the manufacturing sector, Nelisiwe is under pressure to engage in sustainable practices to meet compliance and legal regulations, while ensuring economic sustainability. This tension between profit and purpose is a common story among SMMEs in the manufacturing sector, many of whom struggle with taking part in holistic and long-term sustainable practices that mostly benefit future generations. Refreshingly, Nelisiwe has the view that being sustainable today means fewer costs in the future, and encourages her peers, and even her competitors, to embrace sustainability and green economy practices stating that “When you become sustainable in terms of waste you save money, you save disposal expenses”.

## KEY IMPLICATIONS

Key implications from this line of enquiry are as follows:



A much harder line needs to be taken with businesses who evade tax and engage in corruption and bribery. Examples of good corporate governance need to be provided which resonate with SMMEs.



There is a lack of long-term thinking among SMMEs, evidenced by low scores for protecting diversity, community relationships and innovation, and consideration for human rights. While this may be related to tough economic circumstances, this tendency to a short-term view has implications for the manufacturing sector and the South African economy in terms of its brand and market positioning.



There is a limited understanding of sustainability – most respondents see this through a narrow lens focused on managing resource inputs and waste outputs. Better education is required to illustrate the broad and deep nature of the Green Economy.



Job creation and making a contribution to the local economy is a positive finding of the research, both indicate a desire to connect with the immediate community economy and provide some clues as to how Green Economy initiatives can be better structured and bolstered to ensure adoption from SMMEs.



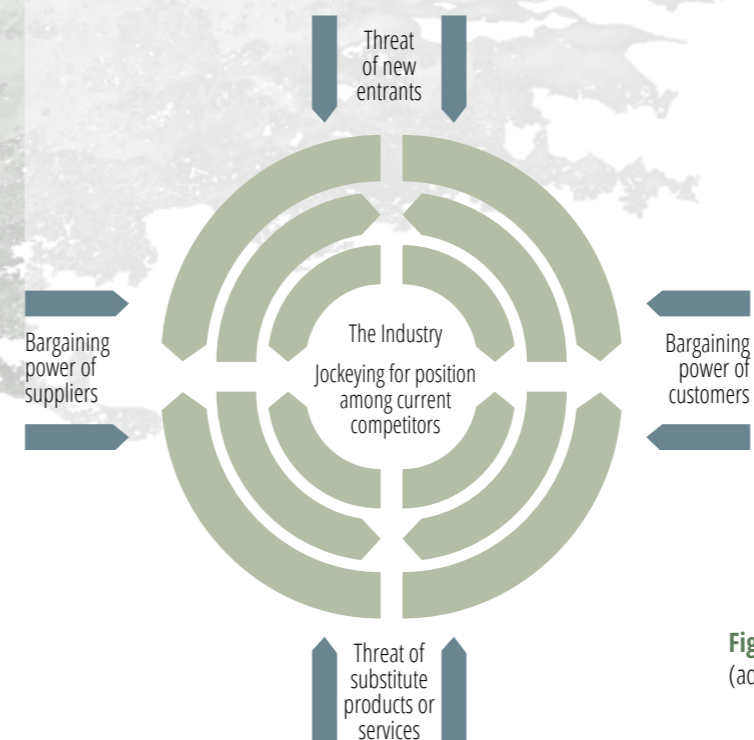


## SECTION 4: COMPETITIVE ADVANTAGE

### THEORETICAL BACKGROUND

In a post-industrial society, the greatest challenges facing managers and entrepreneurs are technological and environmental risks (Shrivastava, 1995). While this view has since been challenged, the underlying argument is that new forces of competitiveness are impacting business, and while sustainable development is a necessary element to most responsible business strategy, it can also hold substantial competitive advantage (Rusinko, 2007).

Competitiveness has been traditionally understood as the result of a firm's response to various external (competitive) factors. Porter's (1979) seminal article on this topic yielded the now much-used Porter's Five Forces Model (see Figure 16). This model illustrates the degree and nature of competitiveness in a market based on five forces: the bargaining power of customers, the threat of substitute services and products, the threat of new entrants, the bargaining power of suppliers, and the rivalry between industry players.



**Figure 16:** Porter's Five Forces Model (adapted from Porter, M. E. (1979).

Notwithstanding the dominance and broad relevance of Porter's Five Forces Model, a contemporary construct to understand the role of owner/managers in implementing a range of sustainable practices within an organization is the resource-based view (RBV) of the firm. The RBV was created in opposition to the industrial view of the firm which linked competitive advantage to factors external to the firm. The resource-based view argues that a firm's success is based on tangible and intangible internal resources (Wernerfelt, 1984). These resources can be classified into four broad categories: physical resources – including technology and location, human resources – which includes knowledge, skills and ability, social resources – including capital and knowledge networks – and organization capital resources – which represent institutionalized knowledge and structures (Lucas, 2010). The combination of these

two models – examining internal and external factors that influence firm competitiveness – is seen as a workable model for SMMEs engaging in behaviour to support the Green Economy.

The model below (Figure 16), constructed by the authors of this report, acts as a theoretical framework from which to examine and understand the findings from the third line of enquiry, namely, sustainable practice as competitive advantage.

**The future of SMMEs and their competitive advantage hinges on a reliance of interconnected internal resources and external factors namely social capital, organisational capital, human capital, power of customers and suppliers, competition and threats from new entrants.** These resources and factors should be seen as playing an interconnected

role where each element informs and steers the SMME and its relevant stakeholders toward a place of sustainable competitive advantage. The external factors will often drive and inform the thought processes and strategic intent of the SMME in terms of their skills, knowledge and output and vice versa. If the model is used correctly then the SMMEs' skills, knowledge and outputs should inform the decision-making process of their customers/suppliers and eliminate or reduce the threat of competitors and new entrants into the market. These factors may possibly even encourage them to take on sustainable activities to keep ahead of competitive forces.

**“People profess [to follow sustainable processes] but under a microscope they fail the test.”**

- Industry Expert;  
Metal & Machinery

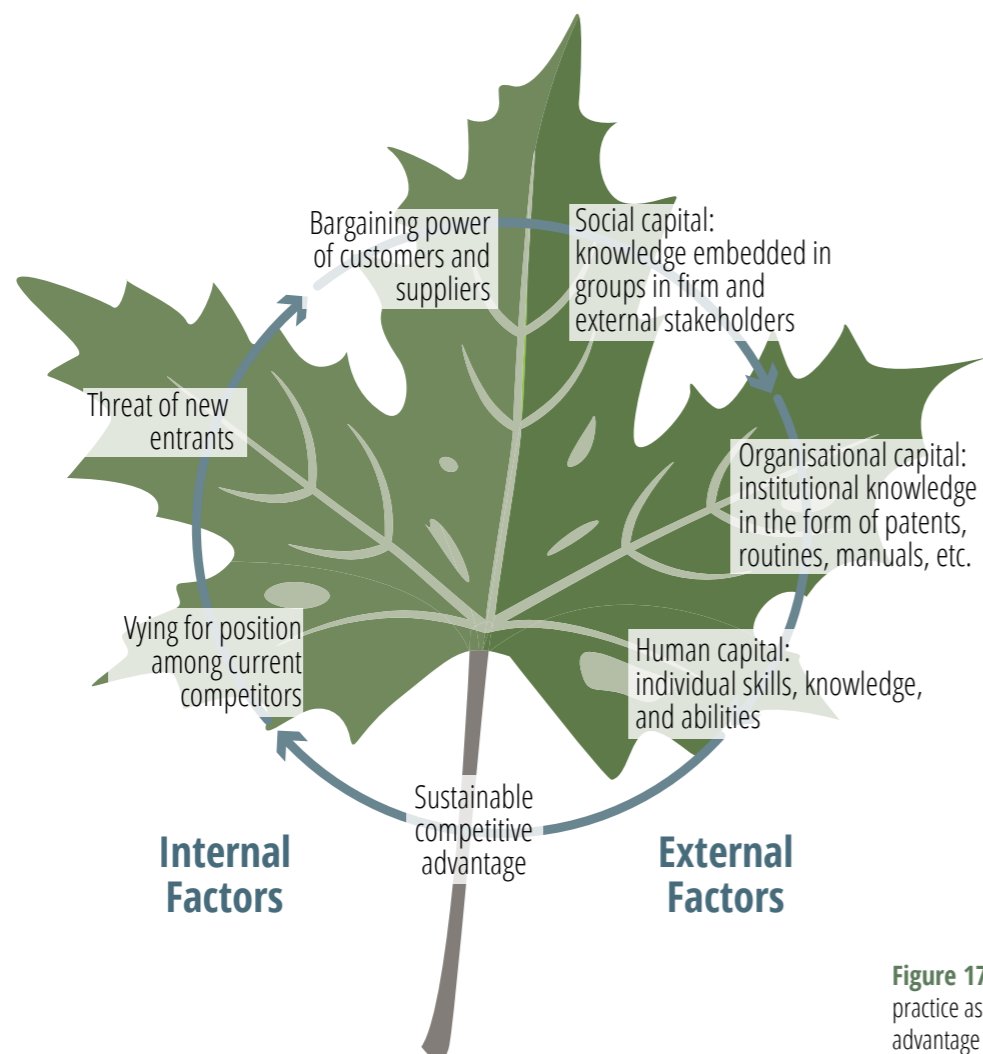
## RESEARCH FINDINGS

### EXTERNAL FACTORS

Drawing on Porter (1979), respondents were asked to indicate their level of agreement with statements that sought to understand the SMME's appreciation of sustainability as a driver of competitiveness with regards to:

- Competitors/new entrants
- Suppliers
- Customers

The majority of respondents did not see competition within their industry as a driver to engage in sustainable practices. However, they did see the existence of these practices as a possible differentiator from competitors. These results, when taken with previous findings regarding investment in infrastructure and recognition of innovation as an element of sustainable practices, suggest a confusing strategic positioning from SMMEs. On one hand, respondents see value in sustainability as part of their competitive advantage yet on the other hand, they lack the external motivation to invest in these practices in order to enjoy the competitive advantage. With high levels of competition and rivalry in most manufacturing sectors, it is surprising that SMMEs are not taking a long-term view to building both internal and external capacity to 'defend' against competitive market/industry forces. The substantive majority of respondents reported that they had not engaged with or won any local or international awards for sustainable practices. A positive result for this metric would have provided evidence that SMMEs perceived external recognition of their efforts as a



**Figure 17:** Sustainable practice as competitive advantage



valuable addition to their brand. The low score on this metric lends support to the short-term view that most firms take with regards to sustainability as well as their lack of investment in sustainable practices that will yield benefit over time. Respondents were largely neutral regarding the role that suppliers play in adding to sustainable manufacturing practices; this could be regarded in an optimistic light as the neutrality could be converted to a positive response. Interestingly, **SMMEs seem to externalise the role of sustainability to suppliers and customers rather than hold the responsibility themselves**; it seems that any lack of long-term investing in sustainable manufacturing practices is transferred to those within the SMME's value and supply chain.

## INTERNAL RESOURCES

Internal factors that impact competitiveness among SMME manufacturing businesses drew from models of the resource-based view of the firm. In particular, the following three attributes were examined:

- Intellectual/Human capital resources
- Social capital resources
- Organizational capital resources

Firms saw very little value in their internal resources – across all three metrics above – with regards to their ability to create and maintain competitive advantage from sustainable manufacturing processes. While the majority of respondents regarded their sustainable practices as an innovation and part of their intellectual property, this response is challenging to accept given the low levels of investment in such practices. **In all likelihood, respondents may be regarding simple activities such as recycling and waste management as 'innovations' and including this as part of intellectual/human capital.** Motivation to become

more sustainable was questioned again, and respondents indicated a moderate desire to be sustainable, going further and indicating that the domain of sustainability was as much the responsibility of SMMEs as it was of larger businesses. In summary, internal factors did not appear as important resources from which manufacturing SMMEs could draw in order to create competitive advantage through sustainable practice.

## IMPLICATIONS OF THE FINDINGS

The findings above illustrate a confusing picture in which SMMEs move between recognising internal resources and external factors as important elements in building long-lasting competitive advantage from their sustainable manufacturing processes. External drivers – drawn from Porter's Five Forces model – see the firm's lack of long-term vision amplified, as the responsibility for sustainable practice is, to some extent, externalized into the value and supply chain. This has profound implications regarding relationship-building, collaboration and co-operation within the ecosystem, all of which take time to develop, nurture and harvest. **The lack of alignment between the firm and its suppliers and customers, could indicate that the 'profit-at-all-cost' model wins out over a sustainable, partnership-based manufacturing model that promotes all elements of the Green Economy.** The tough economic circumstances in which South African SMMEs find themselves could explain some of the reluctance to fully engage in developing a sustainable and responsible network with suppliers and customers, however the long-term implications of this approach are dire.

Based on the research findings the assumption was made that internal resources would be seen as valuable contributors to competitive advantage. This added further confusion to the results, as SMMEs indicated that while they valued, for example, innovation as part of their sustainable practices, when taken alongside other data, there was very little commitment to innovation or infrastructure investment. **A low regard for human capital and the low level of awareness of staff as to the basic tenets of sustainable practice, means that knowledge networks and management are not valuable inputs into internal resources needed to maintain sustainable practices.** The findings imply that organizational structures do not lend themselves to collaboration and broader ecosystem engagement as a mechanism for building international capacity for sustainable practice. The economic stress many businesses experience is not a sufficient argument for the lack of internal resources development, although the political and economic uncertainty in South Africa could explain the lack of investment in long-term initiatives.

## KEY IMPLICATIONS

Key implications from this line of enquiry are as follows:



The lack of alignment between players in the value and supply chain leads to individualistic thinking and poor engagement.



SMMEs are still focusing on price as a key competitive differentiator and have failed to see the value in long-term sustainable activities which can result in full business benefits.



SMMEs don't have a meaningful and comprehensive road-map that explains how internal resources and external factors can align to build long-term sustainability initiatives that benefit all players in the value chain.



Innovation in this sector, specifically around technological areas, may have a high entry cost but can result in large market prospects and R&D investments.



External recognition is not a driving motivator for SMMEs to take part in sustainable practices which are innovative in nature.



## SECTION 5: CONCLUSION AND RECOMMENDATIONS

### RECOMMENDATIONS FOR THE SMME MANUFACTURING SECTOR

This report set out to investigate the motivation for, nature and competitive advantage of SMMEs engagement in sustainable manufacturing practices that form part of the Green Economy. A diverse group of manufacturing companies participated in the study through a self-administered survey and selected interviews. The results across all three lines of enquiry yielded a sense of contradiction and confusion from respondents with regards to their sustainable manufacturing practices. The overarching conclusion of this report is that the waters of sustainability are muddy at worst and murky at best. **This report argues that in order for SMMEs to realize their role in the global economy, from an economic as well as sustainable perspective, social, economic and environmental practices will need to be adopted and embraced.** In order to gain greater clarity of purpose from SMMEs regarding their participation in the Green Economy, and to bolster initiatives where firms appear eager to engage, we have made a number of recommendations for government, industry influencers and SMMEs. We have also proposed a taxonomy of practice that should be adopted as a roadmap for these recommendations and as a means of measuring and tracking progress of SMMEs.

#### NATIONAL AND PROVINCIAL GOVERNMENT

The plight of SMMEs in adopting sustainable practices is often hindered by the push factors placed on them by government and lobby groups. However, the role that local and provincial government play in the legislation and government regulation regarding green policies and sustainable business practices cannot be ignored. As global advocacy groups begin to focus on more appropriate measures surrounding the Green Economy and business, it will become imperative for government agencies to ensure that adherence to rules and regulations is appropriate. The following key recommendations highlight the areas in which national and provincial government can enhance their role within the development of the Green Economy:

- National and provincial government would benefit from developing more specific **communication strategies** which focus on the key benefits of their sustainability programmes which are aimed at the SMME sector. This communication needs to be simple, inclusive and consider the time constraints and limited capacity that the SMME sector has in terms of staff al-



location and resources when it comes to investigating these programmes and applying for funding and/or support.

- The **medium of communication needs to be considered**, and whilst exclusive use of web-based methods might appear to be attractive, this is not always useful for the SMME sector; information sharing sessions in the form of workshops and hard copy brochures will need to be utilised in conjunction with a web-based platform.
- As is evident from the current research, the key selling point for communication **needs to be the business benefits** for the SMME sector. Highlighting success stories, which involve a financial gain for the SMME, and clearly articulate the steps taken to achieve this, would also be beneficial in gaining buy-in from this sector.
- **Incentivised programmes** that act as a pull factor for SMMEs to participate in sustainable and green practices need to be **re-imagined**. It is recommended that government works in partnership with large businesses that actively promote green practices, to provide incentives to SMMEs for good environmental performance. It is envisaged that SMMEs will be able to accumulate points for implementing and taking part in specific green activities and training and can redeem these points for either tangible rewards or mentorship and guidance for their business. The benefit for big business is recognition by government, as well as empowering a sector that is often necessary to the successful functioning of their own supply chain. Government

could also look at adapting the current BBBEE scorecard to accommodate large businesses that provide mentorship and training as part of the incentive programmes and forming this as part of the Skills Development requirement.

- Further skills development and training needs to be provided to compliance officers since they are **knowledgeable ambassadors for the Green Economy** and not merely policing small businesses that might not be compliant. The logic behind this recommendation is for SMMEs to reach out to these individuals when they conduct their inspections and for the officers to assist in guiding them towards easier and more effective sustainable practices.
- Inter-departmental communication within national and provincial government needs to be addressed so that a **unified, clear and simple message** is being communicated to the SMME sector. Not only will this aid in limiting the time SMMEs spend identifying which programme or grant to apply for and reduce time spent liaising between departments, but also it will promote a sense of purpose and strength from government.

## INFLUENCERS

Large corporations, that have deeply entrenched sustainable practices which form part of their corporate strategy, need to be open to **sharing their best practices and co-creating a space for the SMME sector to succeed**. Not only is the greening of the supply chain a direct benefit of having the private sector involved in the development of SMMEs, but also it's an opportunity for stewardship on behalf of big

business to take place. The following recommendations have been listed for influencers, in the form of large organisations and industry bodies, to take part in further developing the green practices of the SMME sector:

- Developing and promoting **business-driven workshops**, which focus on soft skills training, mentorship, change-management and skills development around sustainability for SMMEs. Research indicates that the **co-creation of the structure and content** which will be taught is imperative to the adoption of the programme by the SMMEs (OECD, 2015). As with the recommendation made for government, information will need to focus on the business benefits for the SMMEs.
- Acting as a **mentor** to their current suppliers and developing internal skills development programmes focused on long-term sustainability and Green Economy fast-tracking as part of their **enterprise and supplier development initiatives**.
- Using a **web-based platform**, the private sector can promote services and skills in which they are proficient and match themselves up with similar businesses within the SMME sector. This platform will act as a **hub for SMMEs and big business** to share pain points and collaboratively come up with solutions and recommendations. The focus of this site will be for SMME owners to further develop their business knowledge and skills around sustainable practices and then filter that knowledge down to the rest of their staff.

Becoming more active in insisting that SMMEs take part in sustainable practices. The role of citizens within society cannot be ignored when it comes to having an influence over the sustainable and green economic practices of SMMEs. Individuals need to not only start "voting with their wallet" but also take time to fully understand the need for the SMME sector to fulfill its role in creating jobs within South Africa whilst simultaneously acting in a sustainable manner. A global increase in concern over climate change has led to wide-scale penetration of sustainability and green economic practices as a concept for not only businesses but individuals within society (Borel-Saladin & Turok, 2013).

## SMMES

Globally, SMMEs generate significant employment and economic output with the development community having recognized the numerous opportunities to leverage the innovation and drive of this sector in promoting and taking up the mantle of sustainable and green economic development practices. **For many SMMEs, improving their environmental performance is a significant business opportunity since they are recognized as important suppliers of goods and services.** In order to achieve this objective, as well as make a significant impact on the betterment of the environment, the following recommendations are proposed for the SMME sector to put into practice:

- **Form a consortium** of sustainability-focused and green 'approved' SMMEs within the manufacturing sector whose role it will be to share best practice, focus on long-term green practices and act as a not only a **client referral** base amongst one another but help one another in becoming part of **global value chains**.

- Formulate strategic plans that will help structure a **culture of sustainability for all employees** in their organizations. This will need to include information and **practical solutions** on how to engage in sustainable practices in all staff training sessions as well as details on the **short-term** and **long-term benefits** of sustainable practices.
- Encourage greater emphasis on knowledge-sharing within the SMME sector. Business owners need to become more proactive in **encouraging internal innovation** towards sustainable practices and realistic about what can be achieved

The SMME sector is no stranger to challenges – the manufacturing sector in particular – with regards to regulatory disputes, lack of management skills and training, ineffective support structures and limited access to finance. **However, the SMME sector's transition towards a Green Economy could be the catalyst the South African economy needs in order to increase growth and job creation.**

## TAXONOMY

Part of this report hinges on the specific activities SMME respondents take part in with regards to sustainability and green economic development. A taxonomy (Figure 18) has been developed, by the authors of this report, using the analogy of a marine ecosystem, to illustrate the varying levels of sustainable development and green economic activities based on Social, Environmental, Economic and Cultural input. Starting at the bottom and having to work upwards, the authors believe that SMMEs need to focus on specific elements and activities that are geared towards supporting a Green Economy. In order to reach the level of Trailblazers (the highest level within the system), SMMEs will need to incorporate activities that are holistic in nature and focus on various **Social, Environmental, Economic, and Cultural elements**. By way of an example, a specific SMME might only take part in very limited Green Economy activities and would therefore be accredited with an Opportunist status. As it slowly starts adopting and implementing more sustainably focused activities, its level within the ecosystem becomes elevated thus improving the sustainability of the organisation and its wider network. Utilising the recommendations the authors have suggested in this report pertaining to simple and clear communication, the taxonomy is a concise and effective tool that acts as both an aspirational diagram and a detailed 'how to' guide for SMMEs wanting to improve their internal and external impact with regards to the Green Economy.

Figure 18 (opposite): Taxonomy of the Green Economy

## TRAILBLAZERS

Act on long-term sustainability efforts which are core to their overall business strategy

- Promoting sustainable consumption patterns
- Reporting accurately and honestly using metrics which go beyond GDP
- Driving innovation
- Investing in infrastructure
- Procuring locally sourced and organic raw materials
- Protecting biodiversity
- Promote and foster inclusive and innovative practices
- Developing a business strategy that embodies a global human challenge larger than the organization

## ADOPTERS

Understand and put sustainable practices in place because it's the right thing to do

- Conducting good community relations
- Treating suppliers fairly
- Respecting human rights
- Training and development of staff
- Minimizing the use of hazardous substances
- Using environmentally sound materials and energy
- Cultivate a tradition of sustainable and green practices
- Developing and practicing integrated decision making processes with internal and external stakeholders

## IMPLEMENTERS

Put sustainable practices into place because of compliance and only then is it the bare minimum

- Ensuring product safety
- Being compliant
- Combating bribery and corruption
- Using energy and resources efficiently

## RECOGNIZERS

Recognize the term sustainability but don't necessarily implement the practices

- Paying tax responsibly
- Contributing to job creation
- Minimizing waste and emissions

## OPPORTUNISTS

Limited understanding or desire to understand sustainability and carry out the bare minimum

## TAXONOMY OF THE GREEN ECONOMY

SMMEs can be classified into five different categories according to their levels of sustainable development and green economic activities.

- Social
- Environmental
- Economic
- Cultural



## FINAL WORDS

There is no denying the effort SMMEs need to exert in order to see their business ventures come to fruition., Adding the need for them to adopt environmentally responsible business practices makes their task even more demanding. Despite this hardship, by adopting environmental practices, whether it is at every stage within their business or only in specific sections, **the move towards a sustainable Green Economy and business framework has the potential to provide countless opportunities within which these entrepreneurs can grow and prosper.** Not only is this move towards greener and sustainable practices necessary for providing economic opportunities, which start-ups can exploit, but also the adoption and action of these practices will set the trend for other businesses to embrace. Government cannot be relied upon to put specific legislation into action so by adopting responsible action towards establishing greener practices, **SMMEs will be given the chance to lead through example, not only in their sector but in the business world as a whole.**

Whilst this research report indicates conflicting findings from our respondents with regards to their opinions on a sustainable Green Economy versus their actions, it is important to acknowledge that green activities need to be affordable and attractive for SMMEs. Likewise, public, private and civil society will need to increase and improve their efforts when it comes to collaborating towards a Green Economy. **Although the respondents in this research are involved in a range of business activities, it is worth investigating whether, as a consolidated body, the journey towards sustainability would be a more united one. This would involve all the SMMEs discussing and setting out a specific agenda whereby they all agree to comply with specific environmental requirements and operate on a level playing field.**

Eco-preneurship requires the energy and focus of SMME entrepreneurs who need to bring their enthusiasm, creativity and innovative thinking to this important work. Addressing the challenges that lead towards sustainable manufacturing practices will require the attention of multiple stakeholders and a plan that takes into account the South African context and a range of interventions and initiatives.



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# APPENDIX A: LIST OF GREEN ECONOMY INITIATIVES

Below is a sample of programmes and initiatives supporting various aspects of the Green Economy in South Africa.

## COACHLAB

<http://www.theinnovationhub.com/skills-development/coachlab-2/coachlab-green>

CoachLab aims to develop skills in the Green Economy sector to help try and create sustainable jobs. CoachLab offers learnerships to South Africans between the ages of 18 and 35 with a minimum NQF level 4.

## GREEN INDUSTRIAL POLICY IN SOUTH AFRICA

<http://www.tips.org.za/events/development-dialogue-seminar/item/3226-green-industrial-policy-in-south-africa>

This policy conference focusses on designing policy frameworks for a climate compatible industrial development transition in South Africa.

## GREEN ECONOMY OBSERVATORY FOR AFRICA (GEO-AFRICA)

<http://www.tips.org.za/projects/past-projects/sustainable-growth/green-economy/item/2679-green-economy-observatory-for-africa-geo-africa>

This workshop was held in Dar es Salaam gathered various policy makers from all over the continent, including South Africa, to investigate the state of Green Economy on the continent. The Green Economy issues were discussed with an African Context which was based on background documents as well as an original proposal by TIPS in co-operation with the Human Sciences Research Council in South Africa.

## GREEN JOBS IN SOUTH AFRICA. SOCIAL DIALOGUE FOR GREEN AND DECENT JOBS. SA-EUROPEAN DIALOGUE ON JUST TRANSITION

<http://www.tips.org.za/projects/past-projects/sustainable-growth/green-economy/item/2675-green-jobs-in-south-africa-social-dialogue-for-green-and-decent-jobs-sa-european-dialogue-on-just-transition>

TIPS held a Training workshop in Johannesburg for South African Trade Unions on Green and decent jobs in Johannesburg. At the training workshop, they presented their findings from their comprehensive report on green jobs and related policy frameworks.

## AFRICAN CENTRE FOR A GREEN ECONOMY

<http://africancentre.org/programmes/#toggle-id-2>

The African Centre for a Green Economy offers research and advisory services in the green economy sector. They support governments, business and civil society across Africa to develop strategies to achieve their sustainable development objectives.

## GREEN JOBS TRAINING PROGRAMME FOR SOUTH AFRICA

<http://www.sagreenfund.org.za/wordpress/training/>

The Green Fund has a capacity development programme which is funding several initiatives which aim to support South Africa's transition towards a Green Economy. They have held various courses and training programmes which help equip people with knowledge on the topic.



### **NRF - GREEN ECONOMY POSTDOCTORAL FELLOWSHIP CALL**

<http://www.nrf.ac.za/division/funding/nrf-green-economy-postdoctoral-fellowship-call-2015>

The NRF had a Green Economy Postdoctoral Fellowship in 2015.

### **SOPHIATOWN BIZCRE8**

<http://sophiatownthemix.com/bizcre8/>

Sophiatown Bizcre8 has a range of programs to support youth enterprise development in the green economy, the design sector, and for female-led businesses in township economies. The programs are aimed at entrepreneurs between the ages of 18 and 35.

### **REPUTATION MATTERS: SUSTAINABILITY WEEK – ADVANCING THE GREEN ECONOMY IN SOUTH AFRICA**

<http://www.reputationmatters.co.za/sustainability-week-advancing-the-green-economy-in-south-africa/>

This multifaceted programme during Sustainability Week took place at the CSIR International Convention Centre in Pretoria. The event offers various opportunities for investors, businesses and consumers to learn, share, and ultimately help improve environmental and economic performance.

### **A NEW OFFERING BY THE GBCSA THAT FOCUSES ON THE RANDE AND SENSE OF GREEN BUILDING**

<https://www.gbcsa.org.za/courses/category/economics-of-green-building/>

This short course, hosted by the Green Building Council, presents information on Green Building has helped countries across the globe. They have put together a report which was presented at the course, the report would show South

Africans how they could incorporate Green Building locally. The course looked at international evidence on green building and how South Africa would incorporate Green Building locally as there is significant evidence that Green Building brings better investment in the long-term.

### **FOSTERING A GREEN ECONOMY TRANSFORMATION AND SOCIAL AND ENVIRONMENTAL ENTREPRENEURSHIP IN AFRICA**

<http://www.oecd.org/investment/investment-fordevelopment/47670108.pdf>

UNEP implemented a regional pilot project on the Green Economy and Social and Environmental Entrepreneurship Development in South Africa. The object of this project was to African countries in their efforts implement policies and investments in green economic sectors.

### **ENTERPRISE DEVELOPMENT PROGRAMME FOR THE GREEN ECONOMY**

<https://www.ujuh.co.za/jobs/enterprise-development-programme-for-the-green-economy/>

This Programme is looking to groom small businesses that have a focus on the green economy. The aim of the Programme is to strengthen emerging businesses to become environmentally sustainable suppliers to corporates and become successful businesses.

