

## Decarbonising the Economy: A Viable Strategy to Combat Global Climate Change and Foster Environmental Sustainability

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**KEYWORDS** Climate Change. Environmental Degradation. Emissions Reduction. Economic Growth. Sustainable Development

**ABSTRACT** On the African continent, South Africa is the leading emitter of carbon dioxide causing global warming, climate change and environmental degradation. The government has put in place numerous strategic and legal interventions to curb the menace and at the same time establish various institutions to implement policies and laws on carbon dioxide emissions reduction. Despite this, climate change culprits have continued to engage in activities that are dangerous to the environment. Consequent to this, this paper argues that the best way to curb carbon emissions causing global climate change is to decarbonise the economy by encouraging industries and other sectors of the economy to take appropriate steps to transit towards the use of sustainable alternative energy to power their equipment and other production activities. The paper highlights the significance of zero tolerance for carbon emission and argues for sustainable alternatives. The paper points out that, by decarbonising the economy, this will not necessarily retard economic growth but rather foster sustainable economic growth.

### INTRODUCTION

With global energy demand on the increase, coupled with the depletion of the natural resources and the negative impact of fossil-based energy sources on the environment, the issue of clean, sustainable energy and its importance thereof in economic development and global well-being have become a pressing reality worldwide (Kreith 2010). It is therefore essential to make available ample information regarding issues surrounding climate change to the people in order to provide them an opportunity to get prepared and be ready to face the reality, in case there is manifestation of the extreme bizarre weather event (Schmidheiny 1992). This is because the rights of access to information, public participation and access to justice in environmental matters are essential for achieving sustainable development, in particular for such important aspects as effective governance and greening the economy (Changhua 2005). According to Pearce et al. (1989), Green Economy is a growing economic development model based on the knowledge that aims to address the interdependence of economic growth and natural ecosystems, and the adverse impact economic activities can have on the environment.

Khor (2011) asserts that green economy gives the impression of an economy that is environmentally-friendly; sensitive to the need to conserve natural resources; minimises pollution and

emissions that damage the environment in the production process; and produces products and services whose existence and consumption do not harm the environment. Endl and Sedlacko (2012:6) observed that “a vital feature of the concept of a green economy is that it is considered in the context of sustainable development and poverty eradication. Changes in patterns of investment, technology, production and consumption associated with sustainability - often referred to as green economy - have taken centre stage in international development circles”.

This potentially transformative approach emphasizes the need to shift from high to low carbon systems (Soderholm et al. 2011). Although the concept of green economy and strategies to promote it are highly contested (Seyfang 2006), there are widely varying assessments of the opportunities, costs and benefits of green economy transition for different social groups, countries and regions, and diverging opinions about the different approaches for achieving the social, environmental and economic objectives inherent in the concept of sustainable development (Pearce 1996). The concept of sustainable development is an international creation designed to ameliorate conflicts and reconcile biases between development goals and environmental goals (Heinen 1994). Sustainable development broadly requires that the well-being of the present generation should not be increased at the expense of the welfare of future genera-

tions, and that society's well-being should not decline over time (Anand and Sen 2000). The next generation can only produce as much well-being as the present one if it has the same stock of capital available to it (Barbier 1987). To put it in simple terms, sustainability implies 'living off the interest', rather than 'living off the capital' (Wackernagel 1999). To make the transition to a green economy, specific enabling conditions will be required (Goodland 1995). These enabling conditions consist of a backdrop of national regulations, policies, laws, subsidies and incentives, strategic initiatives and interventions and international market and legal infrastructure, trade and aid protocols (Foxon and Pearson 2008). Therefore, the concept of green economy simply accentuates that the business-as-usual approach of using or towing the unsustainable path to produce socio-economic goods and services should be stopped and requires, henceforth, progressive transition to sustainable green economic growth that will produce beneficitation to present and future generations.

### METHODOLOGY

The methodology for this study is a purely qualitative research that involved the use of relevant and contemporary literature in the field to make a robust argument for the need to green the economy by using sustainable alternative resources, as opposed to the business-as-usual of burning fossil fuel that emits carbon dioxide and thus causing global warming and climate change. In the study, an overview of the effort being made by South Africa to green its economy is presented. The weaknesses and strengths of this are evaluated and examples from other countries on how they were able to factor in green economy into their economy are referred to as lessons to be learnt by South Africa. It is vehemently argued that there is no alternative to sustainable energy and resources. To this end the study argues for the integration and application of sustainable development into all the decision making processes of both government and private entities. The study supports economic growth and development that is based on and used as part of its cornerstone-application of holistic approach to sustainable development.

### Literature Review

According to Kidd (2006), South Africa's constitution, through the inclusion of environ-

mental rights as fundamental justiciable human rights, by necessary implication, requires that environmental considerations be accorded appropriate recognition and respect in the administrative processes of our country. To this end, issues surrounding a clean environment and viable and sustainable climate should be given priority in the scheme of things in order to make the environment sustainable; consequently, the burning of fossil fuels causing global change should be discouraged in its entirety in respect of any developmental reason (Shen et al. 2010). The reliance on coal by South Africa for economic growth and developmental purposes has to change because it is not sustainable (Schmidheiny 1992). The world climate is changing rapidly and sharply as a result of carbon emissions. Against the backdrop of this instability in the climate, Brown et al. (2007) citing the United Nations Environmental Programme report revealed and warned that accelerating climate-changing emissions indicate a mounting threat of runaway climate change, with potentially disastrous human consequences. To avert the manifestation of these destructive consequences, South Africa needs to look at new ways to generate clean energy for sustainable economic and social development, and to reduce its dependency on coal (Wackernagel 1996).

These days, the idea of a green economy has taken the fore front in the environmental economics and into the mainstream of policy discourse in the policy frameworks of virtually all the countries of the world (Scarlett 2010). It has now become one of the main themes for deliberations at different national, regional and international summits. Its significance is being reflected as a principal plank of global efforts towards sustainable development in the coming decades and will presumably stimulate States to roll out and implement green economy strategies that will promote green economy and discourage unsuitable use of destructive fossil fuels harming the environment (Mitchell and Woodman 2004.).

In explaining the context of sustainable development and green economy, Esty and Winston (2009) are of the view that a green economy gives the impression of an economy that is environmentally-friendly; sensitive to the need to conserve natural resources; and minimises pollution and emissions that damage the environment in the production process. This mode of production does not, in any way, harm the envi-

ronment. Rather, both are mutually beneficial in the sense that there is progress in economic growth and development and, at the same time, the environment is not polluted but becomes friendly and clean. This is the reason why Khor (2011) supports the practicability of the concept of green economy in productions and operations by indicating that the three aspects of sustainable development (viz., environmental, economic and social) should be incorporated to obtain a multi-dimensional outcome so as to promote sustainable development and green economy. The guidelines suggested by Khor (2011) to promote a more environmentally-sound economy in the context of sustainable development are therefore worth emulating, namely:

- Recognising the economic and social value of environmental resources;
- Conserving resources as well as rehabilitating damaged environments and eco-systems;
- Enabling prices to better reflect their environmental value, while also enabling ordinary people and the poor to access basic goods and services;
- Government promotion of environmental objectives through financial, industrial and technological policies and measures, including subsidies, incentives, use of government investment and budget, and placing limits to pollution and over-use of resources through regulation and other policies;
- Regulating the market;
- Recognising the link between livelihoods and living conditions of small rural producers, communities and the environment;
- Promotion of sustainable consumption and lifestyles;
- Food security, rural livelihoods and sustainable agriculture; and
- Strengthening international policies and mechanisms to support developing countries' policies and efforts towards sustainable development.

By emulating these viable green economic guidelines, this will improve and strengthen South African's perspective towards attaining a green economy. This is the reason why the country has promulgated various policies geared toward green economy with sustainable development as the overriding goal (Heck 2006). The ultimate aim was for sustainable development to occur in an environment in which an environ-

mentally sustainable economy was in harmony with ecological principles (Lele 1991). In order to achieve this, this is the reason why the country promulgated the National Environmental Management Act of 1998 (NEMA) for purposes of managing all activities that are dangerous to the environment. By so doing, the country is actualising the goals of sustainability in all sectors of the economy (Audouin and Hattingh 2008). Accordingly, Section 30 of NEMA empowers the government to regulate and control of harmful activities during emergency situations and makes the perpetrator accountable. The section places the onus on the polluter to contain, clean up and carry out required remediation following an emergency incident. The role of the government under Section 30 is to receive information on an incident and then to ensure that adequate procedures are followed by the polluter to take necessary steps to undo the pollution. However, it is pertinent to point out that there are consequences for failure to act. To this end, the government has the power to explore both the criminal and civil responsibility of the perpetrator at the appropriate court or tribunal.

The development towards a green economy is the nexus of the growing needs to develop and further elaborate the economic case for environmental management and sustainable development including scaling up labour intensive natural resources management programmes that contribute to decent work and livelihood opportunities (Davidson et al. 2003). The need for Climate Change action and overall resource management and protection is geared to accelerate the pace of green job creation and overall green investments in the years ahead (Anbumozhi et al. 2011). Mounting evidence also suggests that transitioning to a green economy has sound economic and social justification. There is a strong case emerging for a redoubling of efforts by both governments and the private sector to engage in such an economic transformation (Rostow 1990).

The study conducted by Jerneck et al. (2011) revealed that a global transition to a low carbon and sustainable economy can create large numbers of green jobs across many sectors of the economy, and indeed can become an engine of development. This is feasible in South Africa because the country has a rich natural resource base and ranks amongst the top 3 in the world's most bio-diverse countries (Yumkella 2011). Contemporary economic growth is now being driven

by green economy, equity and green governance in order to achieve growth in income and employment driven by public and private investments that reduce carbon emissions and pollution; enhance energy and resource efficiency; and prevent the loss of biodiversity and ecosystem services, all of which will positively impact on poor people whose livelihood is dependent on nature (Jackson 2011). It is therefore pertinent to point out that work towards achieving a green economy and sustainable consumption and production are mutually supportive; covering macro and micro interventions that require change in policy and regulatory instruments, investment and business operations, as well as behavioural change in society (Harger and Meyer 1996). Consequently, the principle of co-operation must induce States and organizations to co-operate and co-ordinate their efforts in order to address global environmental problems so as to ensure the promotion of sustainable development (Stauffacher et al. 2006). To achieve this, there is need for a global environmental organization to oversee and co-ordinate global environmental efforts that will continue to ensure clean and sustainable environments (Rothwell 1995). This is why it is important to continue to monitor, assess and evaluate different activities suspected to be harmful to the environment and nip them in the bud as soon as they rear their heads, either in terms of emissions of noxious gasses or polluting the environment.

## OBSERVATIONS AND DISCUSSION

As part of its strategy to transit to a low carbon economy, South Africa has voluntarily committed, through various policies and legislations to reducing its emissions below baseline of 34 per cent by 2020 and 42 per cent by 2025 (Haines et al. 2007). For this reason, South Africa is building a competitive resource-efficient and inclusive future for all generations. Due to its stride for huge reduction in carbon dioxide emissions, South Africa has started reaping the benefits of transition to low carbon economy in virtually all sectors including the environment (Arnold DL 2010). Against the backdrop of this stride, the country is now creating new green jobs as a result of shift in energy usage, mode of production and consumption of goods and services. More importantly, resilience is being built into all aspects of the planning and policy to ensure

sustainable growth path that will be beneficial to the indigents and poorest of the poor (Roberts and O'Donoghue 2013).

Various scientific reports and scholarly works support the assertion that there are economic reasons for countries of the world, and particularly South Africa, to 'act now' by not only greening the economy, but by also going beyond merely the greening of the economy in order to ensure an enduring economic growth and sustainability (McGowan 1976). This includes conserving and reserving its energy and water resources as well as other environmental services, like biodiversity (Castells 2011). All these are vital economic inputs that require immediate preservation and protection for the use of current and future economic growth and development.

While pursuing the green economy, it has been observed that there is a growing threat of increasing eco-protectionism from advanced industrial countries in the form of tariff and non-tariff measures such as carbon taxes and restrictive standards. These are the challenges to the concept of 'act now' within a political environment, for the following reasons:

- Greening requires a level of innovation and risk-taking; however, decision-makers, especially at a local level, are often conservative in their approach to policy and spending (McConnell 1979);
- The services provided by the environment are seen as free, and the externalised costs of disease, storm damage or water scarcity, resulting from damaged ecosystems, are seldom factored into decision-making on spending (Russi 2012);
- Similarly, the full life-cycle costs of developments and their cumulative impact on ecosystems are not considered (Gluch and Baumann 2004);
- Green interventions are perceived to be more expensive, although international precedent shows that the additional investment is small (0-10%) and recoverable from the significant benefits (Bollen and Bilthoven 2008); and
- Resourcing green interventions requires access to innovative financing and technical support from national, regional and international financial institutions (Atchoarena et al. 2003).

In order to walk the talk, as part of its strategic intervention to transit to a low carbon-econ-

omy, the Government of South Africa, through the Department of Environmental Affairs (DEA) has set aside R800 million to establish the Green Fund to be disbursed to businesses that create green innovations and job opportunities (DEA 2012). The key objective of the fund is to lay the basis for the South African economy to make a transition to a low carbon, resource efficient and climate resilient development path delivering high impact economic, environmental and social benefits. The strategic aim of the fund is to provide catalytic finance to facilitate investment in green initiatives that will support South Africa's transition towards a green economy (DEA 2012). The green fund provides support through three funding opportunities. The focus areas and eligibility criteria for each opportunity is different and informed by key national policies. These policies include, the National Strategy for Sustainable Development and Action Plan, the New Growth Path and The National Development Plan (Gomez-Echeverri 2010).

In case there is any reason for a certain green innovative project not to take off or be implemented as planned, the green fund will intervene by providing support in promoting innovative and high impact green technological intervention, reinforcing climate policy objectives through green interventions, building an evidence base for the expansion of the green economy, and attracting additional resources to support the project in order to achieve green economy development (Circo 2008).

Pursuant to the above intervention, the green fund also sets out to alter existing infrastructure and services towards accommodating of green production infrastructure which will serve as an impetus to generating the demand for green products and services (Fucci et al. 2010). To this end, green fund serves as a catalyst to create greater localisation of green technologies and plays a significant role in huge investment in green economy in both private and public sectors (Yudelson 2007).

All these initiatives and strategies to attain low carbon economy can become more beneficial if there is decoupling of carbon based resource utilisation from the productive sector in order to lower environmental impact and resource consumption (Omer 2008). To achieve this, there is need to shift to clean production methods and other climate change mitigation and adaptation measures through interventions targeting indus-

trial efficiency and the carbon intensity of the economy including energy efficiency, reducing pollution from industrial processes, waste management and reuse of by-products (Haines et al. 2007).

In the judicial sphere, Kotzé and du Plessis (2004) observed that the superiority, impartiality, independence and ability of the South African judiciary to uphold the Constitution and the rule of law were prerequisites for a successfully functioning constitutional State. Even though environmental law is still in its infancy when compared to other legal disciplines in South Africa (Robinson 1988), it could reasonably be expected that the courts would, apart from their work in other areas of the law, increasingly uphold, develop and further enrich the environmental law discourse by means of its adjudicative responsibilities. However, from the decisions that have been handed down so far, the courts are still struggling in the areas of the development of constitutional environmental rights (Pieterse 2004).

People who are entrusted to make climate and environmental decisions should apply their minds by ensuring that issues relating to climate and environment take precedence over other decisions such as economic or growth decisions (Elling 2010). By taking cognisance of issues of environment and sustainable development prior administrative or judicial decisions, the responsible officer will be practically making a substantive value-based judgement (Feris 2010). From all indications, a green economy that will lead to or promote sustainable development is more viable and durable in terms of production and delivery of socio-economic goods and services (Charter and Tischner 2001). The government's approach to embrace green economy is therefore commendable even though there are huge challenges such as convincing captains of industries and individuals that the path of green economy is more good and viable than the business as usual path which is driven by the use of fossil fuel to produce goods and services (Smith and Scott 2006).

Therefore, there should be a pragmatic focus on the implementation of significant legal developments in the field of sustainable development and to ensure compliance with and enforcement of coherent, integrated economic, social and environmental laws (Lawrence 1997). Viñuales (2013) expresses the view that that a green econ-



omy needs to go beyond simply shifting to a low-carbon economy, towards reinforcing the interdependence among the economic, social and environmental pillars of sustainable development. The Green Economy approach should therefore be holistic in implementation and no sector should thus be left out (Langhelle 2000). This is how sustainable and a friendly environment will become a reality. More importantly, in order to achieve global sustainability, it is essential that developed countries should change their unsustainable consumption and production patterns so as to achieve a green society, rather than a green economy (Jabareen 2008). This is essential because most of the developed countries are the major carbon emissions culprits (Wirth 1989). The impact of their emissions is felt globally and vulnerable developing countries are at the receiving end because of lack of adaptive and mitigating capacities-even though they emit very little or nothing (Kuruppu and Liverman 2011).

### CONCLUSION

By greening the economy, this might be an impetus for developing countries to attain economic and social gains on several fronts-such as through the deployment of cleaner energy technologies and improved access to energy services; improved resource efficiency through investments in cleaner production approaches; increased food security through the use of more sustainable agricultural methods; and access to emerging new markets for their green goods and services. In both the short and long run, there is always beneficiation tendency in transition to a green economy as the three elements of sustainable development principles would be fulfilled.

By exploring and utilising the resources effectively and efficiently through diversification of the energy matrix and mix, such can reduce import bills and protect a country from price volatility in energy markets, while reducing the environmental footprint and associated health costs of economic activity. Sustainable renewable energy should be given ample consideration in all energy usage or decisions. This will enhance the attainment of energy sustainability and reduce carbon dioxide emissions.

With regard to the role of the law in emissions reduction, the effective implementation of environmental and climate laws at the national,

regional and international levels requires the informed participation of key decision-makers to not only shape the interpretation and enforcement of these instruments within their jurisdictions, but also to develop institutional frameworks and regulations focusing on environmental governance and accountability issues, as well as the role of law in protecting natural resources and promoting sustainable development that will achieve the goals of green economy. Pursuant to this, technology, investments, strategic interventions and policies should be geared toward acting responsibly by incorporating and implementing a sustainable economic trajectory that is economically, socially and environmentally sustainable.

### RECOMMENDATIONS

An aggressive substantial investment in green economy will stimulate and promote an effective fair transition to a green economy in a developing country, and South Africa is one of the pioneers of this model and should continue on this path. Tax regimes of the developing countries should be tailored towards the encouragement of new investments that will culminate in enhancing environmental sustainability. Public expenditure, including infrastructure provisions; sustainable procurement and funding for research development; and demonstration in green production of goods and services, will also provide viable economic growth and development.

There should be ample access and opportunity for developing countries to get the financial and technological support needed to overcome development challenges associated with transitioning to a green economy. Admittedly, climate change is one of the key drivers behind the urgency to promote a transition to a green economy, therefore, there should be political and administrative wills to remove any barrier that will discourage and hamper the transition to a green economy.

### ACKNOWLEDGEMENTS

This paper is a heavily revised and enlarged version of the paper presented at the 5<sup>th</sup> Walter Sisulu International Research Conference, held at the Convention Centre East London, Eastern Cape, South Africa, on 22-24 August 2012, under the conference theme: "Implementation Science

in Green Economy.” I take this opportunity to thank the conference participants for their useful comments when the paper was presented. I would also like to thank Eskom Tertiary Education Support Programme (TESP), South Africa, in collaboration with Fort Hare Institute of Technology, University of Fort Hare, Alice, Eastern Cape, for the assistance provided to undertake this research work.

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