PAGE PARTNERSHIP FOR ACTION ON GREEN ECONOMY

'Renewing South Africa's growth plan – the NDP is green on the other side'

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'We will have a South Africa in which the young of our country have access to the best that mankind has produced (Oliver Reginald Tambo)

An optimistic vision

Chapter 5 of the National Development Plan (NDP) is clear on the necessary tenets of a transition to a low-carbon and resource efficient economy for South Africa. Such an economy is fundamental to the kind of South Africa that Oliver Reginald Tambo envisages in this opening citation to this position paper. It is a vision which is equally as optimistic in its outlook as it is firmly steeped in the reality of demands and challenges of a developing state. The ambitious vision for 2030 forecasts that the country's trajectory towards a low-carbon, resilient economy and society will be characterised by reduced dependency on low-carbon energy sources and natural resources, whilst delicately balancing developmental imperatives of employment creation and reduction of poverty and inequality. The NDP is also not oblivious to the importance of managing differences in opinion amongst various stakeholders on apportioning costs and benefits for the transition and the related pace.

The NDP identifies the country's climate policy as the cornerstone for this low carbon transition, and rightly so, for at least two reasons. First, the country has committed to reduce its carbon emissions below a set baseline of 34% by 2020 and 42% by 2025 based on the Intended National Determined Contribution (INDC). Second, the proposed measures to adapt to and mitigate against climate change are inherently resource efficient, low carbon and lead to economic resilience. A resilient economy is equitable, affords equal opportunities for education, employment and health care, while the adoption of advanced technologies (including pricing structures and ownership arrangements across the value chain) will enable mitigation efforts.

Admittedly, no one policy can encompass all the required elements for the envisaged transition, the NDP acknowledges this, and proposes myriad of integrated policies that support sustainable development. The good news is, the country is increasingly incorporating principles of sustainability or what is now known as the green economy precepts into mainstream developmental policies. This policy evolution, towards a green economy, is worth reflecting upon.

Following a discussion on the evolution of green economy policies in South Africa's policy environment, the authors will explore the development of the renewable energy industry by way of example of what is possible, and what is needed still. It is this exploration that will tease out pertinent questions for discussion. Ultimately, we seek to uncover the "what it takes" towards realising the NDP.

Embedding green economy principles in developmental policy: the seeds have indeed been sown – we have come thus far

The country's developmental reform has come a long way since the dawn of its democracy, the most notable aspect of which is embedment of green economy principles into this developmental trajectory. Support from the global community in general, and the United Nations (UN) in particular, significantly contributed to the evolution. In mid-2014, the United Nations Development Programme (*UNDP*) joined the UN-led global initiative on Partnership for Action on the Green Economy (PAGE) that was taken up in South Africa in March 2015. It involves the cooperation of five UN Agencies and spheres of national government The country has sought to promote a diverse and equitable economy, in line with UN's green economy definition of:

An economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2011)

Simplified, this green economy is: low carbon, resource efficient and socially inclusive. These green economy principles encapsulate the notion of sustainable development, which seeks to balance economic, social and environmental imperatives. Balancing these competing priorities was limited in earlier policies. Consider the *White Paper on Energy* (1998), while it advocated for intensified energy efficiency in industry, mining and commercial sector, it limited the role of renewable energy, especially solar energy, to non-grid, rural electrification applications. Fast forward almost 20 years later, we have the renewable independent power producer procurement programme (REIPPPP). The REIPPP is a large-scale infrastructure programme, which covers aspects of socio-economic development while also contributing to carbon emission reduction targets, and meeting the Sustainable Development Goals (SDGs). It is fitting that South Africa implement such a programme, as signatory to the Kyoto Protocol amongst many other global accords. Over the 6 years since its inception, the REIPPP has added over 3 GW of generation capacity[1] to South Africa electricity generation mix, created over 31 000 job years[2], investment to the value over R 200 billion into the country with a portion of that dedicated specifically to community development.

Significant progress in policy development is observed in the last 15 years: South Africa ratified the Kyoto Protocol in 2002, and as a signatory it had to devise plans to meet its commitments. Some of the efforts are

[1] In 2015 renewable energy generation from REIPPPP projects were shown to have had a positive net saving for the South African economy

[2] According to the quarterly IPP Office publication on the REIPPPP (IPP Office, 2017)

reflected in the *National Framework of Sustainable Development* (NFSD, 2008), which attempts to mainstream sustainable development principles in the country's developmental agenda. More specific and detailed action plans were in articulated in the *National Strategy for Sustainable Framework and Action Plan* (2011-2014), with a specific pillar coined 'towards a green economy'. Another milestone in this transition was the adoption of the *Green Economy Accord*, a wide-ranging commitment by organised labour, private sector, and civil society to promote the green economy as an economic driver. Thus, over these 15 years the green economy has evolved from a peripheral benefit to a core driver of economic growth.

National government

1996: Republic of South Africa Constitution

1998: National Environmental Management Act

1998: White Paper on Energy

2003: White Paper on Renewable Energy

2007: National Biofuels Strategy

2010: Integrated Resource Plan (IRP)

2011: National Strategy for Sustainable Development

2011 Green Economy Accord

2012: National Development Plan

2012: Industrial Policy Action Plan (annual revision)

2015: Preferential Procurement Policy Framework Act (PPPFA)

(When?) Integrated Energy Plan

(When?) Carbon tax

Provincial government

2011: Gauteng Green Strategic Programme

2011: Gauteng Climate Change Response Strategy

2013: North West Renewable Energy Strategy and Implementation Plan

2013: Limpopo green economy plan

2013: Green is Smart: Western Cape Green Economy Strategy

2013: Green economy strategy for KwaZulu-Natal province

2014: Free State green economy strategy

2016: Gauteng Energy Security Strategy

Local government

2006: City of Tshwane: State of Energy Report

2009: City of Johannesburg Climate Change Adaptation Plan

2010: City of Cape Town Energy and Climate Change Action Plan

2012: Information and Guideline Document on the Implementation of Green Procurement in the City of Cape Town

2013: City of Tshwane Green Building by-law (updated)

2014: City of Tshwane Green Economy Strategy

2015: Durban Climate Change Strategy

SALGA Energy Efficiency and Renewable Energy Strategy

Yearly IDPs that reflect transitions towards green economies

Enabling instruments/institutions

Trade promotion/ funding: dti One Stop hop, The Green Fund (via DBSA) from Department of Environmental Affairs (DEA), IDC - Green Business Unit, NEF, Central Energy Fund (CEF), WESGRO

Industrialisation: dti: MCEP, Black industrialists (through IDC), Special Economic Zones (SEZs) incentives

Technical support/ think tanks: South African National Energy Development Institute (SANEDI), Council for Scientific and Industrial Research (CSIR) Energy Research Centre (ERC) at UCT, Centre for Renewable and Sustainable Energy Studies (CRSES) at Stellenbosch University, Green Economy Unit @ The Innovation Hub (TIH), Energy Research Centre (University of Cape Town)

Industry associations: SAWEA, SAPVIA, SAREC, SAOGA, SABIA, NIASA, Green Building Council of SA

Figure 1: The transition of green economy policies and strategies evolution in South Africa (1998-2017)

Demonstrated in Figure 1 is that there is no shortage of supportive policy and regulations, and that different sectors of the economy have embraced and bought into the benefits of a sustainable development transition. It would be remiss not to acknowledge the wide and generous support of various international agencies and organisations in realising the country's green economy growth. From various technical assistance programmes supported by the likes of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in the energy space, the World Bank, the British High Commission, USAID and numerous governments such as: Norway, Netherlands, Sweden to mention a few. This international support is a demonstration of the required global collaboration needed to truly reach out climate change mitigation targets.

While the green economy encompasses, invariably, all spheres of the economy, it is more prevalent in some sections, and in the case of South Africa it is best seen in developments in the energy space. This is the basis of the following discussion.

Power plays –the need for renewed commitments

South Africa has long taken a wider view on energy matters, beyond just the need to power the economy, the country's trail of well-meaning policies gives testament to a belief in, or at the very least an agreement with, tenets of sustainable development. With regard to energy this has translated into deliberate policies to see the reduction of carbon emissions in a carbon intense power sector as both the energy and transport sectors are responsible for over 50% of the country's emissions– and therefore in the wider economy. As far back as 1998 in its *White Paper on Energy* (1998), the new South African government recognised the need for diversifying its sources of energy, acknowledged the detrimental impact of a carbon intense economy and the need for energy security. Almost 20 years from this time, the discourse is pointedly aimed at liberalisation of an obvious and detrimental monopoly, more so in an age where new models of energy services provision are disrupting power systems.

Fast forward five years, half a decade, one term[3] and it is 2003, at which point the government releases the *White Paper on Renewable Energy (2003)*[4]. This paper is even more significant, in relation to renewable energy, outright stipulating a target of 10 000 GWh to be generated from renewable energy capacity by 2013. Beyond a specific generation targets, the wider call for sustainable development and economic resilience had begun to take place, and so the policy goes as far as seeking to leverage the uptake of renewable energy to address energy poverty as well as supporting small micro medium enterprises (SMMEs). The thinking evident here is, *renewable energy technologies, unlike what we presently have (i.e. electricity mostly generated from coal), can add some new life into our economy*.

By the early 2000s it was clear the new generation capacity would be needed to keep up with increasing energy demand and to sustain the envisaged economic growth. Eskom was the hero in this story, calling for plans for new capacity. The powers that be, unfortunately did not heed Eskom's calls and no such plans were made. As a result of this, and other factors such as maintenance backlogs, in 2008, South Africa experienced rolling blackouts for the first time. This happens because of a combination of poor planning and maintenance, steady growth in energy demand –a result of increased grid access and infrastructure that was not designed for this. According to Goldberg, the 2008 blackouts, over 23 days cost the South African economy some R50 billion (Goldberg, 2015).

When the *White Paper on Renewable Energy* was published in 2003, prices for various renewable energy technologies were high relative to Eskom prices, but by 2008 with the crisis of rolling blackouts combined with improved technology prices, the conditions were right for considering renewable energy despite cheaper electricity from Eskom. However, renewable energy like any new development in the country at that point had to fulfil more than just its core function, it was expected to contribute to local manufacturing opportunities, diversification of the country's energy economy, contribution to the country's development as well as the creation of opportunities for small businesses, especially in previously disadvantaged and rural communities.

After several attempts to develop an appropriate renewable energy procurement framework, an intra-governmental collaboration spearheaded by the Department of Energy (DoE) – via its *Independent Power Producer* (IPP) Office, executed the highly lauded REIPPPP. The programme, which has to date seen: the procurement of over 6 300 MW of generation capacity[5] (out of a possible 17.8 GW as allocated in the IRP), the stimulation of a new renewable energy manufacturing sector (including: several solar PV panel, inverter and wind tower manufacturing facilities), the attraction of c. R201 billion in investments into South Africa (over a quarter of which is of foreign origin), as well as channelling the flow of billions of rands of funds into socio-economic development targeted specifically at rural and remote South Africa. Over three successful procurement rounds, the REIPPPP had been able to bring on increasingly cheaper renewable energy generation capacity, in 2015 at a much needed point in South Africa – (there was another series of rolling blackouts). The programme seemed to have come straight out of the chapters of the NDP. As required of a new development, the REIPPPP reflects the country's current developmental agenda – socio-economic development, support for black, youth, women and disabled-owned enterprises, job creation, attraction of

[3] South African Presidential terms of office are 5 years long

[4] Note that the release of these policies also implies at least a year to three of development and consultation

[5] Technologies included are: solar PV, concentrated solar power (CSP), small hydro, biomass, landfill gas, biogas

foreign direct investment, stimulation of manufacturing activity, reduction of carbon emissions and diversification of the country's energy mix for sustainability and energy security.

Regrettably, the REIPPPP has stalled for two years. The latest round of project bids was submitted in 2014 and successful projects announced in 2015. Since then, putting forward various tongue-in-cheek arguments, Eskom has refused to sign the power purchase agreements (PPAs) needed for projects to reach financial close and therefore implementation, citing numerous arguments such as: high costs of renewable energy technologies (despite four successful procurement rounds with significant decreases in prices offered – especially by wind and solar PV which are fast reaching grid parity), excess generation capacity (a recent and temporary state based on the slowed economic growth the country is experiencing), lack of transformation in the sector and opportunities for previously disadvantaged groups[6] (despite the programme exceeding many, if not all, its economic development conditions), lack of job creation (while the IPP office on a quarterly basis reports on the thousands of jobs created within local communities at different project stages). At points, the state owned entity (SOE) seemed to directly defy even the President, who in his 2017 state of the nation address (SONA) indicated that the renewable energy programme (read: REIPPPP) was to continue. At the same time, the country seemed set on a relentless programme to begin procuring significant quantities of nuclear power generation capacity – no cost arguments being raised here, despite numerous industry and civil society protestations to this effort. While it was never out rightly stated, perhaps some quarters of government's preference for nuclear procurement was another stumbling block for the highly successful REIPPPP – speaking to a dire need for transparency and openness in policy implementation. This impasse has negatively impacted many jobs – both present and future jobs, investor confidence in both the South African renewable energy sector, as well as, more broadly, in South Africa as an attractive investment destination.

The REIPPPP's alignment with developmental policies is a direct result of the wide-reaching suite of policies described in earlier sections, which guide the country's development. The coordinated implementation of policies and frameworks such as the *Industrial Policy Action Plan* (IPAP) and the *Green Economy Accord* has ensured this alignment. As an example, within the REIPPPP is a very specific clause catering for the procurement of local components – to stimulate industrial activity (as per the IPAP). The power to make determinations for new energy sources and generation capacity is vested in the Minister of Energy as per the *Electricity Generation Act, section 34.* These pronouncements are to be guided by the IRP and the IEP[7] – themselves products of extensive modelling exercises and industry and public stakeholder consultations, and the country's current economic climate. Key to the Minister's powers taking effect, is collaboration between various government departments, as evidenced in the execution of the REIPPPP – a resounding success. All players, government departments, SOEs and political champions, must sit at the table and ensure the continuity of policy and clarity on direction, for continued investment attraction. When this clarity and certainty is jeopardised, investors become apprehensive and, naturally, must begin considering other market options. At this point, it is worth mentioning that the programme is not without its own challenges and shortcomings – especially around transformation.

Thus, despite the REIPPPP's many successes, being grounded within supportive policy frameworks, aligning strategically with key developmental agenda and sustainability objectives and sheer investor attraction power, the programme has been halted. The picture that we are left with is that of an array of progressive

[6] Needless to mention the lack of transformation, to date, of the South African economy as a whole

[7] Which has been in draft form for the past seven years

and well-meaning policies, regulatory and implementation structures and processes as well as institutional arrangements, and yet without unwavering political will and accountable implementation of policy, nothing, however good, is immune from collapse. Despite the REIPPP being lauded as one of the most successful large scale procurement programme of renewable energy in the world, the programme has come to a complete halt, with the various manufacturing investments made now in jeopardy. This picture does not even tell of *what could have been*, which is the foregone opportunities for local jobs from future projects – especially for those projects which have been pending for two years.

What is possible? – pre-imagining the results of implementation

This section attempts to learn from the mistakes outlined in the previous section, providing possible ways forward. While the previous section talks to a specific case of power plays within the renewable energy industry, concerning the REIPPPP – a demonstration, nonetheless, that with the right capacity, will and collaboration, the country can achieve its goals and objectives towards a green economy transition, this section focuses on the necessary "every day" cogs that will set (and keep) in motion a just transition. These are observations borne of a privileged vantage point of the authors, all working within strategic vehicles of government towards this transition. This experience includes work on policy, dissemination of policy positions, facilitation of policy understanding and even outright implementation of programmes in line with developmental objectives.

One of the main challenges observed in the implementation of policies, generally, and more specifically green economy transition policies, is a lack of capacity. Take for example a high level green economy policy or strategy of a provincial government or a local municipality. By virtue of the cross-cutting nature of this so called "green economy", such a policy will require elaborate coordination and operationalisation between various responsible departments just to ensure that it is supported, adopted and understood by all relevant stakeholders. But more importantly, there is need for expertise in this new way paradigm, far different – both in training and perspective, from the old guard who have been stewards of the government machinery (end therefore development) to date. It is therefore necessary that the passing of new policies towards a just transition, as part of its core requirements, includes the capacitating of key government institutions.

Hand in hand with this, is the need for resources – most evident in small municipalities. While the predominant resource required is budget, there are other important and useful resource requirements, such as human capital – which can be provided by direct recruitment, or access to bodies of expertise such as *Gauteng Infrastructure Financing Agency* (GIFA). The point to be made is that though progressive and conscious, policy measures must be accompanied by the requisite resource.

We are in an age where we are acting in the present, for a future we can only vaguely imagine and developments we cannot predict. This requires us to innovate around our procurement processes, policy development and implementation thereof. This innovation can also be more practically translated into adopting new technologies. For example, although building roads is a well-established process, our procurement procedures must not leave out new technologies and materials which may have less environmental impacts. Countless examples can be provided of the limitations of current processes, and the emergence of innovative thinking to replace them. The ultimate innovation will see government, and indeed the economy being more agile in efforts to achieve development. Ultimately, this innovation must be constant.

Lastly, there is need for political will. Political captains need to trust the technocrats in their policy recommendations, and beyond this, must look past the immediate goal of votes and popularity, to the longer-term objective of a South Africa that is prosperous and resilient. This willingness, must, transcend human greed and the ever-tempting beckoning of corruption. An easy and immediate starting point would be the sincere reinvigoration of the REIPPPP – as opposed to the current request for project bids submitted some three years ago, to renegotiate their tariffs, almost as an ultimatum driven by Eskom.

Let us imagine a green tomorrow, together

To what end is all this innovation, collaboration, certainty and consistency being proposed for? Quite simply, so that South Africa takes on its full potential and the NDP goals are realised. So that the promise of the rainbow nation is not diminished by the passing of time. That the magic of this nation is embodied in its long journey towards social, economic and environmental prosperity. Let us imagine.

A South Africa in which the country's vast renewable energy resources are exploited, alleviating the country's coal dependency as well as significantly reducing carbon emissions. This is possible, numerous studies indicate this, also that the market has been primed and the appetite is immense. Indeed, South Africa's vast mineral resources could equally be harnessed, with a strong socio-economic focus to ensure that those whose lands are being exploited can also enjoy these riches – as has been done, in part, through the REIPPPP. An immediate example is the *industrial symbiosis* model, which is being implemented in both the Western Cape and Gauteng provinces. This model assists us in reimagining resources, where one entity's "waste" stream (as is traditionally thought) is used as a resource stream for another. By so doing, multiple benefits have been realised, including: avoiding materials to landfill, cost savings for all entities involved, creation of new jobs and even new businesses in executing these "synergies"[8]. These and many other new economic models can be incentivised through strategic use of tax incentives.

A South Africa in which universal access to sufficient and affordable energy is achieved; using locally developed, assembled and manufactured technology, funded by a combination of state, private sector and local community trusts. This new energy economy is not based on a buyer-seller model, but rather an investor- service provider model, where the community 'invests' in its energy infrastructure and can demand that this infrastructure supports local businesses. We can imagine communities where services are rolled out to address core human needs including – comfort, clean environments, affordable resources, dignity. Take for example a community that addresses its water resilience needs with a waste water treatment facility, using a bio digester and greywater treatment system. By-products of these processes may be used for fertiliser in home gardens, or sold off to local farmers if the market exists. Additional benefits to this kind of approach to resource consumption include a shift in paradigm within communities, further bolstering the community's resilience.

The dream, as anticipated by the NDP, is clear. Fortunately for our society, so too are the challenges impeding its realisation. This paper has attempted to highlight but a few of them pertaining specifically to the green economy and its adoption. The discussion to be had can always start at a specific point, as done here, and then explore the meta-issues that out society faces. Thus, in the spirit of discussion and dialogue, we pose the following set of questions:

[8] Where such a transaction of resources is realised

- How do we hold government accountable to implementing policies around the green economy? – for example, who is to be held accountable for the near-destruction of the country's utility scale renewable energy industry?
- What will it take for the state to innovate its procurement processes? And furthermore, mainstream green procurement?
- What measures can be taken to capacitate government departments, and especially municipalities to truly implement green economic policies, given that they are the final service deliverers?
- What will it take to finalise strategic policies and plans such as the Gas Utilisation Master Plan (GUMP), the Integrated Energy Plan (IEP) and the Integrated Resource Plan (IRP)?
- How do we (government, private sector, civil society, academia) ensure that the "just transition" is indeed just?

References

Goldberg, A., 2015. *The economic impact of load shedding: The case for South African retailers,* s.l.: s.n.

IPP Office, 2017. *Independent Power Producers Procurement Programme - Quarterly report,* s.l.: IPP Office.

UNEP, 2011. *Towards a green economy,* s.l.: UNEP.