Comments on The Just Transition Framework

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Contents
High Level Summary of Comments ................................................................. 3
Comments on the Introduction ........................................................................ 4
Comments on the Purpose and Scope ............................................................. 4
Comments on structure .................................................................................. 4
Comments on Vision ....................................................................................... 5
Comments on Principles .................................................................................. 5
Comments on At-Risk Groups ...................................................................... 5
  1. Coal value chain ...................................................................................... 6
  2. Auto value chain ..................................................................................... 6
  3. Agriculture .............................................................................................. 6
  4. Tourism .................................................................................................... 7
  5. Phases and Time-frames .......................................................................... 7
  6. Seizing opportunities .............................................................................. 7
Planning Elements ........................................................................................ 8
  1. Labour Markets and Human Resource Development ............................ 8
  2. Social Protection Measures ..................................................................... 8
  3. Industrial Development, Economic Diversification and Innovation ....... 9
  4. Governance ............................................................................................. 9
  5. Finance for a Just Transition .................................................................. 10
Policy Measures for Immediate Effect .......................................................... 11
  Economic Policy .......................................................................................... 11
Citizen engagement and societal transformation ............................................ 12
Appendix A: GC submission into the BGMP ............................................... 13
Appendix B: Extracts from a critique of Ocean Economy Plan ................................................................. 29
Appendix C: EXTRACTS FROM WHITE PAPER CONTRIBUTION (DRAFT) ............................................ 34
Appendix D: GC Oceans Tribunal Final Statement .................................................................................. 37
High Level Summary of Comments

The Framework for a Just Transition (JT) in South Africa - Draft for Discussion (February 2022), hereafter known as the Framework, acknowledges that it is in South Africa’s national interests to combat the climate crisis. The Framework attempts to address concerns around justice as well as the need to address South Africa’s triple challenges of inequality, poverty and unemployment. Moreover, the Framework calls for all social partners to be involved, suggesting the need for an ‘all-of-society, all-of-government response’.

The Framework contains some laudable statement on collective action and meaningful participation but the transition framework narrative appears stuck in an outdated concepts of success linked to formal employment. The framework needs to seek out and involve the informal economy stakeholders including the care economy, and voluntary associations who work to improve the livelihoods of their families and the general society at large and ask them what solutions they envisage for responding to climate change.

The Framework speaks to a transition as if there is one starting point and an ending point. Building resilience is about building capacity to adapt to change, not attempting to guess or plan for an end point. The climate crisis has and is fundamentally interfering with global weather systems that have significant, unforeseen implications for all societies on the globe, and any transition must acknowledge the necessity to focus all economic activities on redistribution and rehabilitation not amelioration in order to ensure that the scourges of inequity and poverty are removed from society as we go forward.

The input by the Green Connection follows the format of the Framework, however we also highlight glaring omissions or concerns that must be included in a revised Framework in order for a Just Transition to be both just and to truly transition South Africa to a more resilient future. These omissions include concerns around the water sector which is missing as well as the need to shift South Africa’s economic policies and focal areas away from economic growth towards wellbeing, resilience and equality.

The document does not contain references. They are needed to justify some of the bold and important statements made, particularly with respect to the opportunities from the just transition since the fossil fuel lobby often incorrectly argues that RE creates fewer jobs than the coal or oil and gas industry does.

The framework claims that it must be tailored to those most impacted by the transition. Those who are food and water insecure will be heavily impacted by climate change. Given that climate change is most severely felt by the poor and vulnerable parts of society, the focus needs to shift from looking at the transition through a business sector approach but rather through the lens of who is impacted the worst. The just transition framework should therefore aim for a just adaptation and resilience strategy as key to a just transition.

The just transition framework cannot operate in isolation from other policy documents that are in competition with its vison and objectives.

In this regard, the Oceans Economy Masterplan must be reviewed as part of the interventions that the climate change commission drives to prevent climate disastrous policies and plans
from being implemented. We have drawn on various pieces of research and analysis in preparing this submission. Please see *appendices* for links to such documents.

**Comments on the Introduction**

When framing South Africa’s vulnerability to the impacts of climate change, reference should also be made to our vulnerability to impacts of slow-onset warming (like vulnerability of coastal infrastructure to sea level rise; impact of ocean acidification on fisheries; expansion of the range of temperature related human and livestock disease vectors; shifting rainfall patterns and impacts of such slow-onset changes in creating stranded economic assets). Similarly, the strengthening of adaptation measures must also respond to the impact of slow-onset changes.

South Africa’s long-term economy and society wide Just Transition climate resilient and zero-carbon emission development response must also contribute to addressing the nexus of multiple intersecting global crises and possible future shocks, including health shocks; energy security and energy price shocks; food security, and food price shocks; water production and supply; and biodiversity loss and desertification.

On managing risks, the JT should also build economic resilience. The JT needs to acknowledge the unintended consequences of taking action and ensure that constant reflection and participatory planning is included as part of the processes of decision-making.

We agree that balancing the opportunities with the risks are crucial, and that it is important to keep people at the centre of decision-making as we have seen numerous times that people and communities have been marginalised for an extensive period of time in SA by both politicians and businesses. For example, the killing of environmentalists, reducing fishing quotas for small-scale fishers, the planning for the MMSEZ and the seismic surveys off the coast of SA.

**Comments on the Purpose and Scope**

The framework notes that it is positioned at the intersection of South Africa’s broader efforts to redesign the economy to the benefit of most citizens, however, in order to redesign the economy to the benefit of most citizens, the framework needs a more holistic approach than just focusing on climate change and the impacts thereof. As Jason Hickel commented: “*The climate movement made an enormous mistake. We focused all our attention on fossil fuels, when we should have been pointing to something much deeper: the basic logic of our economic operating system.*”. I.e., the framework needs to address our economic goals as a country in order to truly redesign the economy. More recommendations on this under economic policy.

This document is more than a framework. It is a just transition strategy that includes policy recommendations. This fact needs to be made clear, as does where this document fits into the policy process.

**Comments on structure**

It is not clear how the structure relates to a pyramid but there is a need to include a feedback loop which consistently reflects and alters the policies and plans as new information emerges.
Comments on Vision
A Just Transition aims to achieve a good life for all South Africans, in the context of climate resilient and zero-emissions long term development. To achieve this requires policies and measures aimed at low emissions development in the short term, to reach net-zero emissions in the medium term and zero emissions in the long term.

*BUT ‘A just transition builds the resilience of the economy and people through affordable, decentralised, diversely-owned renewable energy systems; the conservation of natural resources; equitable access of water resources; and sustainable, equitable and inclusive land-use for all, especially for the most vulnerable.’* If this is part of the vision, why aren’t we expanding on these elements especially the conservation of natural resources plus the water issues in the rest of the document?

There is also a need to include the oceans as a particular focus as ocean systems affect the livelihoods of thousands of people living and dependent on the nearly 3000km of coastline and ocean. Ocean system change will affect shipping, coastal cities and will impact on weather dependent livelihoods inland.

Comments on Principles
The Framework does not mention a fundamental principle enshrined in Section 24 of the Constitution here, namely “for the benefit of present and future generations”. All responses should consider the Seven Generation Principle to guide our decision-making.

A key principle should be that the Framework needs to be embedded in, inform and at the same time reflect current policy frameworks. It cannot be divorced from other socio-economic and political realities otherwise it will not be effectively implemented. An important reality in this regard is the Economic and Reconstruction and Recovery Plan. The just transition is mentioned in the Plan so that section of the Plan will need to be updated to reflect the Just Transition Framework.

Another key principle should be to minimise unintended consequences. For example, South Africa has conditions of fragility which have resulted in social divisions that may be worsened should focus be paid to one group in society - in this case those directly affected by the just transition - over another, such as the general unemployed.

It is unclear as to why corporates are consistently mentioned. Surely the just transition is focused on people and livelihood strategies to become resilience to climate change. In other words, corporates are just one aspect of society or a way in which people are organised. Given that civil society organisations have been at the forefront of advocacy efforts to attempt to get governments to respond to the climate crisis, if any sector of society is to be highlighted, one could assume it would be CSOs.

Comments on At-Risk Groups
As above, at-risk groups include vulnerability to the impacts associated with slow-onset warming and climate change effects on both land and oceans.

If the vision of the Framework is to be expanded logically, then the at-risk groups should include all residents of South Africa who are and will be negatively impacted by climate change through concerns around the water sector. This is a glaring omission of the framework.
especially in light of concerns around water quality and availability. This is also an enormous opportunity for South African businesses and a job-creation priority.

In addition, as above, the ocean systems and their impact on the country needs to be included with coastal and low-lying areas. At risk groups would be those associated with ocean and coastal livelihoods.

1. Coal value chain
This section concentrates on the formal sector but seemingly leaves out the impacts on local communities who use coal as household fuel. If the framework is prioritising vulnerable sectors, then those communities need to be included in this section of the framework, and priority should be given to providing alternative fuels.

2. Auto value chain
This appears to be an industry lens. The affected sector is the transport or mobility sector. One aspect of this is the reliance on fossil fuel driven transport, whether boats, cars, buses, airplanes or taxis. If the aim of the framework is to reduce inequality in SA, while also considering low-carbon development, the aim should be on a modal shift. So the shift should be away from personal vehicles- even if they are electric vehicles- towards affordable, quality public transport and the establishment of infrastructure and delivery of viable public transport system would create extensive jobs in the short-term while reducing our footprint. Prioritising short-term investments in charging stations etc is short-sighted and will require additional transition measures.

Under transport-related concerns, this framework does not expand much on the airline industry which will also come under pressure and should guide public and private investments in the future away from this sector.

There is also a need to look at spatial planning, infrastructure (shifting budget from roads to rail) enabling people to work from home policies, transport efficiencies (i.e., public transport priorities over private transport and moving trucks to rail).

Alternative transport fuels also need to be discussed as part of a transition transport strategy. The use of LNG as a transition fuel is not supported.

For the reasons above, the heading of this section should be amended to the transport not narrowly automobiles.

3. Agriculture
There is some evidence of slow-onset rainfall pattern and fishery population shifts resulting in the stranding (or adding additional transport costs to the operational viability) of agriculture economic infrastructure, such as grain silos or fish processing facilities. Should also be referred to in Table 2.

No mention made of the need to shift away from industrial-scale to regenerative agriculture which tends to be labour-intensive and reduces our reliance on fertiliser and pesticides – offering a more holistic approach to the framework.

If the aim of the framework is to prioritise marginalised and vulnerable, then small scale and emerging farmers should be specifically targeted through capacitating and extending the network of agricultural extension officers.
There is also a concern around the attitude towards those who lack formal education. The framework needs to explicitly recognise the local and indigenous knowledge base and the skills that are handed down. Much of this knowledge base provides the education that is needed to build resilience and this should be included as a key part of the transition strategy, not dismissed as somehow lesser because it not academic or profit orientated.

Ocean based agriculture is not mentioned but the warming and acidification of the ocean and shifting of currents, and increase in storms etc, makes this a vulnerable sector. The impacts on current aquaculture projects needs to be acknowledged and resilience built in these emerging economic sectors.

4. Tourism
No mention of restoration of sites to focus on nature-based tourism. See the work of Singita regarding reducing their carbon and water usage while still offering niche market tourism. Regarding policy coherence, focusing on oil and gas industries as the DMRE is doing, will mean they will totally destroy coastal tourism before climate change impacts do.

Local South Africans gained a new and increased appreciation for nature-based recreation post covid lockdown which has persisted over the last year. Tourism has historically appeared to focus on marketing for international tourism and the high-end local tourists. The opportunity for local and regional tourism which is less carbon intensive as it involves short distances needs to be emphasised. Initiatives like “short’left - it’s your country, enjoy it” can be expanded.

5. Phases and Time-frames
The at-risk groups need to be revised as per comments above and in relation to input from non-corporate sectors. There also needs to mention of regulatory controls not just market mechanisms.
- Good and realistic sounding analysis. Impacts of slow-onset warming and climate change effects should be referenced, including those below.
- Water concerns in Gauteng, amongst other provinces, should be included in these time-frames.
- Concerns around bees and other pollinating insects as well as desertification trends should be included in the agricultural issues.
- Transport sector needs to be more ambitious. It should not be a choice between modal shifts or raising prices to cover emissions. Both should be implemented.
- Biodiversity loss should be included in the tourism issues.

6. Seizing opportunities
Perhaps the aim of localisation in RE sector should be expanded to more sectors in SA, to reduce our carbon footprint of shipping goods across the globe, thereby reducing our carbon emissions e.g., the food sector, textiles and clothing industries etc. This will also impact on harbour and the shipping industry and this will need to be addressed.

Another omission for the opportunities is related to no- or low-cost energy efficiency programmes in the manufacturing, mining, agricultural and building sectors, including to retrofit domestic homes to be climate resilient (this is mentioned under social protection only).

Research from the UK indicates that investing in the ‘Care Economy’ is an important opportunity that we should focus on to facilitate a Just Transition.
This section seems to be focused on economic growth rather than societal improvements. This section would benefit from explicit stated opportunities that are related to reducing inequality and eliminating poverty. For example, there is an opportunity to encourage food security at a local level through capacity building households, hospitals and schools to learn climate adaptive methods of growing food and an opportunity to create local community markets where excess produce can be sold. These very local societal economic measures can also enhance societal cohesion and nurture entrepreneurship and local production.

Planning Elements

In light of the implementation and corruption challenges we are already facing in all levels of government in SA, this is the least realistic element of this document. This seems more like a wish list than realistic planning. For example, we have been trying to fix the education system for 25 years with little success. Moreover, the list of labour-intensive industries should be expanded to include those names in the seizing opportunities section (food sector, retrofitting buildings, clothing and textiles, the care economy) as the other opportunities require extensive capital and investment and are most likely opportunities for big business rather than livelihood opportunities for most South Africans.

The emphasis should be inclusive, and be about livelihoods not formal jobs. Millions of people survive without formal employment and this part of the economy must be moved to the front of mind in planning for a transition.

Several aspects of the Planning Elements are interdependent and need to be properly sequenced.

The critical success factors should be identified. For example, social protection policies are non-negotiable.

1. Labour Markets and Human Resource Development
   - We may need to rethink this to create more realistic expectations.
   - The use of the indigenous knowledge systems to build climate resilience in the informal sector.
   - The continuous learning opportunities should be a pillar of society to allow people to understand the implications of climate change and to adapt their own lives accordingly. This is not a one size fits all.
   - This section needs a rewrite to reflect South African society which is not in formal employment and is not going to be.
   - There is also a need to acknowledge the opportunities for new health care jobs. People will experience increased stress due to climate uncertainties and diseases associated with shifts in weather patterns. This will need additional resources and jobs to be developed in these sectors.

2. Social Protection Measures
   - What about adding in Universal Basic Income here and increased taxes for top 1% to fund this and to increase equality in SA as per the IEJ research?
   - The importance of offering stable and long-term social nets must be emphasised. Grants like the covid grant regarded by government as a temporary measure are not a useful intervention for climate change whose impacts are varied and long term.
• Climate proofing infrastructure as a driver of government and business social responsibility spending on infrastructure is an important part of building climate resilience.

3. Industrial Development, Economic Diversification and Innovation
• Instead of government getting involved here, what about government provides access to energy, improved public transport, universal access to internet and leaves the other stuff to private business? We know SA doesn’t have tons of money so rather get the basics right plus policy direction.
• Government to provide infrastructure such as internet, local town market facilities, public transport and access to affordable energy. Government can create enabling environment for livelihoods, and innovative business and monitor and regulate to ensure redistributive and restorative focus.

4. Governance
Governance in South Africa is in general non-functional. Corruption has meant that trust in government is a low point and government regulations appear to be at the mercy of vested interest groups. Decision-making processes are not coordinated and it seems unrealistic to expect that climate change will provide a magic wand to create order out of chaos.

• One suggestion on improving governance is to enable platforms and spaces for increasing discussion amongst stakeholders. This means an investment in process not outcomes in order to build trust in the decision-making process.
• Consultation cannot be one off meetings.
• Real participation needs the involvement of NGOs working with other stakeholders to build the capacity of communities to understand climate change and the just transition.
• Consultation and meaningful dialogue needs to take place locally in town halls and villages not on the internet and through asking people to comment on long academic and jargon filled documents.
• Consultation must be in the language of one’s choice.
• In parallel with such processes of consultation, government needs to restructure.
• The executive needs to be structured in order to reflect that climate change is a priority. If the Dept of Environment is to lead, then it must be explicitly given powers to veto policies, plans and programmes of other ministers which are not climate friendly.
• This could happen through each plan, programme and policy being required to carry out a climate assessment as part of the authorisation process, with such authorisation being given by the Dept of Environment.
• The Department of Energy must be separated again from the Department of Minerals. The minerals energy complex must be disbanded. It is not appropriate for the department of Energy which is supposed to be focused on the energy transition towards renewable energy, to be dragged off track by a minerals component which is fixated on mining and exploration of fossil fuels.
• Such cabinet reshuffling would go a long way to assuring the public that the President is serious about climate change. Given that he is President of the climate change commission and the country, this is well within his abilities.
• Parliament needs to also be restructured. It is not sensible for the PC on environment to be the only PC focused on climate change and it gives both MPs and citizens the idea that climate change is an environmental problem.
There needs to be a crosscutting committee consisting of MPs from different portfolio committees and select committees for example, international relations, energy, water, agriculture, etc. This committee would ensure that all executive departments are moving towards mitigation of climate change and building resilience. This new climate change committee would also hold public hearings annually to monitor the progress of the just transition from the grassroots up.

Local government needs to include climate resilience in all annual IDP revisions.

While, it is appreciated to see that corporates see a need to include a section on governance towards a just transition, the framework betrays its bias by simply having a section called multi-stakeholder governance. There would clearly be a need to have a section on community and CBO governance which would talk to the capability building and participation in all just transition processes.

NEDLAC is a process which has not benefited the voices of civil society as equal partners but focuses on business and labour. Unless the just transition also envisages the restructuring of NEDLAC, it would be preferable to only use participatory processes that are focused on bottom up involvement and one that would also provide regular opportunities for NGO engagement.

The value of civil society is its diversity and there should be no attempt to force such diverse interests and capacitated local groups into some representative structure but the process must be designed to enable participation by all.

5. Finance for a Just Transition

The just energy transition financing to South Africa from the EU, France, Germany, the UK and the US is far from being concluded. It is worth mentioning that this deal represents a key challenge faced by middle income countries such as South Africa which do not qualify for concessional finance under the Bretton Woods and OECD financing systems yet need it transition.

It is incorrect to use the term ‘green finance’. The correct term should be sustainable finance, since it is a term that recognises a range of sustainability goals and boundaries, including the just transition.

Financial inclusion needs to be a guiding principle of finance policies for a just transition, since it is one of the solutions to supporting the transition but can also worsen the transition if ignored (Alliance for Financial Inclusion (2019), Inclusive Green Finance: a survey of the policy landscape).

The separation of the strategies needed to finance a just transition into 3 areas (1. Research, analysis and engagement, 2. Policies, regulations, reporting and decision making, 3. Instruments and institutions) is not useful from a policy development perspective because it is very high level and does not clearly link with the other strategies in the document. Both the greening finance (or making finance sustainable) and financing green (or financing sustainability) require sets of strategies that include research, regulation and financial instruments, for example. And, as mentioned, strategies related to financing sustainability need to be linked with the transition strategies listed earlier in the document. And, similar to what was done for other sectors, the research element should, among other things, result in a problem statement that will allow an informed policy response. Some of this work has been done through National Treasury’s ‘Financing a sustainable economy’ paper that has resulted
in planned changes to certain financial sector policies such as the development of a transition taxonomy. But the research needs to be more thorough and focus on the goals of the just transition.

The REIPPP has laudable social responsibility and economic development goals that were supposed to focus on societal ambitions of reducing poverty and creating local economic development. Their implementation success has been patchy at best and characterised by top-down governance procedures. Such redistributive and restorative justice components of development need to be built into every development project with the focus on building climate resilience, but reflection and review of the current programme needs to be implemented with lessons learnt to be built into the next programme.

**Policy Measures for Immediate Effect**

The risks of long-term lock in and unintended consequences of making bad decisions now need to be emphasised.

For example, the use of gas as a transition fuel needs to be limited with emphasis on the need to look for alternatives.

The building of infrastructure which could become stranded assets due to failure to consider longer term implications is a large risk.

For example, investing in gas pipelines and exploration infrastructure which have a 50-to-60-year lifespan when the transition timeframe for gas might be only 5 years would be economically foolhardy and would create unintended negative consequences for the tourism and fisheries sector with the loss of livelihoods in the medium and long term.

The building of dams in areas affected by desertification might not be wisest short-term policy if the evaporation of water from the dam and the salination of the surrounding soils eventually results in water shortages and food insecurity due to land contamination.

**Specific comments:**

- Water is missing
- Under transport, we are responding to the need for modal shifts, not just shifting to clean energy.
- Under agriculture, we don’t just need innovations, we also need a total shift away from a carbon-intensive, industrial agriculture system
- Under other industries, including tourism, the long-range outcomes are unclear and sound like a wish-list rather than a realistic option. Short term doesn’t include any restoration or adaptation requirements.
- Under economic diversification, we need to shift the goals as per comments below.

**Economic Policy**

While it may seem beyond the scope of the Framework, this document ignores the fallout from capitalism and neo-liberalism. Considering our triple challenges referred to in the Framework we need to consider what changes need to take place in our economic policy in order to truly undertake a JUST transition in SA. Thus, the economic policy needs to:

- Shift away from economic growth as an imperative in SA
• Focus on wellbeing, equality and building resilience as policy aims
• Consider what it will mean for South Africa to live within ALL our planetary boundaries, while simultaneously ensuring our social needs are met. To this end, applying the concept of Doughnut Economics to decision-making at all levels of government and to businesses will be important.

Citizen engagement and societal transformation
In addition to the actions taken by government and business, we need to be realistic and understand that technological solutions will not solve our problems. Or as an HBF report notes, ‘…changing our consumption and production – is safer than relying on technological bridges to be available before we drive over the cliff.’ We will need to focus on a societal transformation with campaigns similar to this: The JUMP (takethejump.org) to change people’s expectations and behaviours.

Conclusion
The concluding paragraph states that “the most immediate task is to set up or reorganise structures that capacitate stakeholders, including affected communities, to respond constructively to the climate crisis.” This document is already making policy recommendations and it is not clear if the requisite stakeholder structures are in place to shape and inform these policy recommendations.

There is a need to focus on processes and institutions with existing capacity building programmes which is mostly civil society. The P4C needs to help coordinate and fund such programmes which enables those community structures that work at grassroots to spread the message about the climate crisis and to feed into the just transition framework. The JT framework needs to be a living document that gets fleshed out as people grapple with what this means for every pocket of South Africans and bring their specific knowledge and skills to the table.

Appendices:
Appendix A: GC submission into the BGMP
Appendix B: Extracts from a critique of Ocean Economy Plan
Appendix C: GC economic impacts of offshore oil and gas in South Africa (link)
Appendix D: GC Oceans Tribunal final statement

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31 January 2022 

**The Green Connection submission into the BGMP**

Dear Sir,

1. **Introduction**

The Green Connection is a small environmental and social justice civil society organisation which promotes sustainable livelihoods and the achievement of environmental rights.

The Green connection is an ecojustice organisation and believes that empowering people to participate in decision making about their environment is the only way that truly sustainable development can take place. Our environmental resources are limited and not ours to squander but to protect for future generations. We believe that economic growth and development, improvement of socio-economic status and conservation of natural resources can only take place within a commonly understood framework of sustainable development.

The Base Case Gas Master Plan (BGMP) that is currently under review was made available for stakeholder comments on 15th December 2021 with a closing date of 31st January 2022. These dates are inclusive of the Christmas and New Year festive season, when most South African’s are away for the annual shut down period. The release of this technically complex and long document during this time, is in our opinion, contrary to the spirit and inclusiveness of the public participation process and we wish to record our objection.

At the outset The Green Connection wish to state that the BGMP is **fatally flawed**. Our reasons for making this blatant statement are provided in the pages that follow.
2. Purpose and Limitations of Report

It is stated in the section 1.2 of the BGMP that “The Gas Master Plan document, once developed, will serve as a policy instrument, providing a roadmap for taking strategic, political and institutional decisions which will guide industry investment planning and coordinated implementation”. It is therefore apparent that it is intended that the BGMP will provide “The report will set the scene for the Gas Master Plan development process”

The BGMP Baseline Report says it is presented for stakeholder comments does not confine itself to current baseline scenarios but throughout the document many future predictions and assumptions have been included. Many of these assumptions and speculations will be addressed in this report.

However, contrary to the claimed aims and objectives stated in the BGMP, section 1.3, states that “At the time of finalizing this report the Department was yet to procure a suitable modelling tool to model the current gas sector in the country as well as to develop immediate sector expansion scenarios. This work is current underway and will be published in due course, together with natural gas demand projections.” The fact that the Department of Mineral Resources and Energy (DMRE) have not acquired, let alone conducted basic energy demand modelling, yet have issued the BGMP for public comment without conducting the most basic modelling is unacceptable. This alone renders the BGMP incomplete and therefore fatally flawed.

2.1. Integrated Energy Models

Many integrated energy models (IEM) have been developed and applied in the African context. Models such as Long-range Energy Alternative and Planning (LEAP)\(^1\) \(^2\), Targets IMage Energy Regional (TIMER)\(^3\) have been used on a regional basis in Africa, while IEM’s such as MARKet and Allocation (MARKAL)\(^4\), PLEXOS\(^5\) and PowerPlan\(^6\) have been specifically developed for the unique South African scenario.

As stated by Avila et. Al (2017)\(^7\) the objective of applying IEM is to determine an optimal combination of supply, transmission, storage, and demand–supply efficiency of energy

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\(^5\) Wright JG. (PDF) developing an integrated energy model for the eastern african power pool (EAPP). 2014.
is key for stimulating resource development and fuelling economic growth. For the optimal delivery of energy services, decision makers must invest in the development of energy models for testing and assessing cost and benefits of different energy resource expansion scenarios. Additionally, the models must be able to simulate how these expansion scenarios fit with existing and expected future transmission and demand–supply situations.

The BGMP has failed in the methodology applied and can therefore only be a guideline and not a policy document upon which rational and long-term decisions can be based. It is therefore worthwhile to highlight comments and observations included in Musonye et. al (2020)\(^8\) “Some of the impediments to universal energy access among these countries include ineffective energy institutions, ineffective planning, inappropriate legal and regulatory frameworks, inadequate technical and financial mechanisms, politically driven energy decisions, and corruption.”

3. **Natural gas as an energy source.**

In section 2 of the BGMP, the drafters of the document make the following incorrect statement. “When burned, natural gas is one of the cleanest and most powerful forms of energy available.” Without providing peer reviewed reference to this statement, it must be concluded that this statement is the opinion of the author.

Gas, or methane (CH\(_4\)), is more efficient at trapping radiation than CO\(_2\) and the Intergovernmental Panel on Climate Change (IPCC) estimates that over a 20-year period, methane will trap eighty-six times more heat than carbon dioxide and over a 100-year period has a carbon equivalence of 34. Furthermore, it is known that the CH\(_4\) molecule is broken down to carbon dioxide and hydrogen over a period of approximately 120 years in the stratosphere. Carbon dioxide has a longer residence time and molecules of the gas will remain present in the atmosphere for about 300 to 1000 years\(^9\).

During the past decade, meaningful debate has been conducted and numerous studies have been concluded that have investigated climate change consequences due to methane gas emissions. Flaring, venting and fugitive methane emissions associated with oil and gas production and use. Methane escapes to the atmosphere from all parts of the extraction, processing, and distribution system, all the way to the end user.

3.1 **Summary of some relevant studies.**

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A few relevant peer reviewed research findings that have been published during the past decade are summarised below. The catalogue of papers that have been reviewed is by no means complete and represents an overview of the current thinking and conclusions.

As the concept of gas becoming a transitional source of energy, research emphasis has included studies of intentional and fugitive gas emissions from all gas installations.

i. In a major study\(^\text{10}\) conducted by Stanford University, Massachusetts Institute of Technology, and the U.S. Department of Energy in 2014 found that methane leaks negate any climate benefits of natural gas as a fuel for vehicles, and that the EPA is significantly underestimating methane in the atmosphere. Brandt et al. (2014) concluded that “\textit{Switching from diesel to natural gas, is not a good policy from a climate perspective.}” The study also found that the US national methane leakage rate is likely between 3.6 and 7.2 percent of production.

ii. In an assessment of the heat-trapping potential of greenhouse gases, a study conducted by Edwards and Trancik (2014)\(^\text{11}\) revealed that methods of accounting fugitive gas concentrations underestimate the climate-damaging impact of methane pollution from all sources, including drilling and fracking operations.

iii. An influential study carried out by Busch and Gimon (2014)\(^\text{12}\) analysed the level of greenhouse gas emissions attributable to electricity from natural-gas-fired power plants and coal-fired power plants and conclude that, over short time frames and at high rates of leakage, natural gas offers little benefit compared to coal and could exacerbate global warming. Acknowledging that natural gas offers some reductions in greenhouse gas emissions over longer time frames, they point out that such reductions are not large enough for natural gas to play an expanded role in efforts to manage emissions. They conclude that under the best of circumstances, natural gas-fired electric power offers a modest benefit toward abating climate change, while if poorly developed (i.e., with extensive methane leaks, estimated by these authors to be on the order of 4 percent or higher), or if used to displace energy efficiency or renewable energy, natural gas could seriously contribute to increased greenhouse gas emissions.

iv. A similar study by Zhang et al (2014)\(^\text{13}\) in which coal and natural gas were compared for power generation. They concluded that over time, natural gas plants can produce some reduction in near-term warming, but only if life cycle methane leakage rates are low and power plant efficiency is high. Relative to coal, there is the potential that “\textit{deployment of natural gas power plants could}


both produce excess near-term warming if methane leakage rates are high and produce excess long-term warming.”

v. Howarth (2015)\textsuperscript{14} summarized and analysed the evidence documenting the magnitude of methane emissions related to oil and gas development in the United States since 2007. With estimated emission rates ranging from 3.8-12 percent, the high radiative forcing of methane over a twenty-year period prevents natural gas from serving as a bridge fuel. Instead of further investments in natural gas, the study recommended a rapid transition to electric powered vehicles for transportation, high-efficiency heat pumps for space and water heating, and imposition of a methane tax. Howarth (2015) also noted that the EPA has seriously underestimated the importance of methane emissions in general and from shale gas.

vi. In a paper published by Turner et.al (2016)\textsuperscript{15} in which both satellite retrievals and surface observations were used to determine that methane emissions in the United States increased by more than 30 percent over the previous twelve years. The findings contradict the 10 percent decline reported by the EPA and suggest that the United States could be responsible for 30-60 percent of the global spike in atmospheric methane.

vii. The CSIR (2016)\textsuperscript{16} report on Shale Development in the Central Karoo was compiled for the Strategic Environmental Assessment into the potential impacts of introducing shale gas extraction in the Karoo. Drawing from many of the studies cited above, the assessment concluded that leaks amounting to a few percent can offset the benefit that accrues from the higher energy yield per unit CO\textsubscript{2} emitted when gas is used in the place of coal. The GHG no benefit threshold occurs at between 1.9 to 3.2% leakage under the gas production scenarios assumed in the study.

viii. In an analysis of methane leaks from the U.S. oil and gas supply chain, Alvarez et al (2018)\textsuperscript{17} found that natural gas is just as damaging as coal for the climate over a 20-year period. This study combined terrestrial measurements of leaks at selected facilities (bottom-up methods) with data collected from the atmosphere via aircraft (top-down methods). Based on the results, the authors estimated that 2.3 percent of all the natural gas extracted in the United States escapes into the air. This estimated level of leakage was 60 percent higher than the EPA’s estimate of 1.4 percent.


xii. In a study conducted by Jackson et al (2019)\textsuperscript{18} the growing dependency on fossil fuels around the globe was examined. They determined that the ongoing natural gas boom is serving a major barrier to rapid decarbonization. Natural gas is the fastest growing fossil fuel in the world and has displaced coal as the preferred fossil fuel. The use of natural gas has grown at a rate that the methane emissions from burning it have more than offset the decline in carbon dioxide emissions from the reduced use of coal. The result is that carbon dioxide equivalent emissions from fossil fuels grew each year from 2017-2019. The low costs of natural gas, and new methods for transporting it, such as LNG tankers, are keeping the use of fossil fuels high even as renewable energy sources are also growing. As a result, the carbon intensity of global energy production has remained unchanged since 1990. The study calls for “…accelerated energy efficiency improvements and reduced consumption, rapid deployment of electric vehicles, carbon capture and storage technologies, and a decarbonized electricity grid, with new renewable capacities replacing fossil fuels.”

The estimates of leakage worldwide are in the range 1.5 to 2.3%, but recent literature showing that much of the emission comes from a few “super emitters” locations suggests that the true range may be 2.2 to 4.1 and even as much as 12%\textsuperscript{19}. It is therefore beyond speculation that gas does leak from gas infrastructure and installations and must be accounted for when determining the viability of using it as a transition fuel. Failure to do so is tantamount to pursuing a business as usual (BAU) model and externalising the real costs of using gas.

4. Gas supply and production

4.1 Domestic gas reserves.
It is critical that the potential of domestic production of gas in South Africa is brought into focus. Statements in the BGMP such “…as lists, the country has the potential to rank amongst the top 30 countries, provided the initial gas estimates, specifically unconventional natural gas reserves, hold true”. It is important to note that perusal of the three references, which are all sourced from within the oil and gas industry, not one of them make any such statement or indication of South Africa potentially ranking amongst the thirty top producers worldwide.

It is useful to differentiate between the concepts of types of reserves. The United States Security and Exchange Commission (SEC)\textsuperscript{20} classifies reserves based on the probability that they exist.

<table>
<thead>
<tr>
<th>Reserves name</th>
<th>Minimum probability of existence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven reserves</td>
<td>Reasonable certainty or 90%</td>
</tr>
</tbody>
</table>

Probable reserves | 50%
---|---
Possible reserves | 10%

The BGMP makes no effort to differentiate between the status of the reserves in the report and therefore, to provide some clarity, the volumes of domestic gas and reserve status has been tabulated below.

Using the volumes of gas that are presented in figure 4-1 of the BGMP as well as the implied reserve status included but not defined, it has been assumed that a 2P designation means the total of proven and probable reserves and 2C means contingent resources.

<table>
<thead>
<tr>
<th>Name</th>
<th>BGMP reserve status</th>
<th>BGMP volume (tcf)</th>
<th>SEC Reserve Status</th>
<th>Adjusted volume (tcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange basin</td>
<td>2P</td>
<td>0.54</td>
<td>probable</td>
<td>0.27</td>
</tr>
<tr>
<td>Bredasdorp basin</td>
<td>2P</td>
<td>0.02</td>
<td>probable</td>
<td>0.01</td>
</tr>
<tr>
<td>Outeniqua basin</td>
<td>2P</td>
<td>4.5</td>
<td>probable</td>
<td>2.25</td>
</tr>
<tr>
<td>Durban Zululand</td>
<td>2P</td>
<td>4</td>
<td>probable</td>
<td>2</td>
</tr>
<tr>
<td>Witwatersrand</td>
<td>2P</td>
<td>0.13</td>
<td>probable</td>
<td>0.007</td>
</tr>
<tr>
<td>CBM</td>
<td>2C</td>
<td>15.1</td>
<td>possible</td>
<td>1.5</td>
</tr>
<tr>
<td>Shale gas</td>
<td>2C</td>
<td>13</td>
<td>possible</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>37.29</strong></td>
<td></td>
<td><strong>7.34</strong></td>
</tr>
</tbody>
</table>

Of significance is the Draft Report: The SADC Regional Gas Master Plan (RGMP) – Phase One Report\(^{21}\) that states that South Africa has 0.23tcf of proven reserves and 16tcf of probable reserves. Volumes that are closer to the lower estimations provided in the table above.

Perusal of the table above therefore indicated that the total volume of domestic gas is in the order of 7.34tcf, which is less than the volume predicted in the BGMP.

Furthermore, it is important to highlight inaccuracies presented in the BGMP.

i. In section 4.1.2 it is stated that project Ikhwezi in the Bredasdorp basin was expected to yield 0.24 tcf of gas though five wells yet figure 4-1 in the BGMP shows the volume to be 0.02tcf ie. an order of magnitude difference.

ii. Section 4.1.3 in the BGMP states that the Brulpadda project’s reserve is estimated at approximately 6tcf of gas and condensate yet figure 4-1 shows a volume of 1.5tcf ie. four times less.

iii. Section 4.1.5 states that The Petroleum Agency’s gas-in-place prospective evaluation is estimated at 4 tcf in the Durban Zululand basin and cite a 2012 reference from The Petroleum Agency. Substantial exploratory work has been

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\(^{21}\) SADC and DBSA (2021) Draft Report: The SADC Regional Gas Master Plan (RGMP) – Phase One Report
conducted over this basin in the interim period and it is unacceptable that the authors of the BGMP used a reference that is a decade old.

iv. Section 4.1.6 states that the technically recoverable shale gas resource in the Karoo is 30tcf yet figure 4-1 indicates a volume of 13tcf i.e. less than half the volume. The estimated volume of 13tcf is borne out by the research conducted by de Kok et. al (2017)\textsuperscript{22} and the value of 30tcf constitutes wishful thinking. It is also important to note that research conducted by Geel et. al (2015)\textsuperscript{23} indicated that 0 to 23tcf of gas may be available, with limited recoverable quantities due to the thermal regime that the host formations have been subjected to in their geological history. Figure A-1 South Africa’s oil and gas potential shown on page 71 of the BGMP bears no resemblance to figure 4-1 and furthermore cannot be verified by any reference. By example the potential shale gas volume is given as 209tcf, which is pure speculation and cannot be supported by any scientific measure.

v. In a similar vein, in section 4.1.6.2 in the BGMP, speculative volumes of gas available from Coal Bed Methane (CBM) are provided, none of which are proven, and the resources have not been shown to be recoverable. Due to severe environmental constraints and water usage CBM may be an unrecoverable resource which implies that they have limited or zero potential due to economic, technological or environmental limitations.

To contextualise the quantity of domestic gas potentially available it is noted that the Integrated Resource Plan (IRP) 2019, South Africa anticipates generating 11 930MW (15.7% of total capacity) by means of gas by 2030. Currently the country has insufficient proven gas reserves to provide adequate feedstock for the proposed expansion of gas driven turbines over a reasonable economic life span. The country will therefore be dependent upon imported gas, which undermines the basic principles of the BGMP, namely, energy independence, domestic job creation and universal access to cheap energy.

4.2. Regional gas resources.

Much has been written in the BGMP about the vast reserves of gas in northern Mozambique. Section 4.2.3 provides some insight into the quantities of gas available, the stages of development of the on shore and offshore gas fields, the levels of cooperation that exist between the two countries as well as the potential for job creation. The BGMP does not however, address the very important issue of political instability and insurrection in Cabo Delgado, northern Mozambique. The instability in that province began in 2017, and despite SADC and Rwandan military intervention the insurrection is continuing. Due to these activities Total declared force majeure in April 2021, halting all onshore development activities.

It is clearly beyond the scope of the BGMP to provide any detailed insight into the possible future political development in Mozambique, but it is negligent of the authors to


ignore the current situation that may continue or even deteriorate in the future, thus rendering Mozambique a potentially unreliable supplier of gas.

4.3. Global Gas Reserves and Resources.

Using reports from countries and companies with proved reserves of recoverable oil, natural gas, and coal, an analysis by Heede & Oreskes (2015)\textsuperscript{24} showed that full production of these resources would use up 160 percent of the world’s estimated remaining carbon budget, designed to restrict anthropogenic climate change to equal to or less than 2°C. However, exploitation of existing proved reserves controlled by the private sector alone will not lead to warming above the 2°C limit if it is not accompanied by exploration for and development of new reserves. Future considerations of fossil fuel use should therefore focus not only on reducing private sector contributions but also on reducing contributions from countries that have historically dominated or currently dominate emissions, and especially nation-states with large undeveloped reserves.

In addition, worldwide proved fossil fuel reserves reported in British Petroleum’s Statistical Review of World Energy\textsuperscript{25} with CO\textsubscript{2} emission factors from the IPCC yields 3,600 Gt of CO\textsubscript{2} emissions. This implies that only one twelfth or 8% of known fossil fuels reserves can be utilised to limit global warming to 1.5°C.

Momentum is growing for energy sectors around the world to decarbonise. As of June 2020,\textsuperscript{26} 120 countries, 823 cities and more than 1,000 companies, had committed to achieving net-zero carbon emissions and the structure of South Africa’s energy sector will need to evolve rapidly to keep pace with global trends.

5. South Africa’s international climate commitments

The BGMP shows an obvious lack of consideration on the effect of greenhouse gas emissions and South Africa’s international commitments to the Paris Agreement.

In April 2021 the Department of Environment (DEF) released South Africa’s draft NDC\textsuperscript{27} submission to UNFCCC for public comment. The country “…warmly welcomed the IPCC’s special report on global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways” and commitment itself to be “…consistently been guided by science and equity”. Within the realms of these noble endeavour’s the countries proposed update to the initial INDC submitted in 2016, a PPD emission trajectory is maintained with maximum emissions of 398-510 MtCO\textsubscript{2}eq being reached by 2025 and reducing to 398-440 Mt CO\textsubscript{2}eq by 2030. The upper end of the target range in 2025 represents a reduction over the NDC (2016) pledge of 17%, and the upper end of the target range in 2030 is a reduction of 28%.

\begin{footnotesize}
\begin{enumerate}
\item Price Waterhouse Cooper (2021) Africa Energy Review. The global race to net zero by 2050 is accelerating. Will Africa realise a just transition or become a stranded asset. www.pwc.co.za/energyreview
\item 27 https://www.environment.gov.za/mediarelease/creecy_indc2021draftlaunch_climatechangecop26
\end{enumerate}
\end{footnotesize}
With the current indications that the government intends to adopt gas as a transition fuel it is appropriate to evaluate South Africa’s INDC against the Paris Agreements target of restricting the planet to an average temperature increase to well below 2 °C and preferably to 1.5°C. It is envisioned that the decarbonization of the South African economy will focus primarily on the electricity sector in the 2020’s and moving the transport sector towards low emission vehicles in the 2030’s.

Applying the IRP (2019) it is realistic that the country will emit 381Mt CO₂ eq per year (assumed 2.4% fugitive gas emissions) by 2030 from electricity generation only. With all other GHG emitting sectors in the South African economy accounting for 231 MtCO₂ eq emissions in 2016, to which no significant amendments have been considered in the draft INDC, it is apparent that the country will be hard pressed to achieve its INDC by 2030. Strong and more decisive policies must be implemented that will divert the country away from the continued use of coal as a source of energy and the realisation that gas cannot be a bridging fuel.

Figure 1. South Africa’s emissions trajectory based on 2016 INDC and 2021 draft INDC. (adapted from Climate Action Tracker)

6. Integrated Energy Plan (IEP)

Akom et al. (2021) expressed the opinion that the IEP must include an exhaustive investigation into the gains as well as inadequacies of the entire energy scheme and is insufficient.

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28 https://climateactiontracker.org/countries/south-africa/
therefore intended not only to ensure that the required energy is supplied, but also that the multi-sectorial influences are investigated and dealt with methodically. Accordingly, it is vital to consider the broader objectives of the country and outside influences that typify all sectors in the energy planning process. The intended purpose of an IEP is to provide a roadmap of the future energy landscape for South Africa to guide future energy infrastructure investments and policy development. The IEP analyses current energy consumption trends within different sectors of the economy (i.e., agriculture, commerce, industry, residential and transport) and uses this to project future energy requirements, based on different scenarios.

Currently South Africa does not have an IEP. This document should be produced and updated on an annual basis to take into account relevant recent developments.

7. Alternative energy

The Base Case Gas Master Plan is a flawed document that has been created with the single-minded focus of creating a gas industry in South Africa. Clearly the terms of reference under which the authors of the document were compelled to work were restrictive, thus limiting the scope of the work to consider alternative sources of energy. It is for this reason that the immediate requirements for an updated and inclusive IEP is critical, thereby compelling the DMRE to include all viable alternative energy sources not only for the generation of electricity y also for all sectors of the economy.

Many peer reviewed studies have shown that 100% RE systems are viable, and it is appropriate to quote verbatim from a study conducted in South Africa by Brown et. al (2018)

“We have shown here that all the issues can be addressed at low economic cost. Worst-case, conservative technology choices (such as dispatchable capacity for the peak load, grid expansion and synchronous compensators for ancillary services) are not only technically feasible, but also have costs which are a magnitude smaller than the total system costs. More cost-effective solutions that use variable renewable generators intelligently are also available. The viability of these solutions justifies the focus of many studies on reducing the main costs of bulk energy generation.

As a result, we conclude that the 100% renewable energy scenarios proposed in the literature are not just feasible, but also viable. As we demonstrated in Section 4.4, 100% renewable systems that meet the energy needs of all citizens at all times are cost-competitive with fossil fuel-based systems, even before externalities such as global warming, water usage and environmental pollution are taken into account.

The authors claim that a 100% renewable world will require a ‘reinvention’ of the power system; we have shown here that this claim is exaggerated: only a directed evolution of the current system is required to guarantee affordability reliability and sustainability.”
A plethora of studies conducted in Sub Saharan Africa and South Africa have expressed similar conclusions and a small sample is included for ease of access.

At no point in the BGMP is the potential competition of renewable energy (RE) considered. As RE technology improves and gains increasing acceptance as a viable utility-based source of energy, the unit costs of electricity have reduced to a point where the International Energy Agency (IEA) made the following announcement in October 2020. “The world’s best solar power schemes now offer the “cheapest...electricity in history” with the technology cheaper than coal and gas in most major countries.”

Of significance to this debate are the job creation opportunities, and economic growth that are associated with the implementation and expansion of RE. The PWC Africa Energy Review (2020) reported that average employment creation across all renewable energy technologies has been found to be four to five times greater than that of conventional energy. Measured in terms of investment, the fossil fuel industry creates 5.3 jobs per US$1 million invested, whereas the clean energy sector (renewable energy and energy efficiency) creates over three times this amount at 16.7 jobs per US$1m invested.

A similar statement was included in the PWC 2021 Energy Review, in which it was reported that employment creation in the green energy sector is also not limited to direct employment and of particular relevance to Africa is the potential boost in non-energy jobs through broader economic activity in rural communities where improved energy access through mini-grids and off-grid solutions will impact economic productivity.

It is an absolute social justice matter that the transition from fossil fuels to RE must be implemented in a just and socially acceptable manner. With the imminent closure of many of South Africa’s coal fired power stations as well as the demise of the coal industry, much of the re-skilling and re-employment of the work force will occur organically as people retire and resign. Nobody is saying that the transition will occur over night, but it must begin somewhere.

What is the rationale behind the DMRE’s proposal to transition from a coal-based economy to gas, at substantial cost and risk to the economy and environment, and then to implement a second transition from a gas-based economy to RE by 2050 to fulfil South Africa’s international climate change commitments?

Taking cognisance of the international trends, rapid technological changes as well as direct and indirect economic benefits of transitioning to RE, it is unnecessary to consider gas as a transition source of fuel.

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34 https://www.carbonbrief.org/solar-is-now-cheapest-electricity-in-history-confirms-iea
36 Price Waterhouse Cooper (2021) Africa Energy Review. The global race to net zero by 2050 is accelerating. Will Africa realise a just transition or become a stranded asset. www.pwc.co.za/energyreview
8. Other shortcomings of the BGMP

Having presented some clarity on some of the inadequacies of the BGMP it is appropriate to consider some of the shortcomings of the document.

8.1 No market research.

No market research has been conducted to determine the private sector’s acceptance of utilising gas as an energy source. Similarly, it has also been assumed that SOE, will also embrace the proposed transition to gas. It is not known how much the potential offtake of gas would be and at what cost would the offtake be competitively priced with other forms of energy e.g., renewable energy and renewable energy plus storage.

The PWC Energy Review (2021) reports that although natural gas will enjoy increasing demand and strong pricing in the medium term, Africa is not seen to be a significant supply-side player, with Russia, the US and Qatar seen as the major beneficiaries. These long-term forecasts have not been addressed in the BGMP.

8.2 No conceptualisation of timelines

No time timelines from conceptualisation to delivery for the implementation of a gas industry. Typical lead times for the development of a gas-based industry, including production facilities, LNG plants, transport etc may extend from 5 to 15 years compared to other forms of energy such as renewable energy which may become operational within a maximum of two years - and less - from concept to key in hand.

The risk of creating stranded assets is high as can be illustrated by the extension of the Richards Bay Coal Terminal (RBCT) in 2011. Extended at a cost of R1.2 billion\(^{37}\), to handle 91 million ton of coal per year, the maximum utilisation of the facility was 76.5 million tons in 2017 and is unlikely to achieve these volumes again. A steady decline of coal exports has rendered the Phase 5 expansion of the RBCT redundant and stranded\(^{38}\). A similar scenario awaits the proposed development of nascent gas industry in South Africa as international trends away from fossil fuels accelerates.

8.3 Inadequate economic planning

No concise financing plan is provided in the BGMP. As the world transitions to Net Carbon Zero by 2050 international funding for fossil fuel development and infrastructure is becoming more difficult to access and more expensive. Private sector funding is unlikely to provide finance for investments that lack a viable and foreseeable return and the national fiscus has more pressing obligations than financing a high-risk fossil fuel investment.

Globally, developed economies are beginning the shift away from fossil fuels by accelerating green policies and investments as ‘carbon neutral’ and ‘net zero’


emissions targets have become embedded in national policies and legislation in order to align with the goals of the Paris Agreement (PWC, 2020; Robertson, 2020; Huxham, et al., 2020; IRENA, 2020). Unlike demand shocks like COVID-19 where prices and consumption may recover, this low carbon transition will bring long-term structural changes, influencing the value of physical and financial assets, tax flows, jobs and skills. These risks are known as ‘climate transition risks’ (Huxham, et al., 2020).

Developed economies are becoming increasingly energy efficient as the energy intensity of a given unit of GDP has declined in key markets such as Europe and Japan (Robertson, 2020). Furthermore, gas is no longer considered as a transition fuel as grid-scale batteries are now cost competitive with gas, reducing the need for gas for peaking power purposes (Robertson, 2020). According to the IEA, primary energy demand under net zero emission targets falls by 17% between 2019 and 2030, with emission targets likely to fall more substantially by 2050. Huxham, et al (2020) note that as the demand for fossil fuel commodities like coal, oil, and gas decline, so does the demand for related infrastructure, such as ports, rail lines and pipelines. Lower demand is likely to result in lower prices (Huxham, et al., 2020). These long-term structural changes will drive global demand down for oil and gas and negatively impacting export volumes for Africa (SystemIQ, 2020; PWC, 2020). As Robertson (2020) states, ‘the first rule of business is to listen to your customer.’ Thus, developing economies should acknowledge that there is an energy shift underway, and should reconsider their reliance on fossil fuel exports (PWC, 2020).

As the PWC (2020) report notes, this market disruption is taking place against increasingly fragile African economies which depend on fossil fuels for foreign revenue. The market shift has impacted oil and gas companies as evidenced by the large losses, divestments, lay-offs and downsizing that has occurred (PWC, 2020). Companies such as BP, Chevron, Shell, Total and Eni have also written off an estimated R1267 billion in reserve assets which are now assumed uneconomical (PWC, 2020). The accountants and auditors of major energy firms are beginning to acknowledge the transition, as Total, Repsol, Shell and BP now base their financial statements on price assumptions (at around $55 - $65 per barrel) that are more conservative than their peers (Grant, 2020). BP’s auditors, Deloitte, explicitly noted in 2019 that its previous impairment prices were not consistent with the Paris goals, and BP subsequently amended its assumptions in the second quarter of 2020 (Grant, 2020). Deloitte (2021) notes that even the industry accelerated its energy transition, with many oil and gas companies announcing net-zero goals at the peak of the pandemic. In fact, supermajors like

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BP and Shell strengthened their net-zero goals by targeting reductions in oil and gas production and investment by up to 40% over the next decade (Deloitte, 2021).

8.4 Inadequate and inappropriate research.

It is of interest to note that of the seventy references cited in the BGMP, only four are sourced from peer reviewed published journals, the remainder being internal government correspondence, private interviews and memos, or oil and gas industry-based articles and reports. Most of the references are inaccurately cited and the documents could not be sourced. This observation illustrates the poor research and lack of interpretation whilst drafting the BGMP.

Other applicable gas utilisation studied that have also been commissioned by departments within the South African government have not been included in this BGMP. A detailed study was completed by the Department of Energy (DE)\textsuperscript{46} in cooperation with the government of Japan in 2017, which outlined, in more detail, the potential of expanding the South African gas industry.

Whilst conduction the Strategic Environmental Assessment for the development of a phased gas pipeline network in South Africa by the CSIR\textsuperscript{47}, a detailed review of the potential utilisation of gas was included in Appendix 1 of the final SEA report. There is no cognisance of this study included in the BGMP.

Similarly, the SADC and DBSA (2021) Draft Report: The SADC Regional Gas Master Plan (RGMP) – Phase One Gas Utilisation Report\textsuperscript{48} has not been reviewed and incorporated into the BGMP. It does seem to be counterproductive that the South African BGMP being developed does not dovetail with a similar document being developed for the purposes of coordination and cooperation within the SADC region.

It is alarming that the three studies cited above have not be incorporated into this BGMP.


In conclusion, the continued utilisation of gas as a transition fuel as proposed in the BGMP as a policy document emanating from the Department of Minerals and Energy, is

\textsuperscript{46} Department of Energy Republic of South Africa Study on Natural Gas Utilisation Final Report \url{http://open_jicareport.jica.go.jp/pdf/12302097.pdf}


incompatible with climate stability and the goal of rapid decarbonization that is required to comply with South Africa’s stated climate change commitments.

Therefore, The Green Connection, for the reasons stated above, has no hesitation in rejecting the Base Case Gas Master Plan in its entirety.

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Appendix B: Extracts from a critique of Ocean Economy Plan

Extracts from a Critique of Ocean Economy Plan

The Green connection is an ecojustice organisation and believes that empowering people to participate in decision making about their environment is the only way that truly sustainable development can take place. Our environmental resources are limited and not ours to squander but to protect for future generations. We believe that economic growth and development, improvement of socio-economic status and conservation of natural resources can only take place within a commonly understood framework of sustainable development.

The oceans economy masterplan 2035 we believe will be detrimental to the equitable and fair transformation of the South African economy. The proposed plan is incompatible with environmental concerns such as climate stability and the goal of rapid decarbonization that is required to comply with South Africa’s stated climate change commitments. More importantly the Master plan 2035 does not address the needs, concerns and livelihoods of coastal communities such as small-scale fisher communities and other indigenous communities that have been resident along the South African coastline for many generations.

The Oceans plan adopts a view that oil and gas exploration is compatible with fishing despite global experience to the contrary. In the just transition framework, there is a necessity to address existing policies and programmes that are incompatible with such as just transition.

The Cost of Oil Spills and Other Ocean Damage

Besides the human lives that have been lost, huge damage to marine and coastal areas have been documented from oil spills either at well heads, or from tankers. Sacred Trust (2020) notes that while it is impossible to know exactly how much a new oil spill would cost, experts are able to estimate financial risks by examining previous major spills. For example, a study in 2012 on the potential economic impact of a tanker spill on ocean-based industries in British Columbia, estimated damage to the regional economy of between R2181 – R3554 million depending on the size of the spill. In addition to the costs to the economy, clean-up costs were estimated at between R35 billion and R137 billion (Hotte, 2012).

In addition to these short-term economic costs, oil spills have extensive long-term damages and costs which, the researchers argue, have not been sufficiently understood. They note that for both people and wildlife, a spill will have a ‘resonating and resounding impact for the next 10 to 20 years’ (Onmanorama, 2020). Amadeo (2020) writes that the impacts of the 1989 Exxon oil spill in Prince William Sound, Alaska are still being felt today as the economy has yet to fully recover. Amadeo (2020) notes that ten years after the Deepwater Horizon spill in the Gulf of Mexico, it ‘continues to harm wildlife and the environment.’ To date, the disaster has cost BP R946 billion in clean-up and compensation payments (Vaughan, 2018). However, most literature does not calculate the costs of damage to the environment, which should, of
course, be included in future oil spill cost calculations. In addition, the magnitude of such compensation payments could threaten the economic viability of oil companies, adding yet more risk to investments in fossil fuels.

There is a very real risk that an accident could occur at drilling sites within the gas reserves so far found in South African waters. This is particularly so because of what Total describe as ‘the challenging Deepwater environment.’ Total CEO Patrick Pouyanne has stated ‘the region is quite difficult to operate: huge waves, the weather isn’t very easy’. Deepwater drilling is technically challenging and dangerous because of the pressures and temperatures that exit at great depths. The deeper the drilling, the higher the pressure of the gas or oil in the reservoir which makes it incredibly difficult to control (Overy, 2019).

The use of state-of-the-art technology, best practices, appropriate training, and regulatory oversight, is not sufficient to prevent accidents and failures and cannot therefore be considered to be an adequate mitigating measure. Furthermore, a study completed by Muelenbach et al. (2013) provides insight into the increased risk of accidents occurring and environmental impacts of drilling with increased water depth. The study concluded that incidents such as blowouts, injuries, and oil spills are positively correlated with deeper water. Controlling for these and other characteristics, for an average platform, each one hundred feet of added depth increases the probability of a company-reported incident by 8.5%.

Oil and gas companies will face these challenges in the two finds so far reported because they are in some of the words most treacherous waters, deep in ocean floor trenches within the westward Agulhas Current which is one of the fastest currents in the world where winter waves can reach thirty metres in height. Under the water at depths deeper than eight hundred metres, things are equally treacherous as the Agulhas Undercurrent flows north at some of the fastest speeds ever recorded for an undercurrent. Peter Sharp, the executive vice-president for wells at Shell Oil, stated in 2012 that ‘deep-water operation is the most complex, costly activity we undertake. Every single one is the equivalent of a moon-shot’ (Overy, 2019). If the sinking of a deep-water well is the equivalent of a ‘moon-shot,’ the risks of an accident occurring in South African waters are clear.

There two main sectors of the economy that are negatively impacted by oil spills are fishing and tourism.

Impact on Tourism

Waló (2016) highlights the susceptibility of the tourism industry to crises and disasters, especially since the success of a particular destination rests heavily on its ability to offer tourists a safe and pleasant environment. Oil spills impact coastal tourism destinations in the following direct ways: they damage tourism resources like beaches, coastal landscapes, marine ecosystems, and biodiversity; and they impede water sports, recreational fishing, and coastal leisure activities. Indirectly, they negatively impact business sectors associated with tourism, such as catering, transport, and accommodation. (Waló, 2016).

The total economic impact to the tourism and sport fishing after the Exxon Valdez spill has been calculated at R645 million. Visitor spending in the summer of 1989 decreased 8% in south-central Alaska and 35% in southwestern Alaska (including the Aleutian Islands), compared to 1986 levels. Overall, this amounted to an estimated loss of R219 million in visitor spending (Oxford Economics, 2010). (Waló, 2016). Research indicates that the Deepwater
Horizon spill, affected tourism not only in Louisiana but also in nearby states not directly in contact with the oil. Leisure visitor spending dropped by R3599 million in 2010 in Louisiana alone. The estimated cost to the tourism industry around the Gulf Coast was calculated to be more than R111 billion.

**Methane Emissions, Climate Change and Ocean Acidification**

Methane emissions are the second-largest cause of global warming and come from a range of anthropogenic and natural sources, such as oil, natural gas, coal, and bioenergy (IEA, 2021). Research indicates that the entire lifecycle emissions of the gas supply chain must be considered when considering it environmental impacts. While the combustion of gas may produce less CO2 emissions than burning coal, when emissions from every stage of the gas supply chain are considered, such as during exploration, extraction, and the manufacturing of energy conversion technology, then research indicates that gas is neither good for the climate nor for the environment (Anderson & Broderick, 2017).

If South Africa establishes an oil and gas industry, it will contribute a significant amount of carbon dioxide emissions into the atmosphere and increase the country’s greenhouse gas emissions. The consequences of this will have a significant impact on South Africa’s coastal and marine economy. For example, Celliers (2016) warns that a major challenge for South Africa is ocean acidification due to climate change. Ocean acidification is caused by the uptake of carbon dioxide from the atmosphere, and results not only in a loss of biodiversity, but it also severely damages fish stocks, threatening food security. Moreover, ocean acidification threatens coastal defences (due to decreased storm protection from reefs), tourism and recreational activities (Celliers, 2016; Ghosh, 2020). For example, recent research indicates that 80% of Cape Town’s Blue Flag beaches are already threatened by climate change induced sea level rises and coastal erosion. The same research notes that ‘iconic tourist attractions such as the Cape Point, V&A Waterfront, Robben Island and several beaches along the False Bay area are under the same threat’ (Dube, 2021). Evidence is already showing that fish stocks in South Africa are being negatively impacted by climate change. In particular, the distribution and abundance of South Africa’s important pelagic fish stocks (Phillips, 2017).

South Africa faces extreme climate change risks which need to be mitigated, meaning that it must become more resilient in the face of these risks. According to Yale’s 2020 Environmental Performance Index (EPI), out of 180 countries, South Africa ranked at 131st for air-quality and 158th for ecosystem vitality (Yale Environmental Performance Index, 2020). As for fisheries, South Africa ranks 116th, emphasizing the poor health of our marine and coastal ecosystems (Yale Environmental Performance Index, 2020). Moreover, the impacts of climate change on food production, agricultural livelihoods and food security in South Africa are significant national policy concerns, with implications beyond South Africa’s borders (SANBI, No date).

**Biodiversity and Ecosystem services**

The oceans support globally critical ecosystem services, which are defined as ‘the benefits people obtain from ecosystems’ (DEFF, No date). Among other things, the oceans provide between 50% and 70% of our oxygen and absorb as much as one-third of the carbon dioxide (CO2) produced in the world (WWF-SA, 2016; Cavanagh, et al., 2021).
Turpie, et al (2017) conservatively estimated that South Africa’s terrestrial, freshwater and estuarine habitats alone are worth at least R275 billion per annum to South Africans. This estimate provides an insight into the vast economic benefits that the oceans around our coast provide for us.

Some of the value provided by coastal ecosystem services include:

- The value of subsistence harvesting from estuarine and coastal habitats is estimated to be R35.7 million per year.
- South Africa’s estuaries play a critical role as nursery areas for many fish and invertebrate species. The nursery value of estuaries was estimated to be R803 million per annum, with the highest values along the southwestern Cape and Eastern Cape. Turpie et al (2017), estimate that if all estuaries were in their natural condition, this figure would be closer to R1.4 billion.
- Tourism expenditure attributed to natural ecosystems was estimated to be R25.2 billion per year. Close to half (49%) of this national value was attributed to protected areas which only cover 8% of South Africa.
- The capital investment in property in proximity to natural coastal open space was estimated at R907 billion, equivalent to R79 billion per year. In addition to tourism and property values, the value of South Africa’s biodiversity is estimated at R6.45 billion per annum. However, the distribution of this value is unknown.
- The protection of some coastal urban areas by dune systems.

Turpie, et al (2017) conclude that the highest values came from the provisioning (food habitats), regulating (weather and flood protection) and supporting services (e.g., nutrient cycling), as well as carbon storage. The study suggests that maintaining natural systems generates substantial value to South Africans, either in the form of inputs for productive activities and welfare, and in terms of losses avoided by retaining these systems (Turpie, et al., 2017).

Naidoo (2020) uses the 2011 ecosystem valuation of Constanza et al (2014) to calculate the value of South Africa’s oceans and coasts in 2019 South African Rands. He estimates the ecosystem services value of South Africa’s EEZ at R3.6 trillion, or R4.1 trillion if the EEZs around Prince Edward and Marion Islands are also included.

**Off-shore Oil and Gas.**

Having presented some clarity on some of the inadequacies of the Masterplan 2035 it is appropriate to consider some of the shortcomings of the document.

**Limited foresight**

The Masterplan 2035 provides extensive arguments and motivation in favour of offshore oil and gas exploration and production, however there is no indication provided of the potential negative social, economic, and environmental impacts.

The PWC Energy Review (2021) reports that although natural gas will enjoy increasing demand and strong pricing in the medium term, Africa is not seen to be a significant supply-side player, with Russia, the US and Qatar seen as the major beneficiaries. These long-term forecasts have not been addressed in the Masterplan 2035.
Similarly, no time timelines from conceptualisation to delivery for the implementation of a gas industry. Typical lead times for the development of a gas-based industry, including production facilities, LNG plants, transport etc may extend from 5 to 15 year compared to other forms of energy such as renewable energy which may become operational within a maximum of two years - and less - from concept to key in hand.

The risk of creating stranded assets is high as can be illustrated by the extension of the Richards Bay Coal Terminal (RBCT) in 2011. Extended at a cost of R1.2 billion, to handle 91 million ton of coal per year, the maximum utilisation of the facility was 76.5 million tons in 2017 and is unlikely to achieve these volumes again. A steady decline of coal exports has rendered the Phase 5 expansion of the RBCT redundant and stranded. A similar scenario awaits the proposed development of nascent gas industry in South Africa as international trends away from fossil fuels accelerates.

Lack of financial planning

No concise financing plan is provided in the Masterplan 2035. As the world transitions to Net Carbon Zero by 2050 international funding for fossil fuel development and infra structure is becoming more difficult to access and more expensive. Private sector funding is unlikely to provide finance for investments that lack a viable and foreseeable return and the national fiscus has more pressing obligations than financing a high-risk fossil fuel related investment.

Globally, developed economies are beginning the shift away from fossil fuels by accelerating green policies and investments as ‘carbon neutral’ and ‘net zero’ emissions targets have become embedded in national policies and legislation to align with the goals of the Paris Agreement (PWC, 2020; Robertson, 2020; Huxham, et al., 2020; IRENA, 2020). Unlike demand shocks like COVID-19 where prices and consumption may recover, this low carbon transition will bring long-term structural changes, influencing the value of physical and financial assets, tax flows, jobs, and skills. These risks are known as ‘climate transition risks’ (Huxham, et al., 2020).

Developed economies are becoming increasingly energy efficient as the energy intensity of a given unit of GDP has declined in key markets such as Europe and Japan (Robertson, 2020). Furthermore, gas is no longer considered as a transition fuel as grid-scale batteries are now cost competitive with gas, reducing the need for gas for peaking power purposes (Robertson, 2020). According to the IEA, primary energy demand under net zero emission targets falls by 17% between 2019 and 2030, with emission targets likely to fall more substantially by 2050. Huxham, et al (2020) note that as the demand for fossil fuel commodities like coal, oil, and gas decline, so does the demand for related infrastructure, such as ports, rail lines and pipelines. Lower demand is likely to result in lower prices (Huxham, et al., 2020). These long-term structural changes will drive global demand down for oil and gas and negatively impacting export volumes for Africa (SystemIQ, 2020; PWC, 2020). As Robertson (2020) states, ‘the first rule of business is to listen to your customer.’ Thus, developing economies should

acknowledge that there is an energy shift underway, and should reconsider their reliance on fossil fuel exports (PWC, 2020).

As the PWC (2020) report notes, this market disruption is taking place against increasingly fragile African economies which depend on fossil fuels for foreign revenue. The market shift has impacted oil and gas companies as evidenced by the large losses, divestments, lay-offs and downscaling that has occurred (PWC, 2020). Companies such as BP, Chevron, Shell, Total and Eni have also written off an estimated R1267 billion in reserve assets which are now assumed uneconomical (PWC, 2020). The accountants and auditors of major energy firms are beginning to acknowledge the transition, as Total, Repsol, Shell and BP now base their financial statements on price assumptions (at around $55 - $65 per barrel) that are more conservative than their peers (Grant, 2020). BP’s auditors, Deloitte, explicitly noted in 2019 that its previous impairment prices were not consistent with the Paris goals, and BP subsequently amended its assumptions in the second quarter of 2020 (Grant, 2020). Deloitte (2021) notes that even the industry accelerated its energy transition, with many oil and gas companies announcing net-zero goals at the peak of the pandemic. In fact, supermajors like BP and Shell strengthened their net-zero goals by targeting reductions in oil and gas production and investment by up to 40% over the next decade (Deloitte, 2021).

Appendix C : EXTRACTS FROM WHITE PAPER CONTRIBUTION (DRAFT)

Danger of Fossil Fuel Lock-in
Because of the fundamental changes taking place in the energy landscape due to the transition away from fossil fuels there is a danger that ongoing investments in fossil fuel infrastructure can lead to technological lock-in, which is a form of technological path-dependency. For example, a city authority may invest heavily in fossil fuel powered buses even though electric alternatives are available and quickly become cheaper. However, because of costs already sunk into fossil fuel powered buses the city authority cannot switch to electric alternatives. In this example, the city authority and the passengers who ride on its buses may spend far more than they need to on their transportation. Spending on fossil fuels also has the potential to crowd out funding for alternative sources of energy, such as renewable, because once funds are committed to fossil fuels, they cannot then be committed to alternatives. As environmental historian, Andreas Malm, notes the ‘more business-as-usual persists, the harder it becomes to break out of it. Every new round of pipelines and tankers and deep-water drilling rigs encumbers the next decades with an even more ponderous mass infrastructure into which carbon has been locked: the ruts of path dependency deepen’.i

Since the Second World War, the endless pursuit of economic growth has been the primary goal of governments throughout much of the world as it has been viewed as the primary solution to problems of poverty and exclusion.ii While economic growth has resulted in improving the living standards, albeit very unevenly, of billions of lives across the globe, it has done so at tremendous cost to the environment. This is because the driving force behind economic growth has been the burning GHG producing fossil fuels. The climate crisis poses a fundamental problem for the endless pursuit of economic growth because it is now clear that it cannot continue to be pursued without making the earth potentially unliveable for human beings. According to Antonio Guterres, the head of the United Nations by pursuing this economic model we are ‘digging our own graves’. 

34
There is no shortage of ideas of how to make economies compatible with planetary limits: there is the steady-state economy which recognises that resources are finite and proposes a balance between supply and demand; there are circular economies which propose a closed-loop whereby resources are constantly recycled and reused so as not to exceed planetary limits; degrowth economies abandon the concept of economic growth altogether and focus their energies on economic contraction in rich countries to allow ‘development’ to take place in poorer countries in the interests of achieving social justice and ecological balance. In fact, as Vandana Shiva argues, wellbeing and real prosperity are undermined and repeatedly justified by a focus on ‘growth’ and ‘progress’.

It is true that in South Africa far too many people lack access to basic services such as electricity, but we need to question whether more economic growth will solve these problems when they are really the result of inequality, rather than a lack of economic growth per se. South Africa is the most unequal society in the world and is becoming more unequal year on year. South Africa’s ‘developmental’ challenges will be overcome by socially and economically just policies which redistribute income and access to social goods via progressive taxation regimes and effective government policies grounded in social solidarity, not simply by more economic growth.

These considerations should be at the forefront of any decision-making when it comes to future energy policy in South Africa. It can no longer be narrowly assumed that energy is primarily needed for economic growth, as if this combination will automatically solve South Africa’s complex economic and social problems.

**Complexity of the Transition - Jobs**

There is little doubt that transitioning away from fossil fuels to renewables in a country which has such deep historic, institutional, and infrastructural ties to fossil fuel extraction is a complex process. This is especially so given the hundreds of thousands of workers currently engaged in fossil fuel energy industries and supporting industries, without the context of mass unemployment. Work has been, and continues to be, undertaken in South Africa, via National Employment Vulnerability Assessments and Sector Job Resilience Plans to try and mitigate job losses. International evidence shows that if the transition is well managed and properly resourced, it can result in the creation of more jobs than those that will be lost during the transition. For example, the United Nations has estimated that while 6 million jobs will be lost globally by transitioning to a green economy, some 24 million new jobs will be created.

**Complexity of the Transition – Infrastructure**

The transition from a centralised, fossil fuel driven energy system to a decentralised, renewable energy system is undoubtedly a complex task in terms of the major infrastructural changes that will be necessary. Significant upgrades to physical grid infrastructure will be required, while new forms of energy management will need to be introduced (Smart Grids). In addition, very substantial amounts of new renewable power and storage will need to be constructed, much of which will need to be connected to the grid. Despite these challenges, modelling of the South African transition to a future renewable energy system has repeatedly shown it to be the least cost option, both in terms of financial resources and harms to the environment.

In October 2021, Crispian Olver, the Executive Director of the Presidential Climate Change Commission publicly stated that no new coal-fired power stations should be built in South Africa, while dismissing the idea of ‘clean coal’ as a fantasy. Instead, he argued that 30 000
MW of new renewables should be added by 2030, 100 000 MW by 2040 and 150 000 MW by 2050. To realise this procurement, he asserted that a new Integrated Energy Plan should be drawn up.\textsuperscript{viii}

In the very same month as Olver’s comments, the Minister for Mineral Resources and Energy, Gwede Mantashe, reaffirmed his commitment to coal (including new coal), his desire for new nuclear power, and his wholehearted support for oil and gas exploration both offshore and in the Karoo.\textsuperscript{ix}

How to successfully manage and address this contradiction between these two important voices within government gets to the very heart of the energy debate in South Africa. On the one hand, you have a forward-looking voice, which is cognisant of the climate crisis and the abundant opportunities that renewables will provide, while on the other hand you have a backward-looking voice, still deeply entrenched in the minerals energy complex and unable or unwilling to conceive of a transformed energy sector.

What is abundantly clear from this revised White Paper, is that if the backward-looking voice takes precedent, then South Africa must prepare itself for higher electricity prices in the future, for yet more debilitating pollution from the ongoing burning of fossil fuels, for the possibility of catastrophic amounts of stranded assets, and for the devastating consequences that are sure to come from the impacts of climate change.

What the regressive forces either cannot see or refuse to acknowledge is that the climate emergency is an existential crisis that unravels all our previous ways of thinking, being and doing in the world. Regressive forces ‘are unable to grasp the specific working-out of the present turning point’ which is ‘the breakdown of the strategies and relationships that have sustained capital accumulation over the last five centuries’.\textsuperscript{x} What this means is that the endless pursuit of growth will not solve the crisis before us, therefore the endless need to produce energy as a means by which to create growth is not the answer. How else do we explain the ever-increasing income inequality in South Africa and the world more generally, along with its concomitant levels of poverty, if economic growth were the panacea to all our problems?\textsuperscript{xi}

Beyond the ongoing efforts to ensure that all South Africans have access to the energy necessary to lead a fulfilling life, the constant scramble for yet more energy will only lead us deeper into crisis. A crisis which technical solutions alone will not be able to solve, for we all need to face up to a new reality, one in which the endless pursuit of consumer goods which has become the defining means by which we judge success, must be curtailed. We need to find new ways to define ourselves and new means by which to find satisfaction (not that consumer goods necessarily fulfil that role).\textsuperscript{xii} This means we need to ask significant questions relating to energy policy, the most fundamental of which is why we need so much energy to produce so many things that ultimately do not bring us any meaningful level of contentment, and in the process despoil the environment.\textsuperscript{xiii} These are undoubtedly difficult, controversial and complex questions that must, nonetheless, feature in future energy planning South Africa.

Appendix C: GC economic impacts of offshore oil and gas in South Africa (link)

GC economic impacts of offshore oil and gas in South Africa

Appendix D: GC Oceans Tribunal final statement

Is operation Phakisa contributing to Ecocide in South Africa?

Green Connection Tribunal on the Blue Economy:

Background:

The Blue Economy is an attempt to exploit the ocean's natural resources in a way that is unsustainable in terms of its impacts on the ecology, the people, and long-term livelihood survival.
In South African, the blue economy program is called operation Phakisa. Part of Operation Phakisa is to focus on offshore oil and gas exploration. The Green Connection does not believe that offshore oil and gas will yield any benefits for coastal communities dependent on the sea for their livelihoods. In South Africa, the Green Connection believes that there is a high risk of destroying marine ecology due to offshore oil and gas exploration and production. Such risks could undermine and destroy the livelihoods of many coastal communities and might be classed as ecocide. Internationally, there is a movement to make ecocide an international crime. Ecocide: “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts”.

Coastal communities’ voices have been marginalized in many of the issues that affect them. This includes access to food, failure to recognize their livelihoods, failed public participation, flawed environmental impact assessments and meaningful implementation of the small-scale fisheries policy. This has been highlighted in legal cases such as the recent oil and gas exploration case by Shell on the Wild Coast and Searcher on the West Coast.

The Objective of The Oceans Tribunal:

The Green Connection hosted an Oceans Tribunal in September 2021. The aim of the tribunal was to provide a platform for coastal communities to speak about the challenges that the oil and gas could pose to their livelihoods. Communities gave testimony on how they have not been included in discussions, despite having the rights in law on paper, and their understanding of how they have and will be affected by the oil and gas industry.

The Tribunal included community representatives from different parts of the South African coast, who attended physically in Cape Town as well as hearings that took place in five additional physical venues around the coast and linked virtually to the main Cape Town venue. The hybrid event enabled speakers, and community leaders from different parts of the world as well as locally to participate. Translation was provided to enable all to contribute fully.

The program included presentations on some of the technical aspects such as the economics of oil and gas, the climate change impacts, the social impacts as well as some of the fishers’ issues in their respective communities such as offshore oil and gas exploration & climate change. Speakers also included some local and international perspectives – from other parts of Africa and also from India – on how oil and gas exploration and production impacts their communities.

A high-profile panel acted as a jury in the case, added gravitas and gave advice based on their experience and expertise. We are handing this statement by the jury panel over to President Ramaphosa, in his role as the chair of South African Climate Change Commission and we request that the recommendations of the tribunal be adopted as government makes decisions about oil and gas exploration and production.

Sincere regards,
Biography of Jurists

**Allison Tilley** – An attorney specializing in transparency and accountability issues. She has litigated on transparency and whistleblowing issues in a number of high-court matters. She is the coordinator of the Judges Matter campaign which is a project for the Democratic Governance and Rights unit at the University of Cape Town.

**Lorretta Ferris** - Is an environmental scholar and a lawyer who is currently a professor of Law at the institute of Marine & Environmental Law at the University of Cape Town, she has published widely in environmental law, environmental justice and environmental human rights for environmental damage, compliance as well as enforcement of environmental law, trade and environment.

Nnimmo Bassey – A director of an ecological think – tank Health of Mother Earth Foundation. He was also the member of steering committee of Oilwatch International and was Chair for Friends of The Earth International (FOEI) from 2008 to 2012 and a director of Nigeria’s Environmental Rights Action. A writer of a poetry book “We thought it was oil but it was blood” (Kraft Books 2002.)

**Jesu Rethinam** – has been an active part of the Indian’s civic action movements especially involved in feminist dialogue and advocacy as well as campaigns around fish workers, coastal and marine issues. She is also a pioneer in having initiated the Coastal Action Network in Southern Indian State of Tamil Nadu and heads SNEHA an organisation working for rights of fishers and other coastal agricultural communities.

For more information, please visit our website and contact us on the email below:

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Attention: Lisa Makaula (March 2022)
THE GREEN CONNECTION
OCEANS TRIBUNAL ON SMALL SCALE FISHERS AND OIL AND GAS
21-22 September 2021
STATEMENT BY PANEL OF JURISTS
FINAL UNSIGNED

Introduction
This tribunal was hosted to give small-scale fishers (and fishing-dependent community members) a platform to voice their concerns regarding oil and gas exploration and associated developmental activities in South Africa oceans and on its coastline, and in particular their concerns regarding the current and potential future impacts that such activities have on their livelihoods, culture and well-being. Community members affected by shale gas fracking and coastal mining also voiced their concerns.

Themes from testimonies
Having listened to community representatives from various coastal communities around South Africa, the Tribunal notes the following common themes:

Inadequate consultation and lack of transparency
‘Speak with us, not about us’
- Coastal community members, including small-scale fishers and women dependent on fishing, do not feel that they are meaningfully consulted regarding proposed oil and gas exploration and development. In some instances, small-scale fishing communities are not consulted at all. Complaints focussed on the manner in which consultations are carried out, a lack of effective engagement, limited or no opportunity to develop the necessary skills and understanding needed to participate meaningfully, and a belief by these communities that the views expressed by them are not taken seriously and have no influence on the decision-making process.
- Another emerging theme is that these communities do not believe that there is sufficient transparency in government policy and decision-making processes. Policy and decisions are made by government officials far removed from those whose livelihoods are being undermined or are at risk of being destroyed. Concerns were also raised that those standing to benefit from the oil and gas exploration and development (including multinational and private shareholders) often staying hidden behind the corporate veil. Communities believe that those with vested financial and other interests in oil and gas exploration and developments are given favourable treatment by government officials.
and consultants, while impacted and potentially impacted community members are side-lined and their concerns ignored or downplayed.

**Real threat to livelihoods**

*‘No fish No eat’*

- Community members who rely on the ocean for their livelihoods, and whose access to fish has been negatively impacted by decades of industrial fishing depleting fish stocks, see oil and gas exploration and development (such as gas powerships and pipelines) as a threat to their livelihoods. These threats include ecological devastation should major oil spills pollute the ocean and coastline, and the risk of gas powerships permanently operating in ports scaring fish away from traditional fishing grounds. Concern was expressed that livelihoods would be further undermined or destroyed by such activities, impacting most heavily on those community members, and especially women, who depend almost entirely on fishing and subsidiary activities to put food on the family table and send their children to school. Subsidiary activities include the preparation or sale of fish and other marine living resources, as well as activities dependent on tourism (such as community fishing guides).

**Concern about environmental impacts**

- Concerns were also expressed over current and potential future pollution impacts on marine ecosystems and the broader environment from oil and gas exploration and development. Issues of concern include the depletion of fish stocks (and other marine living resources), migration of fish away from traditional and customary fishing areas, habitat loss, as well as broader ecosystem impacts as a result of the warming of the oceans as a result of climate change. These current and potential future impacts are seen as interrelated to the livelihoods of the communities (i.e. could undermine or destroy their livelihoods).

**Erasure historical, traditional and customary coastal fishing rights**

*‘We want our oceans back and we want it back now!’*

- Concern was raised over historical erosion of historical, traditional and customary coastal fishing rights (whether by being denied access to historical, traditional and customary fishing areas falling under a mining right, or through conservation efforts excluding them from such areas), and further concern was voiced over the extent to which such rights could be further eroded by oil and gas exploration and development. Community members spoke of historical, traditional and customary fishing being conducted sustainably, and felt that their deep historical, traditional knowledge and wisdom of fishing and the oceans is not valued by consultants and government, but is
largely ignored. Community members lamented the loss of customary ways of fishing, as well a fear that historical, traditional and customary fishing rights would be lost (as has been experienced in relation to some protected areas). Concern was expressed that whenever decisions are made by those in authority, such customary rights and practices are not taken into account.

**Emotional/Cultural Connection to the Ocean or ‘sense of place’**

*The ocean belongs to us, we will never give up*

- Community members spoke of their deep historical and cultural connection to the ocean, or emotional attachment, and viewed oil and gas exploration and development as an affront to their ‘sense of place’, in other words to their emotional attachment to the oceans (place attachment) and the cultural and heritage value (place meaning) that the oceans hold. ‘They argue that these activities risk undermining or destroying their sense of place. Community members felt that their emotional and cultural connection to the oceans is not taken into account in policy and decision-making processes.

**More ‘Invisibilisation of Women’**

*Without women in fisheries there is no fish in the market/home*

- Women’s role in prelanding, landing and post landing, collecting and cleaning, supply and value chain activities are totally not recognised and they are made more and more invisible. The present policies make them more invisible by alienating them from the value and supply chain in fisheries and make them more vulnerable.

**Tribunal Observations and Comments**

The South African Constitution enshrines the foundational principles of accountability, responsiveness and openness. Section 24 provides that everyone has the right to an environment that it not harmful to their health or well-being, and to have the environmental protected, for the benefit of present and future generations, through reasonable legislative and other measures that: prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. Section 27 guarantees the right to sufficient food and water. Section 33 recognises the right to procedurally fair decision-making processes. Environmental principles that organs of state are required to take into account in environmental decision making are set out in section 2 of South Africa’s National Environmental Management Act (NEMA), which among other things provides that: the participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and
capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured; and that decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including historical, traditional and customary knowledge and wisdom.

South Africa’s policy regarding oil and gas exploration and development is expressed in the 1998 White Paper on Energy Policy, which among other things sets out government’s policy approach to the promotion, development and regulation of oil and gas exploration and development. The White Paper expresses the view that the successful exploitation of oil and gas resources would contribute to the growth of the economy and relieve pressure on the balance of payments. Implementation of this policy is being driven at a national level through Operation Phakisa (“hurry up”), which focusses on unlocking the economic potential of South Africa’s oceans in order to contribute to Gross Domestic Product (GDP), and is presented as a unique opportunity to addresses issues such as poverty and unemployment. One of the sectors targeted for implementation in Operation Phakisa is the oceans economy, with offshore oil and gas exploration selected as one focus area. A 2014 report entitled Unlocking the Economic Potential of South Africa’s Oceans – Offshore Oil and Gas Exploration Final Lab report was produced following a consultative process with certain stakeholders (but which process did not include many non-governmental organisations or fishing communities), and the vision set out in this report is that:

South Africa should… create an environment that promotes exploration… in order to drill 30 exploration wells in the next ten years… while simultaneously maximizing the benefits for South Africa.xiii

This tribunal was hosted at a time when the global community is grappling with the existential threat of climate change emergency. The UN Secretary General has described the International Panel on Climate Change’s (IPCC) recent 6th Assessment report as a ‘code red for humanity’, and has pointed out that decisive action is required to limit global warming to 1.5°C. This report indicates that it is unequivocal that human influence has warmed the atmosphere, oceans and land, and that many changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level. The International Energy Agency (IEA) has also recently indicated that in order to meet net zero emissions by 2050, no new oil, gas or coal developments should be approved. At the time of the tribunal, the South African government was in the process of refining its Nationally Determined Contributions (NDCs) to reduce
national emissions and adapt to the impacts of climate change in accordance with its obligations under the Paris Agreement.

Based on the testimonies provided by community members to the Tribunal, it is evident that - notwithstanding environmental rights enshrined in the Constitution and environmental principles that promote public participation and recognise historical, traditional and customary knowledge and wisdom - the voices of small-scale fishers and fishing-dependent communities are not being heard by government in both policy and environmental decision-making processes. Operation Phakisa is being implemented through projects and programmes focussed on GDP and economic growth, which treat the ocean as a commodity which can be partitioned and exploited, mostly for the benefit of multinational corporations and other elites, with little or no benefits accruing to affected fishers and communities. These communities do not stand to share in the profits of such activities, while mostly highly skilled jobs will be created that small-scale fishers and fishing-dependent communities are not qualified for. The policy to promote and accelerate oil and gas exploration and development, developed without taking the views of affected communities and women into account, is outdated and incompatible with the climate emergency. The current trajectory of the South African government in promoting and accelerating oil and gas exploration and development will exacerbate climate change by unlocking more fossil fuels for production and broader use in the economy, and is likely to lead to heightening inequalities through commodification of the ocean commons, pollution and displacement of small-scale fishers and fishing-dependent communities: a blue apartheid.

**Key insights**
- Fishers and fishing-dependent communities, including women, have not been adequately consulted by government in its development of policy regarding the oceans and coasts. The policy as set out in Operation Phakisa’s ‘ocean lab’ report fails to take into account or make adequate provision for the economic, social and cultural needs of fishers and fishing communities. Instead, the policy seeks to commodify the oceans and coasts by encouraging accelerated oil and gas exploration for the benefit of a corporate and political elite, with few if any benefits flowing to those most at risk of being negatively impacted.
- Consultations carried out in environmental authorisation processes relating to oil and gas exploration (and associated activities) either fail to engage with those most likely to be impacted by the negative consequences of such activities, or where consultation is carried out it is not done through meaningful engagement that draws on the historical, traditional, customary and cultural knowledge and wisdom of fishers and fishing
communities. Instead of being seen as an opportunity for meaningful engagement, such consultations tend to be ‘tick-box’ exercises, with the views expressed simply attached to a public participation annexure to environmental impact reports.

- Fishers and fishing communities depend almost entirely on the oceans and coasts for their livelihoods, and the risk of the ocean and coastal ecosystems being damaged through pollution as a consequence of oil and gas exploration (and associated activities) poses a real threat to their ability to put food on the table and send their children to school. It is noted that the traditional livelihoods and cultural practices of these communities have already been severely impacted by centuries of colonisation and apartheid, and through the overexploitation of marine living resources by industrial fishing. The livelihoods, cultural practices and attachment to place of these communities are particularly vulnerable to additional negative impacts.

- Experience in other African countries (such as in Mozambique and Niger Delta) shows that small-scale fishers and fishing-dependent communities seldom benefit from the discovery and exploitation of oil and gas. Such developments have a tendency to result in displacement of these community members, inhibit access to historical, traditional and customary fishing grounds, exacerbate economic and social inequalities, and increase the risk of conflict.

Key Recommendations
The Tribunal makes the following key recommendations:

- That Operation Phakisa be revisited and reformulated, following in depth and meaningful consultation with fishers and fishing communities who depend on the oceans and coast for their livelihoods, and who have a deep historical and cultural connection with the ocean and coast. A new Oceans and Coastal Governance policy based on consultations with fishing communities should be developed that recognises the rights of fishers, and which draws on the historical, traditional and customary way of life, knowledge and wisdom of these fishers and fishing communities, and which seeks to preserve the oceans and coast as a shared resource for the benefit of current and future generations, rather than commodifying the ocean and coast, and their resources, for exploration, expansion and exploitation by a corporate and political elite.

- That government declares a moratorium on further oil and gas exploration, and embraces the opportunity to craft a new economy based on renewable energy, and which serves the interests of current and future generations of South Africans through a transparent, inclusive and just transition.
- That the right to fish and other marine living resources be recognised and respected by government, and that small-scale fishers and communities (including first nations) are not denied access to and control over the land of their forebearers.

Jury signatures

X
Alison Tilley

X
Loretta Feris

X
Jesu Rethinam

X
Nnimmo Bassey