

27 May 2022

Ms AF Muthambi,

Chairperson of the Portfolio Committee on Environment, Forestry and Fisheries

For attention: Ms Tyhileka Madubela

Per email: climatechangebill2022@parliament.gov.za

Ms Muthambi,

WRITTEN SUBMISSION ON THE CLIMATE CHANGE BILL [B9 – 2022]

My name is Dr Alanna Rebelo, and I am a senior researcher in the Water Science Unit in the Agricultural Research Council of South Africa. I am also the chair of the International Chapter of the Society for Wetland Scientists, and I serve on the board for the South African Wetland Society, the South African Hydrological Society and the WESSA affiliated Friends of Tokai Park, all not-for-profit environmental/scientific societies. My submission is made as an individual, is my views only, and is not representative of my organisation nor any of the societies I serve on.

I have a great deal of experience in presenting scientific evidence in various settings, whether at scientific conferences or to the public, and I would like to volunteer to appear before this committee to make my argument by means of an oral presentation if my submission is deemed worthy of consideration and relevant.

I am interested in this bill because of my research on the [benefits of investing in ecological infrastructure](#), and how this can help with climate change adaptation as well as mitigation. I am painfully aware of how climate change is set to disproportionately affect the most vulnerable, and how without intervention, will exacerbate the current inequalities in South Africa. It is critical that any adaptation or mitigation measures are sensitive to these nuances, and that their benefits are equitable. There is very real risk that this will not be the case.

Whilst the mitigation efforts proposed in this bill are sensible (e.g. personal carbon budgets), I am extremely concerned about lack of specifics around adaptation efforts proposed. This is problematic for many reasons, and if inappropriate and inequitable interventions are implemented could lead to severe consequences to the most vulnerable as well as lost opportunities for transformation. This bill is a unique opportunity to address these risks. I present my comments here, and relevant references to support my points as hyperlinks.

Chapter 1 & 2

The objects and principles of the act are very well written, and the acknowledgement of the National Environmental Management Act is reassuring (Chapter 1). Chapter 2 is also well written, but the composition of the membership of the presidential climate commission is vague and should be more clearly specified. Transdisciplinarity is critical, and the bill captures the essence of the different sectors (i.e. government, organised labour, civil society and business). However this bill fails to acknowledge the importance of insuring a diversity of expertise on this panel. If the functions of the Presidential Climate Commission are to advise on response and mitigation and provide monitoring and evaluation, then it is critical that a

diversity of disciplines and sectors is represented on this panel. The bill is premised on the importance of healthy and resilience natural ecosystems, to ensure healthy and resilient society. Therefore the expertise of people who understand nature (i.e. ecologists) is core, and needs to be represented on this panel and explicitly provided for in this bill. Otherwise there is the very real danger that interventions may be proposed that may not be sustainable in specific ecosystems, could be profitable for some with negative impacts on the most vulnerable (i.e. not equitable), or could even make a bad situation worse for nature and society. Inappropriately applied nature-based solutions and climate-based adaptation is rife, especially since the release of the [Bonn Challenge](#). Among these is the concept of “[indiscriminate tree planting](#)” which has been a major issue and a text book example of Northern thinking being imposed on the Global South. [African solutions are needed for African problems](#).

Chapter 3

Likewise, in chapter 3, at the level of provinces and municipalities, the critical role of ecologists cannot be underestimated in undertaking a climate change needs and response assessment. Especially in developing planning instruments, policies and programmes, for the same reasons as highlighted above. “Measures or programmes” are also mentioned, and these, likewise, need to be incredibly carefully thought out, and need to be locally appropriate, to align with NEMBA and to ensure that [more good is done than further harm](#).

Silver bullet solutions are also termed “[green-washing](#)”. Examples of these inappropriate measures applied include the [craze of planting spekboom](#) as a “miracle” carbon capturing plant in the Cape and further afield. Spekboom is no better than most locally indigenous vegetation at capturing carbon. There is also a lot of [bad science](#) promoting tree planting in inappropriate places. There is the perception that tree planting is beneficial for carbon sequestration. This is not the case in most of South Africa’s ecosystems, in fact it is the opposite. Some South African scientists have been working hard [to dismantle these misperceptions about forests](#) and other ecosystems such as grasslands and shrublands.

Several African scientists argue that [grasslands and other ecosystems may be more effective at storing carbon than forests](#). Likewise wetlands, especially peatlands, which are often treeless, are known to store large stocks of carbon and many [\(over half\) of South Africa’s wetlands are already lost and more are degraded](#). In fact, research has shown that [ecosystem restoration and protecting healthy ecosystems is the most critical for capturing and retaining carbon](#), not other “quick fixes”. [Ecosystem Restoration is defined](#) as “*the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed*”.

There is clear evidence that invasive alien trees (some non-invasive ones too and even some indigenous ones, e.g. bush encroachment) have very serious negative impacts, including, but not limited to: [depleting water resources](#), [increasing drought risk](#), [amplifying the impacts of anthropogenic climate change](#), [reducing agricultural productivity](#), increasing [erosion](#) and sedimentation of dams, [causing damage to infrastructure during flood events](#), [increasing fire hazard](#), [negatively impacting biodiversity](#), impacts in suburbs: clogging drains, raising pavements, cracking walls, blocking access, [health impacts: produce allergenic pollen](#), [safety hazards](#): dropped tree limbs. While trees undoubtedly have some positive advantages which is why South Africa has such a large forestry sector, the negative impacts of invasions translate into economic damages to the tune of billions of Rands each year.

This bill doesn’t explicitly mention the planting of trees as a measure, however the [short video clip](#) given to support this bill explicitly mentions “tree planting” as an example, and

DFFE has [launched campaigns promoting tree planting that have later been retracted](#). Therefore there is a very real risk that these inappropriate measures may end up being implemented. If the wrong decisions are made, we could end up doing much more harm than good. Launching national tree planting campaigns could cost our economy billions in damages. Invasive alien trees cost billions in damages already, and we are spending over a billion Rand every year clearing them. It is absolutely critical that the appropriate expertise is included on these panels and municipal/provincial level assessments, and that this is explicitly provided for in the national bill.

Chapter 4

Chapter 4 and the national adaptation objectives and indicators chosen should likewise explicitly require sound ecological input from experts. This is also critical as there will be many sectors and disciplines with vested interests in swinging both the objectives and the indicators to measure success in their favour. I propose that ecosystem restoration is explicitly mentioned as one of the objectives, rather than “silver bullet” solutions that are not holistic, such as over-simplified and inappropriate solutions as those listed previously (e.g. alien tree planting and spekboom planting). Some examples of programmes that have already been pioneered by DFFE which already have these principles incorporated include the Working for Water, Working for Wetlands, Working on Fire and other programmes. Instead of starting new initiatives and diluting existing efforts and funding, I suggest these programmes are instead given fresh investment and input, and are explicitly mentioned in this bill as programmes through which measures will be achieved.

This does not mean that these programmes need not be improved. This is the perfect opportunity to reinvigorate these programmes and incorporate the decade or more of research [suggesting ways](#) that this programme [could and should be improved](#). Some of the major issues is that these programmes should focus on measuring ecological outcomes (i.e. improvements to ecosystems) and not meaningless metrics like “person hours”. These metrics have shown to be meaningless because they are not indicative of improvements to people (e.g. through providing secure livelihoods), but this model has in fact even been shown to [negatively impact livelihoods](#). Therefore a change in the design of these programmes to meet new needs (these programmes were designed around 25 years ago), learning from past mistakes and aiming for environmental impacts, while also improving livelihoods could be a win-win solution for government, nature and therefore society. These national programmes could still be adapted as appropriate to local contexts by each province and municipality, but within the framework of sound ecological restoration principles.

Chapter 5

Carbon emission targets are mentioned in chapter 5. Any company, industry or sector exceeding their emission targets should be obligated, as explicitly stated in this bill, to pay to offset their carbon, for example through the purchase of carbon credits. These credits should be restricted to approved South African interventions and programmes, and should serve to fund and support the expansion of the aforementioned programmes (e.g. an improved model of Working for Water, Wetlands etc). It is stated that the minister must “*publish a list of activities which emit one or more of the greenhouse gases listed in terms of subsection*”. This should also include the less obvious emitters such as unsustainable agriculture which releases carbon from soils through practices such as tilling, as well as forestry which does the same through the site preparation, over-burning, and through the suppression of understory growth through allelopathy from various tree species, and urban areas that increase the risk of local flooding by reducing permeability (i.e. high area of paving).

Conclusion

In conclusion, this bill has the potential to do a lot of good, and the importance of nature in underpinning both the resilience of society (enabling us to adapt) and the ability to mitigate climate impacts comes through strongly in chapter 1. However the rest of the bill is rather vague, especially around the types of interventions and programmes that will be endorsed, and not enough emphasis is placed on ensuring that sufficient ecological expertise is included in the various processes at various levels to ensure that these are appropriate for the context, and will do more good than harm. This is critical if the aim is really to bring about change that will be just, equitable and transformative and help us build a more resilient society.

Yours sincerely,

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