DRAFT NATIONAL GREENHOUSE GAS CARBON BUDGET AND MITIGATION PLAN REGULATIONS, 2025

COMMENT BY MERIDIAN ECONOMICS

23 September 2025

Authored by Brett Cohen and Emily Tyler

1 INTRODUCTION

One of the provisions of the Climate Change Act is that the Minister make regulations that include "the determination, review, revision, compliance with and enforcement of an allocated carbon budget, amendment and cancellation of a carbon budget allocation, the content, implementation and operation of a greenhouse gas mitigation plan, and all matters related thereto"[1] In response, on 1 August 2025 the Department of Forestry, Fisheries and the Environment released the 'Draft National Greenhouse Gas Carbon Budget and Mitigation Plan Regulations' (DR) which include the declaration of the list of greenhouse gases and activities' for public comment. Technical Guidelines (TG) accompanied these Draft Regulations.

This comment on these Draft Regulations was prepared by Meridian Economics, a specialised South African energy and climate economics consultancy and think tank. The comment is structured in two parts:

- Section 2 provides a set of overarching comments on the proposed design of the carbon budgets and mitigation plans, and its relevance in South Africa's mitigation effort.
- Section 3 highlights the concerning lack of specification in the proposed design, providing examples of specific areas where there are misalignments and/or a lack of clarity.

2 OVERARCHING DESIGN CONSIDERATIONS

2.1 IT IS UNCLEAR HOW THE CARBON BUDGETS AND MITIGATION PLANS WILL DRIVE MITIGATION

The mechanism driving mitigation in the carbon budgets and mitigation plans is unclear and/or poorly specified in the draft and the technical guidelines. Our best understanding is the following:

1. At the start of each Commitment Period, the budgets are set in terms of absolute tonnes of carbon dioxide equivalent (t/CO_2eq). These budgets are adjusted retrospectively each year to account for differences between the projected production levels that were used to set the budgets and actual production figures. The budgets are therefore production-adjusted, and can increase or decrease over time depending on economic activity.

[1] *Republic of South Africa, 2024. Climate Change Act section 30 (2)(a)(i)*

2. The preferred way of setting company carbon budgets is in reference to the emissions intensity of production of the local sector. The method most clearly detailed for doing this uses the average emissions intensity of the sector. The preferred budget allocation method does not appear to be informed by either the GHG trajectory range or South Africa's NDC, both of which require a progressive reduction in absolute economy-wide emissions over time.
3. There is no clear mechanism for ensuring that the carbon budgets of each progressive Commitment Period are progressively reduced, either on an intensity or an absolute basis. The Draft Regulations (DR 10.11) mentions only that actual prior production and output data will "inform the determination" of subsequent allocations.
4. The mitigation plans provide further information to the Competent Authority on how a company intends to achieve its budget, but these too can be adjusted once during the Commitment Period if the projected mitigation is not being achieved.

It therefore appears that there is a high degree of flexibility in the setting of carbon budgets through a bottom-up approach that does not connect with South Africa's top-down international climate commitments, and retrospective adjustments to both the budgets and mitigation plans that limit their ability to drive increasing mitigation ambition. This may be a result of poor specification and drafting, or of fundamental design.

2.2 THE PROPOSED CARBON BUDGETS DO NOT TARGET THE ABSOLUTE EMISSIONS REDUCTION REQUIRED BY THE NDC

South Africa's international and domestic climate mitigation commitments as expressed in its Climate Change Act, Nationally Determined Contributions (NDC) and Low Emission Development Strategy (LEDS) include supporting the Paris temperature goals; meeting absolute ranges of emissions in 2025, 2030 and 2035; and an aspiration to achieve net zero CO_2 by 2050. Together these commitments indicate that the country needs to target an economy-wide carbon budget (a cumulative and absolute total of greenhouse gas emissions) to 2050[2]. This budget will be reflected in the National Greenhouse Gas Emissions Trajectory to be established under the Climate Change Act. Achieving this carbon budget affordably, while minimising trade risks and leveraging global decarbonisation opportunities, requires allocation of the carbon budget according to a long-term strategy for a just transition to net zero. The nature of the change implied by South Africa's commitments is fundamental – nothing short of a structural transformation of the historically coal-dependent economy. Domestic climate mitigation policy needs to include a cohesive set of instruments that ensure that the country remains within the absolute budget, and support the achievement of the NDC targets along the way.

The main mitigation instrument currently in effect is the carbon tax, which incentivises emissions reduction by putting a *price on carbon* released into the atmosphere. A tax or price does not, however, link to a specific emissions target.

Sectoral Emissions Targets (SETS) are proposed in the Climate Change Act which will govern emissions at the sector level. The SETs will include both quantitative and qualitative aspects, and are still being finalised. To the extent that the SETS include sector-wide quantitative targets, these can play a role in sectoral allocation of the economy-wide carbon budget, and could signal where mitigation could be affordably achieved. The SETs do not, however, provide details on emissions reductions to be achieved

[2] *Meridian Economics, 2022. Briefing Note, Net Zero in SA Power Sector.*

by individual emitters or industries – those who will be responsible for contributing to remaining within the absolute carbon budget.

Company level carbon budgets are identified in the Climate Change Act which could provide such signals to individual emitters. The common usage of the term 'carbon budget' in climate policy internationally refers, however, to absolute and cumulative emissions limits over a specified time period. As discussed previously, the current draft of the South African carbon budgets and mitigation plans has made provision for production-adjusted carbon budgets. This design is counter to the conventional usage of the term to indicate absolute limits over a certain time period. The proposed carbon budgets design is not, therefore, guaranteed to contribute to the achievement of any overall cumulative t/CO_2eq targets, be they a quantitative SET, the Greenhouse Gas Emissions Trajectory, the NDC or the overall economy-wide carbon budget.

Alignment with the NDC is noted to be considered in two areas in the Technical Guidelines. The first is in the "Fixed Target" approach to budget allocation (a 'fall-back option to calculating the budgets, where the NDC reference is subject to methodological inconsistencies, see Section 3.4) and the second is the section dealing with the allocation of the New Entrant Reserve (NER) (TG 7), where it is suggested that total sectoral emissions cannot exceed the NDC target. However, the approach to calculation of the NER is unclear (see Section 3.8 below), as is its alignment with the determination of carbon budgets, the SETs, or the NDC.

Finally, it is unclear from the proposed budget design how the budgets meet the Climate Change Act's stipulation that the Minister takes 'national strategic priorities' into account when allocating budgets (Climate Act 5.27d). Again, this may be a result of poor specification and drafting, or of fundamental design.

2.3 THE REGULATIONS PRESENT CONSIDERABLE ADMINISTRATIVE BURDENS AND INFORMATION ASYMMETRY RISKS

The design of the carbon budgets and mitigation plans relies on a high level of accurate information being made available on emissions and mitigation opportunities at sector, company and facility level. This has a number of implications. First, it places a significant administrative burden on both the Competent Authority and companies. Companies are required to report on baseline emissions and mitigation plans together with compliance at both a company and facility level. The Competent Authority is then required to evaluate and approve the budgets and reporting. Whilst this burden on government may be alleviated to an extent by the verification and validation system, this comes with its own issues.

The verification and validation requirements for both the data provider and the Competent Authority are also onerous, given that "three instances of independent verification and two instances of validation" are required per Commitment Period (DR 14.1). This will come with a substantial cost burden for the data provider, given that they are "liable for all costs incurred in validating and verifying the information" (DR 14.8). There will also be a burden on the Competent Authority to ensure that they have the personnel to meaningfully interpret the outcomes of verification and validation, with detailed knowledge of sector-specific mitigation technologies and costs. A further concern is the need for competent service providers to be available to do the verification and validation in a consistent way. The potential exists for this to be done to varying levels of detail, accuracy and integrity, comprising the value of this activity.

Finally, the design of the budgets and mitigation plans relies on the Competent Authority having equal information of sector-specific mitigation technologies to that of the regulated companies. Information

asymmetry is likely to make it difficult for the Competent Authority to assess mitigation ambition, exacerbating the fundamental design issues identified in this section.

The combination of concerns around the effectiveness of the Draft Regulations, their contribution to meeting South Africa's absolute mitigation commitments, and the administrative burden they place on companies and the Competent Authority alike bring into question the appropriateness and usefulness of the carbon budget instrument as designed in the Draft Regulations. This is particularly pertinent when South Africa already has an economy-wide carbon tax. The introduction of a second economy-wide instrument must be justified according to its unique contribution to the country's meeting of its domestic and international mitigation commitments. The carbon budget concept holds potential for this, but this potential is not realised in the Draft Regulations.

3 SPECIFIC CONSIDERATIONS

3.1 LACK OF SPECIFICATION MAKES THE DRAFT REGULATIONS UNIMPLEMENTABLE

The Draft Regulations are vague and leave considerable scope for interpretation in terms of how implementation is to be carried out in practice. This includes the lack of specification of the choice of carbon budget allocation approach for particular companies/sectors; and which approaches will be used for benchmarking different types of companies, products or processes. It is the authors' assertion that the "devil is in the detail", and if these and other considerations are not specified upfront, there will be significant challenges when it comes to implementation – which has the potential to upend the process as different provisions are legally challenged by data providers.

Recommendation: DFFE is encouraged to fully specify the allocation approaches and calculations.

3.2 ALIGNMENT OF ACTIVITIES AND IPCC EMISSION CATEGORIES

Annexure 2 of the Draft Regulations includes a list of activities, and Annexure 3B sets out the IPCC emissions sources that are covered by the budgets. However, there are a number of areas of apparent misalignment. For example, energy use in wood and wood products, construction, and textiles and leather are highlighted in Annexure 3B as "Yes" in the column "Scope 1 - IPCC emission source applicability for Carbon Budget", but not in Annexure 2 "Listed Activities". A similar observation is made for Energy in 1A4c (Agriculture, Forestry etc), process emissions from lime production and many others. It is recommended that the coherence between these lists be checked and any areas of misalignment clarified to avoid any doubts about coverage of the budgets.

Furthermore, it is highlighted that the listed activities for carbon budgets do not align fully with activities covered in Schedule 2 of the Carbon Tax Act, 2019. For example, waste incineration, railways, water based navigation, energy emissions in commercial / institutional / residential, transport and injection of CO_2 are not included in the carbon budgets legislation.

Recommendation: It is recommended that this lack of alignment be confirmed and rectified.

3.3 DISTINGUISHING BETWEEN REPORTABLE AND NON-REPORTABLE EMISSIONS

Following from the previous point, it is recommended that there is consistency throughout both the Draft Regulations and the Technical Guidelines in distinguishing between those emissions that are included and excluded from the carbon budget allocations. Annexure 3B indicates that, for certain products, the carbon budgets apply solely to energy emissions and exclude process emissions. For example, for pulp

and paper production the budgets cover energy but not process or wastewater emissions. The implications of such inclusions and exclusions is of particular importance to resolve when aligning the cumulative allocated carbon budgets with national emissions targets.

Recommendation: The Draft Regulations should distinguish consistently between reportable and non-reportable emissions.

3.4 ALIGNING THE BUDGET ALLOCATIONS APPROACHES WITH THE NDC

Among the three draft-proposed methods for carbon budget allocation, only the Fixed Target method references the NDC, and it is identified as the "least preferred fall-back" (DR 4.9.1c).

The NDC is based on technical modelling that integrates domestic factors (existing policies, socioeconomics) with South Africa's international commitments and fair share contribution to global mitigation. The model underpinning the 2030 and 2035 NDC targets explores achieving net zero CO_2 by 2050, with certain scenarios placing GHG constraints on the targets. It optimises mitigation across sectors for affordability, assigning lower target shares to sectors able to mitigate more cost-effectively; the same principle applies at the company level.

The Fixed Target method relies on the Mitigation Potential Analysis (MPA) to allocate sectoral contributions. The latest MPA (2019) is not publicly available, so its methodology is unclear. The draft describes it as "a technical analysis conducted with stakeholders to understand mitigation potential of different sectors or activities," suggesting it may reflect industry perspectives rather than GHG constraints or a cost optimal emissions trajectory, unlike the NDC. Moreover, the MPA and NDC were developed using distinct modelling frameworks – the NDC uses an optimisation model; the MPA is largely simulation-based.

These methodological differences mean the MPA and NDC are not technically aligned or directly comparable. Applying MPA-based sector percentages to NDC targets is thus not necessarily technically rigorous. The MPA could potentially underestimate mitigation potential in sectors with more affordable options (e.g., electricity) and overestimates requirements for hard-to-abate sectors (e.g., heavy industry).

Furthermore, since only the Fixed Target method references the NDC, it is unclear how the overall carbon budgets support achieving the NDC target range.

Recommendation: Ideally utilise the same modelling framework to establish the NDC, SETS and company level carbon budgets. At minimum, publish the 2019 MPA methodology together with any updates so that its application in allocation of carbon budgets is transparent.

3.5 ALIGNING THE THREE BUDGET ALLOCATION APPROACHES

Further to the previous section, there does not appear to be any alignment between the three budget allocation processes. The benchmarking approach, discussed further in the following section, uses a production intensity multiplied by production figure; the mitigation potential is based on an industry-determined potential for mitigation emissions; and the fixed level assigns a sector average reduction in emissions. There is thus no consistent way of driving emissions reductions across the three approaches, and the outcome could be that different companies will be subject to different pressures to reduce emissions. There is also no clarity as to when each of the approaches are to be used, apart from expressing a hierarchy of options. This could potentially lead to gaming by companies if they are able to self-select their allocation option.

A further lack of clarity arises from the specification of the production-adjustment mechanism (detailed in the Reporting section of the Draft Technical Guidelines) which assumes the availability of an emissions intensity indicator, without describing how production adjustments will be down for companies that have been allocated budgets using the fall-back budget allocation methods.

Recommendation: Alignment between the three approaches should be considered and explained in the document. Methods for production-adjustment for sectors/companies with budgets developed from the fall-back approaches must be specified.

3.6 ALLOCATION OF BUDGETS USING PRODUCT BENCHMARKS

The preferred method of allocating carbon budgets is using product intensity benchmarks. However, there are several issues in how these are specified:

- The Draft Technical Guidelines suggest that "Benchmarks can be set using different levels of stringency, such as the best performing, adjusted best, or an average of emissions intensities." The example provided then describes the calculation of the benchmarks on current performance of the producers of a particular product, who may be particularly inefficient, rather than reflecting any ambition or international best practice. No information is provided on the "best performing" or "adjusted best" approaches (e.g. are these local or international?); for which products the different approaches will be prioritised; and how the necessary data will be obtained. It is critical that the allocation approach be clearly defined prior to publication of the Draft Regulations to avoid any challenges when it comes to implementing the regulations.
- There does not seem to be a mechanism for the benchmark levels to decrease over time. If they remain at the same level over the commitment period, how will this drive mitigation, particularly for those that already meet an average or best performing level of emissions? Or are they not expected to mitigate?
- The Technical Guidelines appear to conflate product benchmarks with IPCC subcategory benchmarks. It is stated that "Comparable companies, defined by the same IPCC category and product type." The IPCC guidelines refer to emissions sources from different types of activities, rather than products, so it needs to be clear as to how "comparability" of companies is established. Similarly, it is stated that "For companies with multiple products or activities, separate benchmarks are required for each IPCC subcategory." Does this mean that some companies with a single product will get a product benchmark, and others will have to separate benchmarks for their different energy and process emissions? Again, this talks to needing to be very specific on how the benchmarks have been established. There has been extensive work by both Treasury and DFFE exploring this topic over the past decade or more that should be drawn upon in this regard.
- Treasury has published a set of benchmarks to support the implementation of the Carbon Tax. Would it not make sense to use the same set of benchmarks for the carbon budgets and carbon tax – which could also help reduce the administrative load?

3.7 MITIGATION PLANS

Several concerns with the mitigation plans' requirements are identified:

- Firstly, carbon budgets are allocated at a company level rather than at an IPCC emission source level. The development of mitigation plans targeting emissions at an IPCC emission source level that add up to a company's total allocated carbon budget is likely to be an onerous task. It is not

clear how the information to this level of detail is going to be used, and if it is not being used then why require reporting thereof?

- Then, the need to specify mitigation actions upfront could lock companies in to adopting actions that may not necessarily be the most cost effective over a carbon budget period. The Draft Regulations does, however, recognise that some mitigation actions may be further advanced in their implementation than others: "Scope 1 mitigation measures that are ready for implementation within the commitment period, with approval from the relevant board of directors – or other relevant governance structure – of the data provider before submission to the Competent Authority")(DR 5.11.4). The concern arising is more around actions that have not been approved, but that are included in the plans to remain within the allocated carbon budget. Is the data provider then committed to those actions through their inclusion in the plan, as indicated by the Draft Regulations which states "The data provider is required to implement and comply with the approved mitigation plan" (DR 5.12.7.), rather than allowing them to seek out the most cost-effective alternatives over time while remaining within their budgets? Or is this the purpose of the one opportunity per commitment period for the data provider to revise their mitigation plan as per DR 5.11.8?
- The Draft Regulations suggests that the mitigation plan *must* include "Scope 2 mitigation measures (DR 5.11.4). These mitigation measures will only be recorded for noting and data collection by the Competent Authority." The Draft Regulations should clarify why this information must be provided and what will be done with it – particularly given that carbon budgets only cover Scope 1 emissions and reporting of Scope 2 emissions is optional. Again, this requirement puts an additional reporting burden on the company, and on the Competent Authority to analyse it, seemingly to no clear end. Similarly for both provisions of DR 5.11.5, the reporting of "mitigation measures that are being planned but not ready for implementation during the commitment period" and Scope 3 emissions – although recognising that reporting against DR 5.11.5 is optional.
- In terms of approval of mitigation plans, DR 5.12.2. states "The Competent Authority must consider whether the mitigation actions contained in the submitted mitigation plan ensures compliance with the carbon budget allocation". Clarity should be provided as to how "compliance" is to be assessed – is this just that the mitigation plan signals that sufficient mitigation actions have been identified that allow the data provider to remain within its overall budget? If this is correct, then once again what is the value to the company of investing significant resources in providing a detailed breakdown of mitigation actions per IPCC category, rather than providing high-level assumptions which will provide an overall emissions level aligned with the budget? How will the loop be closed?
- The requirement for Annual Reporting and the subsequent review thereof by the Competent Authority under DR 5.13.2. also appears to be very onerous and it is not clear how this information will be systematically analysed and used. Will approval thereof be procedural (i.e., an assessment will be undertaken to determine whether all of the requested information in DR 5.13.2 is provided) or will the information provided be analysed in detail? DR 5.13.3.b seems to suggest the former, in which case the value of collecting this information, given the substantial administrative burden for both parties, needs to be reconsidered.

Recommendation: The purpose, design and reporting requirements for the mitigation plans should be reconsidered, to ensure that their value is reflected in the level of effort that will be required.

3.8 NEW ENTRANTS

The approach to calculating the New Entrants Reserve (NER) is not clearly laid out. The Draft Regulations (DR 15.2) states "An allowance of five percent of the reportable economy-wide emissions cap…". The reportable economy-wide emissions cap is not defined (TG 7.1), nor is the approach to calculating it presented. This appears to be the same as "CB Industries Aggregate." If this is the case, consistent language should be used.

Having said this, it is not entirely clear how this figure is calculated and linked to the NDC and the SETs. It is not clear whether the Total Allowable Emissions Budget is first determined and then allocated to Emissions CB/MP and Emissions Outside CB/MP (and what data is used to calculate these parameters). It is also unclear how the CB Industries Aggregate is linked to the SETs. Does this mean the Industry SET defines the CB Industries Aggregate, while the Mining SET defines the CB Industries Aggregate for emissions from the mining sector? How is the allocation then done in terms of the industries and IPCC emission categories included in and excluded from the carbon budgets? A worked example would be very helpful here.

The Draft Regulations states "In cases where the new entrants reserve is depleted, no further carbon budget allocations will be considered." (DR 15.7). Does this suggest that new entrants will not get an EIA passed until emissions space opens? Or will the emitter be allowed to begin operations but incur a penalty of R640/tonne for every ton of emissions as provided for in the draft Phase Two of the Carbon Tax, given that all emissions are over and above their allocated "zero" carbon budget? How this is to be managed in practice should be made clear.

Finally, DR 15.5 states that "Carbon budget allocations cancelled and no longer in use, due to discontinuation, temporary care, indefinite shutdown, or significant capacity reductions will be added back to the new entrants reserve." It is recommended that this provision be reconsidered in the context of the overall aim of the carbon budgets to drive a reduction in national emissions. These cancelled allocations could be retired to deal with the additional budget requirements of companies with growing production and emissions, or to industries/sectors that have a strategic role to play in the transition to the low carbon economy.

Recommendation: The approach to calculation of the NER and its relationship to the SETs/NDC needs to be made clearer. Furthermore, the implications of the NER being depleted needs to be clarified, and the reallocation of unused budgets no longer in use should be reconsidered.

3.9 CARBON REMOVALS

There is only brief mention on what carbon removals are, rather than how they are to be considered in terms of assessing whether a company is remaining within its carbon budget.

Recommendation: Provide further information on how carbon removals are to be considered.

3.10 USE OF THE SOCIO-ECONOMIC CONSIDERATIONS IN ALLOCATING BUDGETS

Socio-economic contribution is relevant for the allocation of scarce carbon space. It is not clear how the socio-economic data will be used in the allocation of budgets and tie into the quantitative approaches that underpin the remainder of the Draft Regulations. The information requested (TG 10) is extensive and it will be time consuming to collate into meaningful information. Unless the way in which this data is to be used is clearly defined, it opens up potential for significant subjectivity in allocation of budgets, and further misalignment between national targes and the total of assigned company carbon budgets.

Recommendation: Provide clarity as to how the socio-economic information will be used to set budgets, and how this relates to the quantitative emissions targets.

4 CONCLUSIONS

The comments point to a number of issues that need resolution prior to the finalisation of the Draft Regulations. These relate not only to the intended purpose and outcome of implementing the carbon budgets but also to the detailed specifications in the regulations.

It is critical that these issues be resolved, otherwise it is likely that implementation will be very challenging and fraught with expensive legal contestation. Further, the proposed design risks the company level carbon budget and mitigation plans becoming an exercise in time and resource intensive regulation with very little, if any, contribution to achieving South Africa's domestic and international climate mitigation commitments.