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REVIEW OF THE 2017 SECOND CARBON TAX DRAFT BILL

The Second Draft Carbon Tax Bill (National Treasury, 2017a) was published on 15 December 2017 following an extensive consultative process around the First Carbon Tax Bill (National Treasury, 2015) which was released in November 2015 based on the Carbon Tax Policy Paper of 2013 (National Treasury, 2013). After public comments and parliamentary hearings on the Second Draft Carbon Tax Bill, a revised bill is expected to be formerly tabled in parliament in mid-2018 (National Treasury, 2017b).

Through the various consultations and the drafting of the various documents, there have been significant changes to the structure of the bill. However, the core principles of the tax have remained the same. In particular, the tax will initially be imposed as a fossil fuel input tax, based on the intensity with which coal, crude oil and natural gas are used in production and the carbon dioxide equivalent (CO_2-eq) greenhouse gas emission of each different fossil fuel type. The tax will be initially set at R120 per ton CO_2-eq emissions which will be increased through a phased-in approach to ensure a smooth transition to a low carbon economy.

During the first phase of the tax, South Africa's agriculture, forestry and fisheries sector, along with the waste sector, will be exempt from the tax base. However, in the second phase these sectors could be included. Despite not being taxed directly, research done by economists at the Western Cape Department of Agriculture has revealed that there could be significant indirect impacts on the country's agricultural sector, particularly through the rise in the price of key inputs such as electricity, fertilisers and pesticides (Partridge et al, 2015). This means that agricultural producers in South Africa need to not only look to reduce their carbon footprint in order to remain competitive when the tax enters its second phase, but that they also need to look to reduce the intensity of use of inputs which are themselves vulnerable to the impacts of the tax. It should be noted too that agricultural production contributes significantly to greenhouse gas emissions, but mainly through enteric fermentation and manure management rather than the burning of fossil fuels. Due to measurement difficulties, these processes will not be included in the initial tax base, however it is proposed that this could change for the second phase of the tax.

In order to be able to react accordingly, it is important that the sector fully understands the implications of the tax and is able to lobby for outcomes which will best aid the sector going forward. This brief aids in this respect, outlining some of the key issues in relation to the First Draft Carbon Tax Bill and how these have been addressed in the Second Draft Carbon Tax Bill. These issues can be summarised as: A "squashed" first phase; revenue recycling mechanisms; unclear tax rate increases; tax amount calculation and sequestration; allowance vagueness; and administration.

A "Squashed" First Phase

The initial carbon tax policy paper set out the first phase of the tax as the 5 years after its introduction in 2015. Due to ongoing delays by National Treasury, the implementation of the tax has still not happened. In the First Carbon Tax Draft Bill, the date for phase 2 remained unchanged (Morden, 2016), meaning that the delays essentially led to a reduction in time, or "squashing", of the phase-in period.

With the phase-in period approaching zero and there still not being a definite date for implementation of the tax, the Second Draft Bill has pushed back the start of Phase 2 to 2022. This restores the phase-in period to an extent, but by using a fixed date, rather than a fixed period, the smoothness and effectiveness of the phase-in period is still dependent on a speedy final review and implementation period.

Revenue Recycling Mechanisms

A key concern made by several stakeholders was the lack of a clear plan with regards to revenue recycling. This was noted with regards to the first draft bill where there was no specification made in the bill and only the vague statement in the explanatory memorandum that "all revenue will be recycled by way of reducing the current electricity levy, credit rebate for the renewable energy premium, a tax incentive for energy efficiency savings, increased allocations for free basic electricity/ alternative energy and funding for public transport and initiatives to move some freight from road to rail" (National Treasury, 2015, p.4).

Despite numerous concerns expressed about this issue, nothing has been done to address it. Again in the Second Draft Bill there is no specification of revenue recycling mechanisms with an almost identical statement made in the explanatory memorandum with just very minor changes to the wording. This is also despite revenue recycling being highlighted as key to achieving optimal outcomes in modelling exercises done on the carbon tax, both for the economy as a whole (Van Heerden et al, 2016) and specifically for the agricultural sector (Partridge et al, 2015). The only reason provided by Treasury for sticking to the vagueness and lack of specification is the argument that "the rigid earmarking of specific

tax revenue streams are not in line with sound fiscal management practices" (National Treasury, 2017c, p. 4).

Unclear Tax Rate Increases

The initial Carbon Tax Policy Paper specified a rate of R120 per ton CO_2-eq emissions for implementation in 2015, which would increase by 10% per year until 2020. After this date it was only stated that there would be "a revised carbon tax regime with lower tax-free thresholds and a revised tax rate" (National Treasure, 2013, p.15). When the First Draft Bill was published, the initial tax rate remained at R120, despite the pushing back of the implementation date, but the 10% increase specification dropped away. When questioned on this, National Treasury reported that the increase each year would be at the discretion of the Finance Minister at the time (Morden, 2016).

The placing of the tax increase at the discretion of the minister was a serious concern with the First Draft Bill. In addition to the unnecessary delegation of power in the hands of the Minister, the uncertainty would completely undermine the objective of the phase-in approach which is to send a signal to producers and help guide the sector through a smooth transition to a low carbon economy. Particularly for the agricultural sector, which is looking to prepare for the second phase when the sector will be included in the tax base, this change made planning very difficult due to the wide range of potential tax rates by the start of the second phase.

It is therefore encouraging to see that National Treasury headed to concerns in this regards and has laid out a more structured approach to increasing the tax rate. The Second Draft Bill continues to specify an initial tax of R120. This is then set to increase by the preceding year's rate of inflation plus 2% for the First Phase which runs until the end of 2022, after which it will increase in line with the preceding year's inflation.

Table 1 shows the tax rate calculated according to the specifications in each relevant policy document. Unlike the 2013 Carbon Tax Policy Paper and the First Draft Bill, the Second Draft Bill does not specify the year of initial implementation. For this reason two rates are calculated for the projected rates of the Second Draft Bill: The case where it is implemented in 2019 and also for the unlikely scenario where it is actually implemented in 2018. The latter could also be used to look at the possible case where the National Treasury decide to treat 2018 as the base year and that at implementation in 2019 all increases are considered valid from that point as specified for the tax. The tax rate could not be projected for the First Draft Bill due to the already mentioned lack of specification as to how the tax rate would increase in that bill.

Due to the pushing back of the carbon tax implementation date, and the persistence with R120 as the starting tax rate, the Second Draft Bill starts off at a far lower rate than would have been the case in that year if the tax had been implemented as per the initial 2013

policy paper, i.e. in 2015. The increase under the Second Draft Bill is related to the rate of inflation. Past and projected inflation data from the International Monetary Fund (IMF, 2017) revealed that between 2015 and 2025, inflation is expected to range between 5.3% (2018) 6.3% (2016). Thus the tax rate increases at a slower rate than under the Carbon Tax Policy paper's 10% per annum.

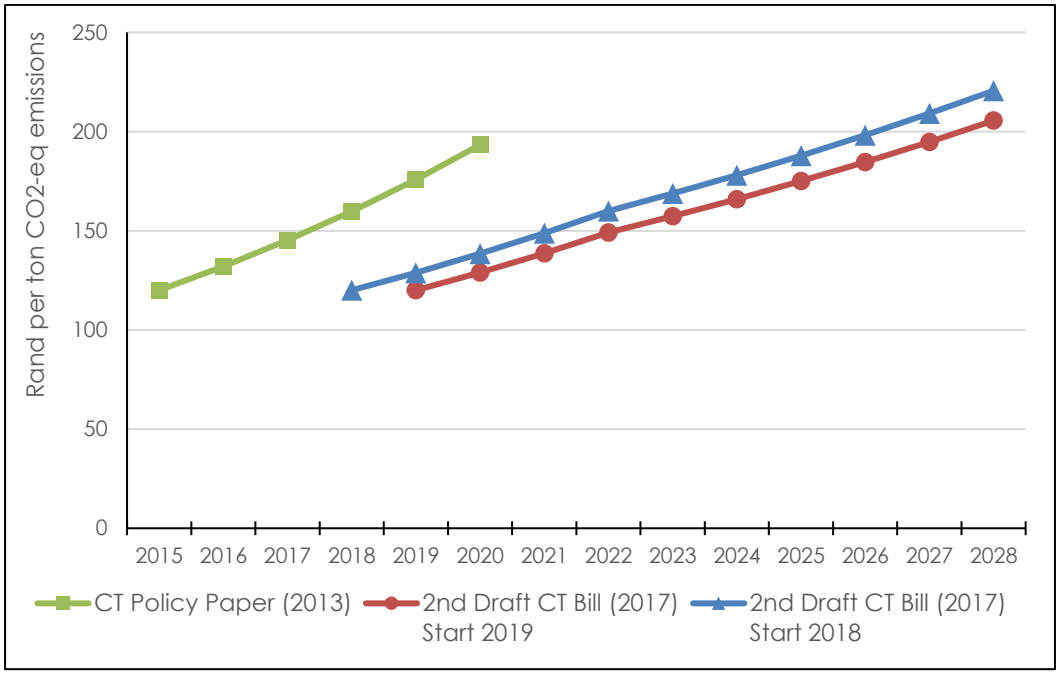
Table 1: Tax Rates Based on Different Policy Documents in Relation to Carbon Tax

Year	Rate (Rand per ton CO_2-eq emissions):			
	CT Policy Paper (2013)	**1st Draft CT Bill (2015)**	**2nd Draft CT Bill (2017)** ***Start 2019***	**2nd Draft CT Bill (2017)** ***Start 2018***
2015	120	-	-	-
2016	132	-	-	-
2017	145	120	-	-
2018	160	120 +?	-	120
2019	176	120 +?	120	129
2020	193	120 +?	129	138
2021	?	120 +?	139	149
2022	?	120 +?	149	160
2023	?	120 +?	157	169
2024	?	120 +?	166	178
2025	?	120 +?	175	188

Source: Own Calculations Based on National Treasury (2013; 2015; 2017a) & IMF (2017)

The information in Table 1 above is displayed graphically in Figure 1 below. The clear divergence in the trend in the two graphs again highlights the slower rate of increase in the Second Draft Bill. It should also be noted that under the carbon tax policy paper, the tax would reach a rate of R193 per ton CO_2-eq emissions by 2020, the beginning of the initiation of the tax's second phase. Under the Second Draft Bill, the second phase will start in 2023 with a rate of only R157 or R169 per ton CO_2-eq emissions, depending on whether the tax period begins in 2019 or 2018 respectively. Only in 2026-2027, 4-5 years into the second phase, does the tax rate under the Second Draft Bill reach the level of the starting phase two tax rate according to the Carbon Tax Policy Paper.

Overall the new structure of increasing the tax rate is seen to yield a double positive for agricultural producers. Firstly it creates transparency in that the increase has been fixed to inflation. The only uncertainty lies now in relation to the rate of inflation but given the South African Government's commitment to inflation targeting, and the reasonable success in keeping inflation steady in recent years, this is not expected to fluctuate much barring any extraordinary event. Secondly, the tax rate under the new mechanism is expected to be lower than was previously proposed in the Carbon Tax Policy Paper. As these initial increases were what was used for the modelling of the economic impacts on the South African economy (Van Heerden et al, 2016) and specifically for the country's agricultural sector (Partridge et al, 2015), these modelled impacts will be expected to be slightly less in magnitude than predicted by the models.



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Source: Own Calculations Based on National Treasury (2013; 2017a) & IMF (2017)

Tax Amount Calculation and Sequestration

The formula for calculating the amount of tax payable is the same as in the First Draft Bill, specifically:

$$X = \{(E - D - S) \times (1 - C) \times R\} + \{P \times (1 - J) \times R\} + \{F \times (1 - K) \times R\}$$

Where:

- X = The amount of tax payable
- E = Fuel combustion emissions
- D = Petrol and diesel related emissions
- S = Sequestrated emissions
- C = Total percentage allowances related to fuel combustion emissions
- R = Tax rate
- P = Industrial process emissions
- J = Total percentage allowances related to industrial process emissions
- F = Fugitive emissions
- K = Total percentage allowances related to fugitive emissions

The inclusion of a deduction in the tax for sequestrated emissions is a positive step. It signifies the intent to not only incentivise a reduction in emissions in business practices, but also look to encourage practices which reduce the impact of the emissions which do occur. "Sequestration" is defined as "the process of storing a greenhouse gas or increasing the carbon content of a carbon reservoir other than the atmosphere" (National Treasury, 2017a; p.17). This definition was expanded from being limited to only increasing the carbon

content of a carbon reservoir in order to encourage geological reservoirs which could hold great potential for South Africa in the future (National Treasury, 2017).

It was a concern with the first bill that there was no specification for how sequestrated emissions will be measured and monitored. Unfortunately, nothing has been done to remedy this lack of clarity with the only specification being verification and certification by the Department of Environmental Affairs (National Treasury, 2017a; p.17).

Allowance Vagueness

Tax-free allowances are included in order to provide a smooth transition to a low carbon economy. The idea is that they start off quite high to soften the initial blow and then they can be reduced later in the second phase of the tax. All firms will receive a basic allowance of 60% or 70%, depending on whether the emissions generated are from fuel combustion or industrial processes respectively.

On top of this there is an additional 45% which firms can obtain through meeting certain conditions or completing certain activities. This is structured and restricted in such a way that aside from exempt industries, firms can only receive a maximum of a 95% allowance, so that these will be required to pay some level of tax.

Certain sectors may receive an additional 10% allowance in respect of fugitive emissions, where fugitive emissions are defined as "emissions that occur from the release of greenhouse gases during the extractions, processing and delivery of fossil fuels including leakages from industrial plant and pipelines" (National Treasury, 2017a, p.7). This allowance is afforded to fugitive emissions from solid fuels, oil and natural gas and other emissions from energy production; as well as carbon dioxide transportation and storage. The justification for the allowance is the limited space for mitigation for these emissions over the short term.

There is also a 10% allowance for entities which are "trade exposed". There has been much debate as to how exactly trade exposure will be calculated, in particular as to whether it should be based purely on exports or to consider trade more broadly and include imports. It has now been decided to take a broader view, specifically by calculating trade exposure as the ration of the sum of all exports and imports of final products over total production.

It is still unclear in the Draft Bill and the supporting document:

1. At what level of aggregation trade exposure will be calculated at.
2. What the process will be for distinguishing "final products" form intermediate products.

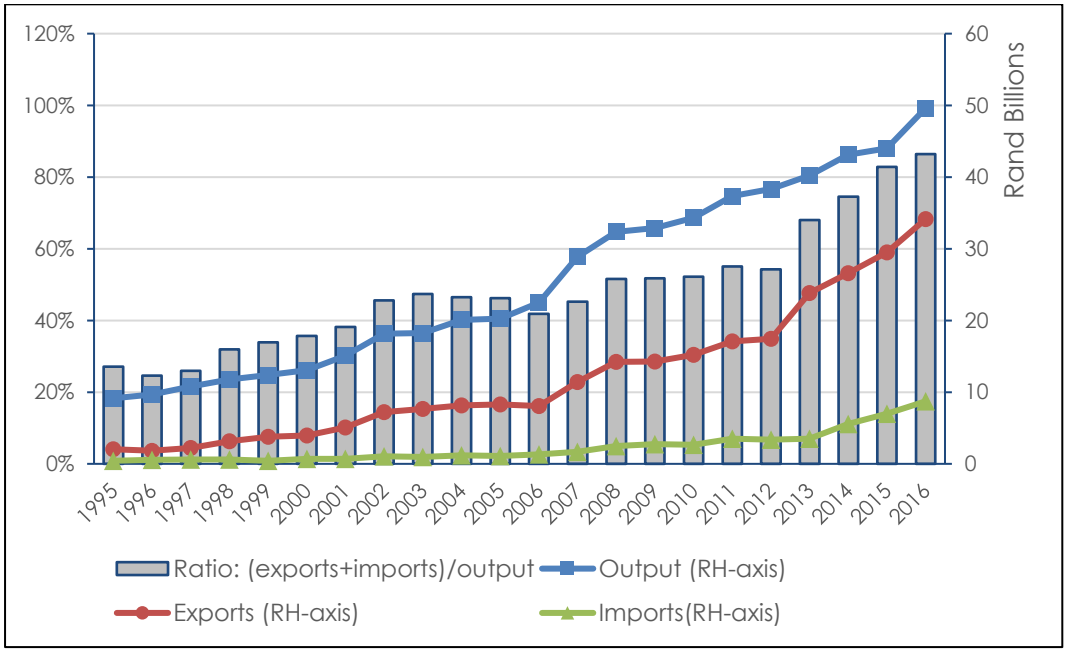
The only clues readers of the Draft Bill receive is that the allowance will be applied "at a sector or subsector level based on the World Customs Organisation – Harmonised System Convention (HS Code)" (National Treasury, 2017d, p.26). The level of aggregation of "HS

Codes" will have a significant impact on the availability of the trade exposure allowance to firms producing a particular agricultural product.

Whilst this isn't relevant for the agricultural sector during phase 1 due to receiving 100% allowance for the sector, it has implications for preparing for phase 2 where the 100% will likely fall away. Additionally, agri processing in the economy's manufacturing sector will not receive the 100% allowance and therefore the details of the trade exposure allowance will significantly impact the sector, with implications of this impact for the upstream agricultural producers.

The good news for the agricultural sector is an obvious upward trend in the trade intensity of agricultural production. Figure 2 shows the ratio of the sum of imports and exports over output. It should be noted that the calculation differs from the calculation that will be used in practice as that the data used was unable to differentiate between final and intermediate products and as already pointed out, the Draft Bill itself does not specify the exact method to be used to make this differentiation. However, the graph does allude to a definite upward trend in the sector as trade, and particularly exports, have increased at a significantly faster pace than output.

Figure 2: Trade intensity Production: Western Cape Agriculture, Forestry & Fisheries; 1995-2016



Source: Compiled using Quantec (2018)

A similar overall trend can be observed in the food, beverages and tobacco sector where again the ratio of all exports and imports over output has been increasing over time. The ratio is significantly lower than for agriculture, forestry and fisheries (54% vs 86% in 2016) showing a lower dependency on trade in the sector. There is a more significant role for imports in the food, beverages and tobacco sector where it is only slightly lower than exports. The significance of imports for food and beverages to access the trade allowance means that it is a good thing that the decision was taken to include imports

in the calculation rather than to focus solely on exports as was considered in the drafting of the bill (National Treasury, 2017c).

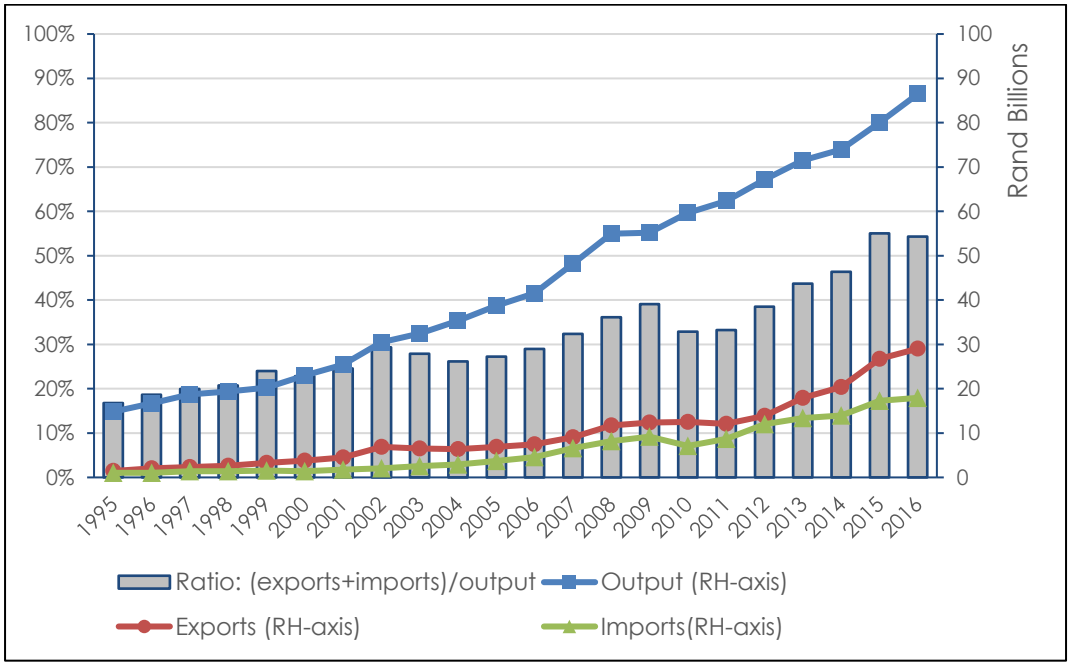


Figure 3: Trade intensity Production: Western Cape Food, Beverages & Tobacco; 1995-2016
Source: Compiled using Quantec (2018)

The lack of specification in the proposed calculations unfortunately makes it difficult to provide any deeper analysis into the implications of the trade exposure allowance. If it is applied at a more broad sector level there appears some evidence that the agriculture, forestry and fisheries, and to a slightly lesser extent, the food, beverages and tobacco sector, will be in a good position to benefit from the allowance. However if it is applied at a more disaggregated sub-sector level then there will definitely be areas of production which will be excluded from being eligible to receive the allowance. This is particularly true for newer infant industries which have not yet become established enough to take advantage of economies of scale and infrastructure development in order to be able to compete in international markets. This is a concern, particularly as pressures from climate change, changing trade regimes, increased diversity of consumption and global political pressures are meaning an increased demand to move into new production lines.

There is an additional allowance of up to 5% based on "performance" put in to reward firms who put in extra efforts in at reducing emissions. The total allowance will be calculated based on the "Z-factor formula" which basically calculates the proportional difference between the firm's emissions and the baseline set for the sector or sub-sector. Here again the lack of specification with regards to the level of aggregation makes it difficult for firms to prepare for this, especially as in this case there is also no specification for how exactly the "baseline" will be calculated.

The positive side of the way the performance allowance is calculated is that it rewards based on emissions relative to a baseline. This is better than the case where firms are

rewarded for reducing emissions as this would encourage firms to increase emissions initially whilst the exemptions are in place in order to make it easier to decrease them later. It is good that the firms that have already begun to reduce their emissions will be rewarded. There is also a strong incentive for firms to begin reducing emissions now in order to get ahead of the sectoral average and be eligible for the performance allowance.

As was the case in the First Draft Bill, firms can receive 5% allowance for participating in the Department of Environmental Affairs' (DEA) carbon budget system. The exact process is not laid out in any detail and the National Treasury has been unable to provide more details on the process as it will be governed by another Department. However this presents an opportunity to obtain a 5% allowance relatively easily and agricultural producers should look now to start gathering information on their carbon emissions so that they can easily fit into the process when it is put into place.

Finally, firms can receive an allowance of either 5% or 10% for carbon offsets. According to the 2016 Draft Regulations on Carbon Offsets published by the National Treasury, the only projects eligible for this allowance will be projects registered as either a CDM project (in line with the United Nations Framework Convention on Climate Change), a VRR project (registered on the project database of the Verified Carbon Standard association), a gold standard project (complies with the eligibility criteria of the Gold Standard and Certification Body), or a project "that complies with another standard approved by the Minister of Energy or a delegated authority" (National Treasury, 2016; p.2). Due to the difficulties of scale and compliance, it is unlikely that agricultural projects will be eligible to receive offset allowances. Due to this difficulty, and the fact that the offset regulations are themselves a part of a separate consultative process, they are not dwelled on in any more detail in this report.

Administration

The delegation of administrative responsibilities, and the general institutional set-up of the tax is another area where there were a number of eyebrows raised due to the lack of clarity and formalisation. The South African Revenue Service (SARS) has been appointed the main implementing administrative authority for the tax. The Department of Environmental Affairs (DEA), working with the Department of Energy (DoE), will lead the monitoring, verification and reporting process and will assist SARS accordingly.

Despite the number of concerns raised with the lack of a structured, formalised set of defined roles and responsibilities, and a lack of rules governing how the different organisational bodies interact with one another, nothing has been done to address the issue. Asides from the broad delegation described above, the Draft Bill and Explanatory does little to provide the specific institutional arrangements which are necessary for effective collective action.

Conclusion

To conclude, there are areas of improvement between the First and Second Draft Bills. However, it feels as though for every issue addressed there are numerous areas which still have dark clouds of uncertainty hanging over them.

The date for the second phase has been pushed back, relieving what was becoming an extremely "squashed" phase-in period between still pending implementation and 2020. Phase 2 will now only commence in 2022, however with the Bill still needing to be finalised it would appear the risk of running into the same issue again soon is getting quite serious. Another positive is the fact that the tax has reverted back to having set increases in the tax rate over the phase-in-period after being shifted to the discretion of the Minister of Finance in the First Draft Bill. In addition, the proposed tax rate increases equate to a final tax rate at the end of the phase-in period which is significantly below what it would have been under the previous proposed rate increases in the 2013 Carbon Tax Policy Paper.

Despite these gains, there are some really critical areas where clarity is still lacking. Even with regards to the tax rate increase, it is not specified if the starting rate of R120 will stay R120 even as the year of implementation is delayed until at the earliest 2019.

There is still no defined mechanism in place for the recycling of tax revenues. Whilst Treasury maintains the stance that it is better to not have a rigid revenue recycling process, it is a concern that with lack of accountability the using of the funds becomes too flexible and used not in line with overarching objectives.

There is also no specification as to what level of sector disaggregation will be used. This has serious implications for the eligibility of firms to receive a trade exposure allowances and performance allowances. Furthermore, there continues to be uncertainties over how sequestration activities will be measured and monitored and what the system for carbon budgeting is going to look like.

Then finally and very importantly, there is a lack of clear definitive institutional arrangements between the parties involved in the setting the details of, administering and monitoring the tax. In particular the precise roles and nature of relationship between the National Treasury, SARS and DEA really needs to be much more clearly defined if this tax is going to work effectively towards achieving its objectives.

References

Quantec. 2018. *EasyData* [Online]. Available at: www.easydata.co.za. (Accessed: 16 03 2018)

IMF. 2017. *World Economic Outlook Database: October 2017* [Online] Available at: http://www.imf.org/external/pubs/ft/weo/2017/02/weodata/index.aspx (Accessed 15 03 2018)

Morden, C. 2016. *Stakeholder Consultation on the Draft Carbon Tax Bill,* National Treasury, Pretoria, 15 April 2016.

National Treasury, 2013. *Carbon Tax Policy Paper: Reducing Greenhouse Gas Emissions and Facilitating the Transition to a Green Economy*. Pretoria: National Treasury.

National Treasury, 2015. *Draft Carbon Tax Bill: 2015.* Pretoria: Minister of Finance. As introduced in the National Assembly (proposed section 77).

National Treasury, 2016. *Draft Regulations: Carbon Offsets, 20 June 2016.* Pretoria: National Treasury.

National Treasury, 2017a. *Draft Carbon Tax Bill: 2017*. Pretoria: Minister of Finance. As introduced in the National Assembly (proposed section 77).

National Treasury, 2017b (Media Statement on 2nd Draft Bill)

National Treasury, 2017c. *First Draft Carbon Tax Bill 2015: Response Document December 2017*. Pretoria: National Treasury.

National Treasury, 2017d. *Explanatory Memorandum for the Carbon Tax Bill, 2017*. Pretoria: National Treasury

Partridge, A., Cloete-Beets, L., & Barends, V. 2015 The Real Cost of Going Clean: The Potential Impact of South Africa's 2016 Carbon Tax on Agricultural Production. *Professional Agricultural Workers Journal*. 3 (1): 11.

Van Heerden, J.H., Blignaut, J., Bohlmann, H., Cartwright, A., Diederichs, N. & Mander, M. The Economic and Environmental Effects of a Carbon Tax in South Africa: A Dynamic CGE Modelling Approach. *South African Journal of Economic and Management Sciences.* 19(5): 714-732.