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Date of submission: Thursday, 27 November 2025

Your submission for this review:

Please find attached the submission from Thesium Pty Ltd (an agent and 'broker' in the scheme), which in part also addresses matters that would be raised by Henribark Pty Ltd (a BSA holder and credit supplier).

# Thesium Pty Ltd

Biodiversity offsets sourcing and administration



## Thesium's response to IPART 2025 Discussion Paper

Prepared by Greg Steenbeeke (Director) with assistance from Paul Cubelic (Director) and staff.

Thursday, 27 November 2025

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Thank you, again, for the opportunity to provide feedback on this 'market'. We use the term loosely, as there are remaining a great many practices by the agencies (both DCCEEW and BCT) that not only hinder the market, but become direct hindrances on the market operations.

We will provide a response to the focus questions posed, but also wish to advise on many more things that we see as market participants from two sides of the '*market square*'<sup>1</sup> – as BSA site owners and **credit holders** and as **agents** (the services we provide are more than just brokering) – and with knowledge of the other two sides, **government** (Greg helped design the BOS when employed in government) and **developers** (Paul's former role). These additional matters will be identified and addressed after the initial responses.

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<sup>1</sup> We are choosing to use this terminology as a square has 4 equal elements, and this market also should have 4 equal elements - suppliers, agents, developers and the regulator – all of which should be separate entities.

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## Our recommendations to IPART

It is a bit cheeky to propose that you undertake your role better, but we also feel that it has to be done.

*The department (and BCT) are not attending to your recommendations. Under the Act, you have the power to make*

**Determinations**, and we strongly advise that this year, that is how you identify what you want the agencies to change. In essence, they are taking the opportunity to ‘thumb their nose’ at IPART’s recommendations because they do not carry anything other than advisory weight. As stated in the Act (1992-039 24 sn. FA(3)) ‘the minister is not bound by the recommendation or advice’. As the provision of biodiversity credits is in effect the provision of a utility (as in ‘providing a service’ – in this instance to allow a development to occur through the legal requirement to discharge the biodiversity impact obligations identified in the BDAR), then the market should be able to be regulated better as IPART does for other markets. As mentioned in the online webinars, the original request / scope – from an earlier government on the alternate-side of the political spectrum – only asked for recommendations. It could be argued that that was done to have a *Claytons review* – the review you have to say you’ve done a review, but don’t have to do anything about what the review finds is not working.

## Addressing the Comment Points in the Discussion Paper

In most cases in the following table, the word ‘**below**’ is a hyperlink to a section of this submission where the idea is explored or explained more fully. Clicking on the word should take you to the relevant section.

Item	Issue	Response from Thesium Pty Ltd
Comment Point 1	Experience with the market FY24/5	<p>The market was working well until the introduction of the department’s revisions of the legislation, and in particular the amendments of the Act allowing for:</p> <ul style="list-style-type: none"> <li>- the BCT to go wide on variations (settling for price rather than the like-for-like - or even nearly - impacted entity).</li> <li>- The introduction of <i>another</i> ‘let government solve your problems’ option in the form of SODAs (more on these below)</li> </ul> <p>Additional impacts we have noticed:</p> <ul style="list-style-type: none"> <li>- The provision of pricing to the market that is actually not reflective of the prices charged and breaches the legislation (more below)</li> <li>- The stalling of progress on taxation advice and potentially seeking reform (more below)</li> </ul>
Comment Point 2	Difficulties / inefficiencies with Credit Supply Fund	<p>The Credit Supply Fund inefficiencies - where to start.</p> <ul style="list-style-type: none"> <li>- The allocation of staffing resources to the running of auctions and similar: this is a big burden on the department’s time for something that is not their</li> </ul>

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Item	Issue	Response from Thesium Pty Ltd
		<p>role in the operation of the market and I am sure that the use of 'environment' staff to facilitate 'development' profits would surely raise an eyebrow among ICAC.</p> <ul style="list-style-type: none"> <li>- Overtaking the role of brokering across the market – they seek to resolve developer's needs. Again, this is not their role. Additionally, they have market knowledge and opportunity to network that is not available to the general population who have to coordinate meetings, lobby/advocate and get these meetings minuted and identified as seeking to influence an outcome. It is not clear that the department is upfront about their role as brokers and advocates in discussions across and between agencies.</li> </ul> <p>Difficulties:</p> <ul style="list-style-type: none"> <li>- The use of pricing that is not actually correct to identify their 'maximum price from the BCT' that they accept in their auction processes. This was recently tested – more below.</li> <li>- Accuracy in their own assessment processes, even when run by staff (below), and expectations that only those with a 'vested interest' have a financial role related to the activities under the BOS. We are contracted by clients because we have multi-decade experience with the environment (vegetation and threatened species) and lived experience with the scheme and its predecessors. However, the department feels that we are too close to the outcome, striving to get the best for our clients because that is what we are contracted to do. They refuse to allow for us to have a role in reviewing the documents, advocating for better method application and considerations of data. Our own observations of threatened species – supported by evidence - are dismissed yet the Scientific Licence held says that it is an offence to not provide these records, and the BAM requires the consideration of all records within the last 5 years in developing an assessment. They argue that we get a financial return from identifying these – but what participant in the scheme isn't getting a financial return from the transaction of credits?! And then, they provide the credit creation service for their own clients, at a cost to the taxpayer, and are the ones signing off on the agreements prepared. How is that not a conflict of interest on their part – and much bigger than what we are doing.</li> </ul>

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Item	Issue	Response from Thesium Pty Ltd
Comment Point 3	Changes in performance and competition in credits market	<p>There have been many changes in the performance and competition in the credits market over that year, primarily driven by government. The introduction of SODAs has brought the majority of the market to a halt (below), while the ‘auction’ process run for the Central West REZ credit supply (admittedly undertaken this financial year) was employed using an array of rules that varied from anything allowed under legislation. The potential for competitiveness of the market is also markedly removed by the ridiculous pricing mechanism from the BCF (see amendment options described below) and which has been shown in your own work (the HHI value of 2966 is also showing an increase in anti-competitive behaviour). We don’t mind competition, but competition for real things, not the acquisition of obligations for developers by the BCF for credit types that actually do exist in the market, but their own pricing mechanism<sup>2</sup> locks half (at least) of the suppliers to the market out by default.</p>
Comment Point 4	Characteristics to define sub-markets	<p>The analysis presented is rather simplistic in that there are those three categories (non-traded / nascent / established), but they are not the categories that truly define the market. The market is driven by the buyers. As these change over time, it is better to identify them into categories such as ‘energy development’; ‘urban development’; ‘philanthropic’; ‘other’. These have very different influences on the market, as detailed below.</p>
Comment Point 5	Experience with brokers, accredited assessors and other third parties	<p>As agents, we are often put into the ‘Brokers’ category, even though we provide much more than simply a brokerage service. Other brokers with whom we have interacted have generally been good, although sometimes they have unusual ideas about the pricing that should be applied to credits (often-times maybe just so they can get the sale to get paid, rather than looking out for the best interests of the vendor). Few have an understanding of the market viewpoint from a credit holder – especially in regard to this often being the sole source of income – and will work to get the best deal for their developer clients (as you would expect). Experience with accredited assessors have been varied. Some have been very good, understanding the BAM and its application and what they should be seeking to achieve for the landholder. However, many are also inexperienced with costs, application of the BAM and achieving a sustainable outcome for the landholder over the very long term.</p>

<sup>2</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

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Item	Issue	Response from Thesium Pty Ltd
		<p>The other party that should be a 'third party' in the market is the Department. However, they cannot stick to their role solely as regulator and think that they know better how the market should operate. To do this, they have ecologists designing and implementing things in a financial market. This is unsustainable.</p>
<p>Comment Point 6</p>	<p>Experience with the BCF as a market alternative</p>	<p>It isn't a market alternative. It is a market disruptor of the worst kind in that it establishes a price it WANTS to get credits for<sup>3</sup>, then goes outside the like-for-like and previously defined variations to absolve itself of having taken on obligations for far too low a price. See our recommendations over four items below, below, below, and below.</p> <p>As it stands, the BCF should not be allowed to acquire obligations that are in the market, or which (through advice from the administrator of the BOAMS dataset) they would know are in progress to being created on BSA sites. The BCF should only be allowed to acquire credit obligations for very small total obligations (less than 30 credits for a whole project) or where a species or OTG (including like-for-like opportunities) are not available or in process to being created.</p> <p>The BCF should not be allowed to acquire obligations that are 'presumed presence'. These typically increase the demand on some types, and the opportunity to offset them is generally costly for the stewardship proponent (see below and below), and not priced appropriate to the costs incurred in creating the credits to provide offsets (which is at least the same as the survey cost for a developer and why they often choose to 'presume' rather than seek confirmation of presence or absence).</p>
<p>Comment Point 7</p>	<p>Pros and cons of increased use of variation rules</p>	<p>There is no 'pro' from the view of the environment. In fact, as an ecological outcome, increased use of variations (moving away from addressing actual impacts) is a guaranteed road to extinction.</p> <p>On behalf of the developer it is good – they get their development happening, and in essence it is now an even wider pool of impacts that they will essentially cause.</p> <p>On behalf of the landholder it may be better – although also not:</p> <ul style="list-style-type: none"> <li>- PROs: Wider opportunity to sell credits; wider opportunity to meet market expectations (when the market is only one buyer – the BCT)</li> <li>- CONs: the landholder will be expected to sell credits at a much lower value than they should as the</li> </ul>

<sup>3</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

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Item	Issue	Response from Thesium Pty Ltd
		interplay between accurate demand and supply is broken.
Comment Point 8a	Changes to quality of credit price information	<p>The quality of credit price information has declined significantly. The only accurate register of credit trading has a big omission in that it fails to consider the trades which are commissioned but not yet effected (where a supplier is contracted to provide, usually as a result of a BCT or CSF auction process) or where the BCT has acquired an obligation, but as no credit trade has occurred, there is no record of that transaction in any register as a guide to what the BCT has considered a 'fair price'<sup>4</sup>.</p> <p>The information provided by the BCT is not compliant with their own legislated Price Order<sup>5</sup> as worded – see discussion of that below.</p>
Comment Point 8b	Experience navigating pricing information	<p>In a word – <i>horrendous</i>.</p> <p>This is one of the biggest opportunities for change that exists for the market.</p> <p>Have a register – accurate, reliable, complete – that covers ALL of the trading activity (credits AND obligations acquired by BCF which is a driving force in the market). It needs to have at a minimum:</p> <ul style="list-style-type: none"> <li>- <b>OTG</b></li> <li>- <b>Subregion</b></li> <li>- <b>Vendor</b> (can be coded) and <b>Source BSA</b></li> <li>- <b>Credit ID</b> (if available as the register has to include trades by BCF for 'obligations' AND 'pre-committed acquisitions')</li> <li>- <b>Count</b> of credits traded or obligations acquired</li> <li>- <b>THE PER-CREDIT ACTUAL PRICE</b></li> <li>- <b>Buyer</b> (again, can be coded)</li> <li>- <b>IS IT AN INTERNAL TRADE OR BETWEEN RELATED ENTITIES</b> (i.e., more than just for this or similar transactions; do they have a common parent entity; does the trade consist of a 'TFD only' trade)?</li> <li>- <b>If it is done to resolve a developer obligation from their own site</b> a value that equates to the proportion of the TFD (as is already required by the Act but is not enforced by DCCEEW) as there are plenty of instances on the register where BC Act 6.21(5) appears to not have been complied with as a credit cannot be retired without the required proportion of the TFD being recorded, but there are plenty of 'no value' credit retirements (with no earlier trade of those credits) that can be found in the register.</li> <li>- <b>Transaction ID</b></li> </ul>

<sup>4</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

<sup>5</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

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## Detail on matters both asked for and that we would like to raise

### Experience with Assessors

Assessors have a poor understanding of the project outcomes beyond their expertise as ecologists.

- On one site we administer, an assessor (who is a department employee) failed to identify and locate the required plots into the vegetation zone to achieve a true value for the vegetation integrity (VI) score, failing to notice that the vegetation zone had canopy regeneration, large trees, hollows, a range of tree stem sizes and woody debris on the ground. When these were pointed out, the revision created >20% more credits for that zone.
- The same assessor had to revisit the site to assess for wetlands that they were advised on the first field visit were present (and were shown – and still failed to include the full aerial extent of this TEC community in the BSA, additionally meaning that the restoration to be expected for the other, smaller wetlands will not be of suitable vegetation – and that being ignored is the endangered ecological community *Pilliga Outwash Ephemeral Wetlands in the Brigalow Belt South Bioregion* (Greg's experience as a botanist in this region extends over decades and firmly believes the assessor chose the wrong community for the assessment and was not permitted to challenge the Assessor's decision as it was perceived to be a 'conflict of interest' – but I was on the Technical Working Group of the RACAC bioregional assessment and conducted a sizeable proportion of the fieldwork).
- To add insult to injury, they also applied costings to the site that were not current, suggesting a boundary fence could be installed for \$13 per metre (well short of the \$30 p.m. it will cost). Their excuse was 'it was the values we had to hand' (I know – I put them into a spreadsheet for that purpose in 2012 and steel has risen by 30% in the last 4 years, as have other costs like fuel, labour and plant hire).
- This is not actually an isolated case. As this person is also at times a reviewer, they may have allowed similar things to pass through the reviews they undertook which will unbalance the outcomes for the landholders whose sites they are reviewing.

Assessors are rarely landholders, let alone rural landholders, and often make the assumption that the work can and will be undertaken by the landholder (who on average is in their 60s and not likely to be able to do every required action, let alone be looking at not doing anything once they pass away). The landholder in advising often gives 'in house' costs and **doesn't price it as though the most expensive contractor available has to be considered to ensure that work will be done**. The assessor also often doesn't consider 'on-costs' for the site, such as rates (usually 3 types – Crown lands inholdings, which are very difficult to add to the BSA anyway; Local Government; and Local Land Services) as well as insurances, despite these being flagged in the Department's guidance.

Assessors – and particularly reviewers from the Department who always push back on this - do not understand that the land is not 'zero value' land. It has value for grazing, timber harvest or other activity, often depending on its condition at the time of assessment. This means that when it is converted to conservation under a BSA and those income-earning practices have to stop, **the landholder is left with a reduced income from that area**. As the activities cannot be guaranteed to be undertaken by the landholder (and many need to be contracted), that ends up becoming a cost burden for the landholder unless they get the equivalent income back each year. As a guide, we put \$100 per hectare per year into the 'management' cost, as we were advised by the department's

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program managers that they **would not allow us to include an item called ‘foregone income’**. In the real world though, a landholder who is converting the critically endangered box gum grassy woodland from grazing country with a moderate tree cover (assume about 20%) to conservation is foregoing at least \$400 per hectare, per year, which adds about \$12,900 per hectare to the TFD. If it is generating about 5 credits per hectare, as it should be, then that is **\$2,580 per credit that accounts for the lost income**, before any management costs are added (for a credit with most recent traded price currently of \$3,520 and weighted statewide average of \$5,300<sup>6</sup>). With most TFDs now in the vicinity of \$4m if they are costed correctly, a site of 250 ha (as many of ours are) is going to have an average ecosystem cost, per hectare, of about \$16,000 (\$3,200 per credit), making the base cost in the order of \$5,000 per credit no matter where it is in NSW, yet we were rejected on offers of \$5,000 in April of 2025, and have now had accepted offers in the band \$3,724 to \$5,096 with a median value of \$4,116 (for credits from 4 different subregions). Anything below \$5,000 per credit is essentially unviable if the landholder looks at it as a source of their future income. Adding species credits may dilute that value a bit, but as species and ecosystems trade separately – and inefficiently – species credits should not be relied upon to establish a fair income.

[Changes made / to be made to the ability to discharge an obligation through the BCF](#) Material released by the Department to professional organisation representatives recently identified that the Department is proposing in the upcoming regulation that the BCF be unavailable ‘only for obligations of more than 100 of the same credits for a project’. The wording here is loose and indefinite. In terms of species credits, it is conclusive. In terms of ecosystem credits it is not as clear. Is that 100 credits of the same Offset Trading Group (being the parcels under which credits are traded), or of a PCT, or of a PCT in a subregion? All of these are very different outcomes.

However, what it does do is move a lot of obligation onto the BCF – and therefore in essence onto taxpayers – as there is already a shortfall caused by the BCF pricing<sup>7</sup> being too low to allow BCF to acquit the obligations acquired already, and likely continuing if they have to continue to accept obligations that would otherwise be able to be found by buyer participation in the market.

These obligations mean that there will be an increasing obligation on the taxpayer (through topping up the BCF) or ongoing misdirected conservation outcomes and the guaranteed loss of the impacted biodiversity (certainly moving away from the Net Gain concept in the legislation). The obligation could be acquired at up to 3 years from the point of releasing / delivering the obligation (or longer if held from prior to March 2025). Our analysis of 122 projects that have put up credit impacts at a stage between EIS exhibition and project approval) is enlightening. See discussion on this below and data in the Appendix.

## [The influence of Strategic Offset Delivery Agreements \(SODAs\)](#)

As mentioned, this opportunity provided by the Department to a limited (but very active) subset of projects in the BOS is causing no end of headaches. The projects with approved SODAs (only 1 at present, but industry discussion is that every eligible project is looking at it) can and will be able to have the Department seek their obligations, through an array of means that essentially excises a

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<https://app.powerbi.com/view?r=eyJrIjoiZWl3MmZhMTctZGVjNi00ZTdlLTkwZTEtOGY4NWNhYjc3M2RiliwidCI6Ljk2ZWY4ODIxLTJhMzktNDcxYy1iODlhLTlTY3YjA4MzNkZDNiOSJ9>

<sup>7</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

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sizeable proportion of the potential credit demand from the market. The implementation of ‘other conservation outcome’ is very worrying – what requirement is there that this be applied as a truly ‘additional’ action (not employed on public conservation land) and where it leads to outcomes on private land has a permanent record of this which is written to title (as is a BSA). If the landholder who has, through this, proof of the presence of a species on their land as determined by government, and a conservation outcome in progress, is then able to pursue a BSA that includes that species, it is both a cost savings to them as well as a double dipping on getting the outcomes that address the impacts. That is exactly one of the situations the BOS was designed and implemented to ensure could not happen – repeated use of the same area of land for multiple impact obligations with no recognition of prior obligations.

## Department’s Intent for the new regulation

Proposal to amend the requirements to have more than 100 credits needed to not be able to use the BCF has been raised with industry groups. There is more dissection of this below, but an early appraisal of the intent behind the Regulation should be considered. Other amendments in the regulation will be good, but the excision of a sizeable number of obligations is concerning for us as market participants. As a mandatory component of development, the government doesn’t provide a developer with cheap steel, or cheap concrete, so **why should they get cheap biodiversity impacts, supported by taxpayers?**

## The impact of the annual amendment of BCF obligation values

As mentioned in the second seminar of this round, **the trend with pricing is downwards**. As a credit is a measure of the unit effort required to improve the habitat for an entity (either a species or a plant community type) in order to bring it closer to ‘benchmark’, **the price of a credit is effectively a measure of the costs**.

Costs are increasing. The CPI figures clearly show that inflation is currently running in excess of 3% p.a. and yet **the regularly-sought price of credits which we act as agents for from the BCT has continued to show a downward trend**. None of the input factors (labour, materials, chemical) are decreasing in cost, but the landholder / credit-holder is being squeezed. The only exception is koala, which we will detail in the pricing order section, below.

What the numbers reveal. The following charts are taken from our regular (generally annual) receipt of the values the BCT advises us are the ‘base cost’ of credits, to which they add their risk markup and delivery fee. In each of the graphs shown, the published rate of inflation<sup>8</sup> has been applied to a reasonable value (indicative of the bulk of prices) and is shown as a dashed line. In relation to this data I make the following notes:

- The data is not comprehensive, and relates only to the credit types for which we are able to seek pricing (being ones for which we have a credit report and BSSAR or existing BSA)
- Entities at the same price will be obscured by the ‘uppermost’ line / data point. Unless one deviates, all of those prices have moved in the same direction.

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<sup>8</sup> <https://www.inflationtool.com/australian-dollar>

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- The prices we received at the start of 2024 (March and May) were revised when sought again in the second half of the year – each chart therefore has two 2024 values to recognise these separate prices.

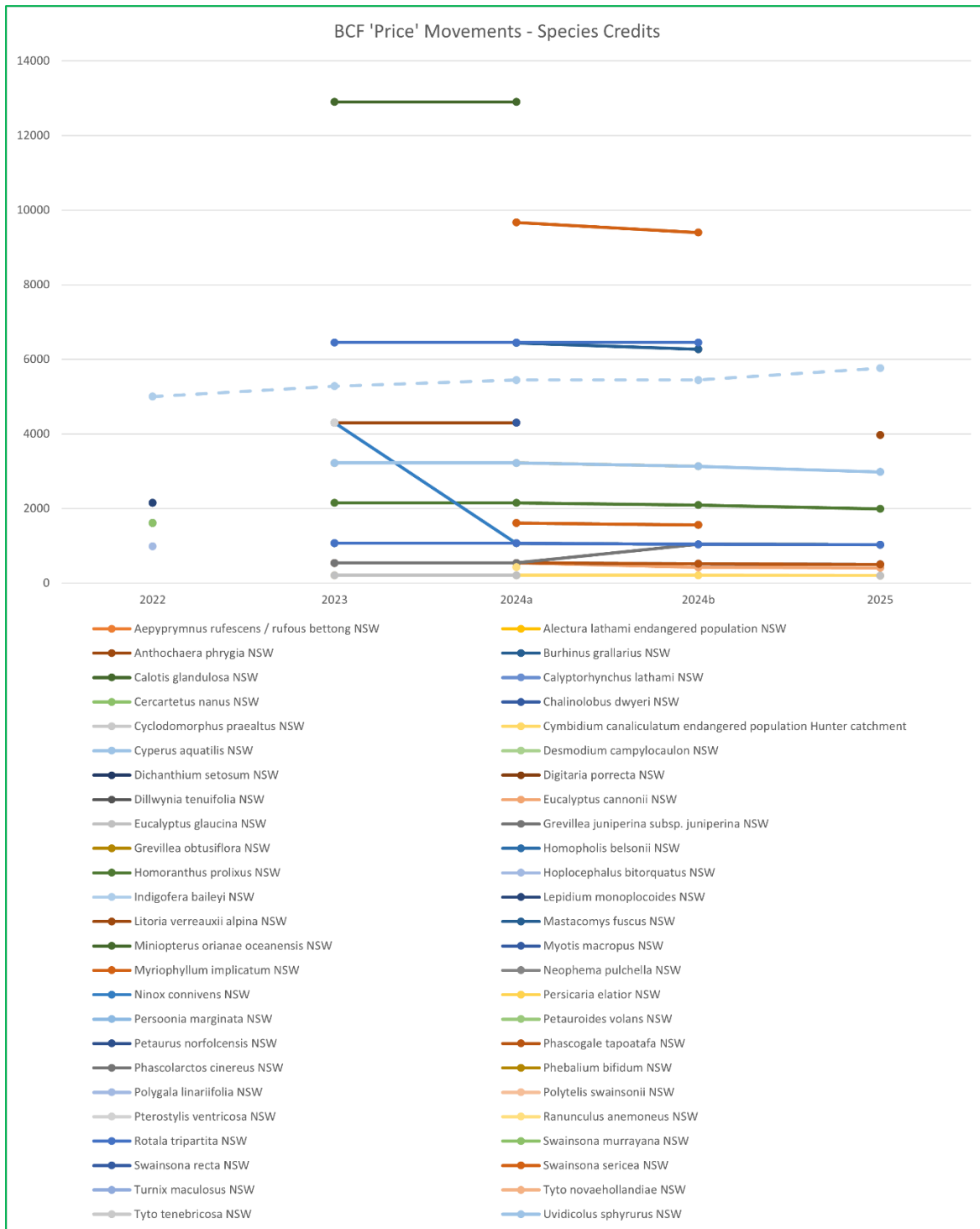


Figure 1. Movement (if any) of species credit 'base price' from the BCF over the period 2022-25. Only koala (dark grey moving from \$500 to \$1,000) shows upward trend in BCF acquisition price.

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Figure 2. Movement (if any) of ecosystem and TEC credits 'base price' from the BCF over the period 2022-25 for credits that would suit the Central West Renewable Energy Zone. Highest value points are for same OTG, but subregional assignment amended from Inland Slopes to Capertee Valley on submission of updated credit report (note that these are like-for-like!)

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Figure 3. Movement (if any) of ecosystem and TEC credits 'base price' from the BCF over the period 2022-25 for credits that would service the New England Renewable Energy Zone. While some credits are increasing, others are showing sharp downward trends.

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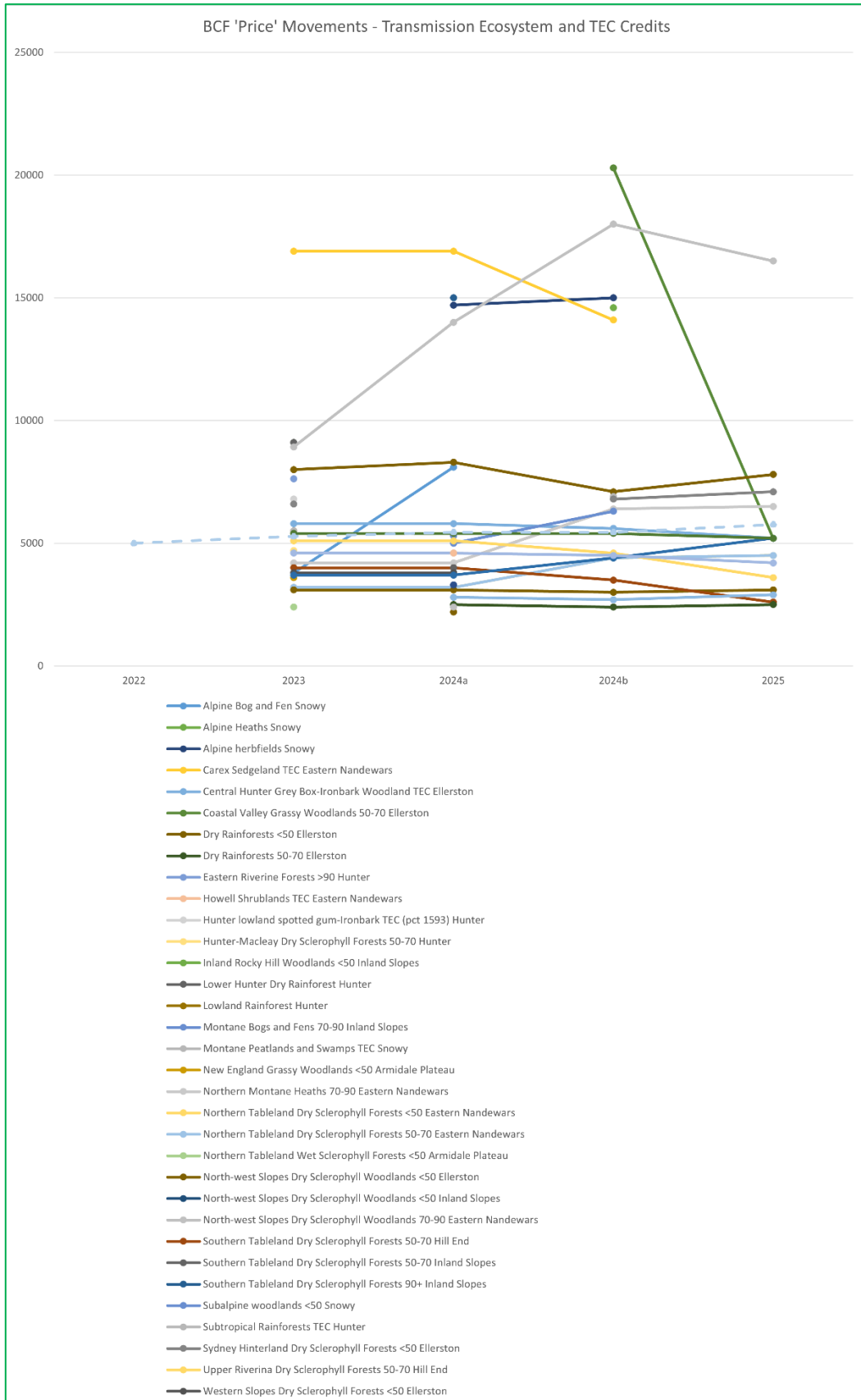


Figure 4. Movement (if any) of ecosystem and TEC credits 'base price' from the BCF over the period 2022-25 for credits that would service NSW major transmission line projects (including SODA projects)

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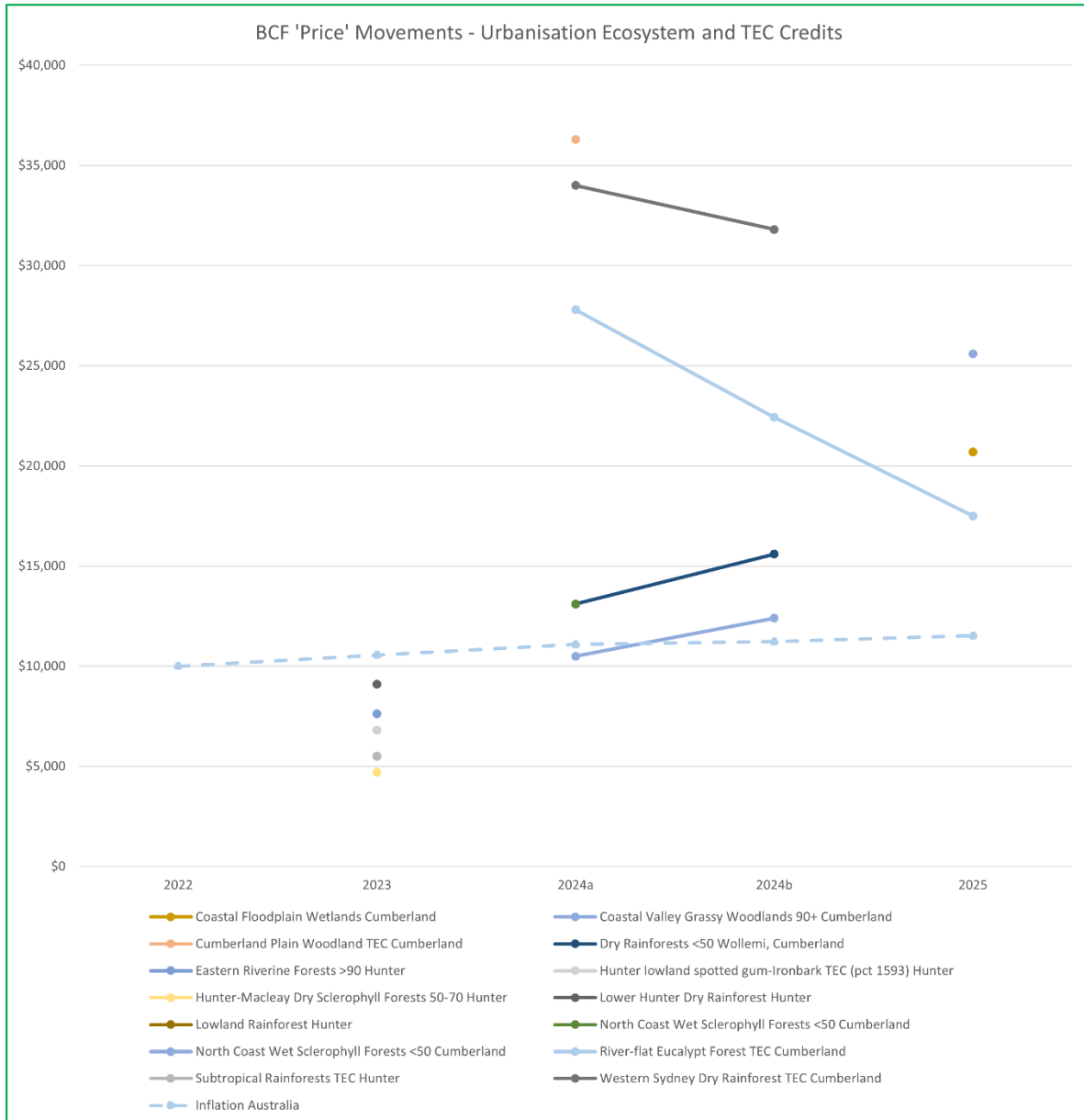


Figure 5. Movement (if any) of ecosystem and TEC credits 'base price' from the BCF over the period 2022-25 for credits that would suit the urbanising areas of Sydney and the lower Hunter / Central Coast.

As can be clearly seen in this series of charts, there is a disconnect between the BCF price and the inflation trend. **Declines in price are not related to trades, with many of the OTGs not having any trades over the period.** It also means that obligations were acquired for less – not more – as prices for everything else has increased due to inflation..

## Problems with the pricing order employed by BCF

There are many concerns with the Pricing order (sl-2022-576<sup>9</sup>), not least of which are:

- Assumption that all costs per hectare are equal across all sites of a particular OTG .
- Inclusion of 'in house' sites established by developers to provide the costings (despite these being unable to be clearly identified in data provided).

<sup>9</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

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- **Basing the costs on historical factors** and not allowing for a higher premium to account for increases such as land value (Valuer General amounts published online for rural land in NSW show that in the last 3 years most have increased in UCV between 75 and 200% over the base value in 2021 when the order was made, and these have again decreased in 2025). Land Value in the formulae provided are only considered to be 'updated from recent sales evidence from time to time'. If land is not selling (and land with biodiversity values sells much less frequently owing to pushback from the usual buyers – pastoralists and croppers) then this is problematic. The guidance that came with the development of the method supporting the order actually showed a significantly decreased land value being applied to land with biodiversity present – and more environmental values present reduced the value more – which shows that the valuation was driven entirely by the value of the land as a 'classic agriculture' situation. As government identifies a value of land every year, that value should be the value used – especially as it is often more responsive to land sale impacts.
- As a 'likely cost' model **based on an averages**, the model is flawed and drives towards the **average at a time in the past**. As this is a process for allowing the government to acquire and acquit the obligations, it should not be done at 'average' values, as **by default, half of the market is then excluded and the capacity to acquit obligations diminishes (rapidly) as CPI affects the values of stewardships as they are established**. This is therefore leading to the perverse outcome of seeking to use variations to acquire the obligation offsets – which would not be necessary if the price at which it was acquired recognised the true value of the asset (and drove greater avoidance) and did not result in what is effectively state-supported ecocide.
- Historical trading data is hugely influential to the pricing, which is a problem when additional needs such as enhanced monitoring became mandatory. The data is skewed by the inclusion of non-independent trades (these rarely being identifiable in the dataset) and the ignorance of factors affecting future price movements such as input costs including the land value, which, as mentioned above, is now much higher and limits the potential for involvement to those landholders already holding land, not those who see an opportunity for investment return in acquiring land to undertake the process. In addition, as the costs are typically calculated for a stewardship 3-5 years before the site goes active (owing to delays in processing by the department having insufficient staff, the legal processes, the demand on credits coming largely from the BCT / CSF 'auctions' and the need to fill a TFD – generally many millions of dollars – prior to receiving funding for the actions to be done), the use of historical pricing to price credits is even more unrealistic. Despite the department's apparent desires for this to be a philanthropic outcome by landholders (as we have had them say and which is often presented in the language of their publications but never explicitly said - see below), **investors** are going to be the ones who allow the system to work. At present, they will **invest in the development as it has a much higher rate of return than** the returns available through establishing **the necessary input product – biodiversity credits**. Investment should be spread roughly evenly to both sides of a market if it is to be sustainable – in this instance it is not.
- The cap on pricing is now long defunct and should not be still influential in determining credit values.

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- **2.4 of the order<sup>10</sup> is not being complied with** (a matter for consideration by ICAC potentially, as no other ‘competence assessment’ body exists to consider the actions of NSW government agencies and employees): **“The Trust will publish all Charges provided to Applicants between 180 days and 270 days after the Charge is issued.”** *The Trust publishes only a charge that is the predicted credit price*, yet in 2.3 it clearly says that the charge is **“The Trust will determine a Charge, which equals the sum of the Predicted credit price, the Risk premium, the Delivery cost and Indexation.”** Therefore, the publication is not of the charge, but of a base cost (‘the predicted credit price’) which itself is based on flawed assumptions and an average that is nonsensical). Furthermore, it also states **“Aim to calculate a Charge that reflects a reasonable estimate of the cost to the Trust of Acquitting an offset obligation in accordance with the Like-for-like biodiversity credit rules”** which can be shown to not be the case through the fact that they acquit so little of the obligation in each tender / reverse auction round *and* the change they are now employing by seeking credit obligations through application of variation rules. In addition, in section 6 of the Order they specify the use of market soundings, but they never sought price estimations from the suppliers – only the buyers. Of course, the latter has a financial decision-driven desire to make the price as low as possible, yet not appear farcical, while the former wants to earn a fair income from the trades. As a result, the price the BCT acquires the obligation for is based on what the developer wants to pay, not what the asset is actually worth (given the asset exists in the ownership of the supplier until traded for the obligation).
- In section 3.1 of the Order there are many assumptions – the biggest of which is that all land is equally degraded to have a particular VI value. However, management of some weeds or replanting is much easier on some sites than others, and therefore a significant difference occurs across all of the available exemplars. This should not be so heavily relied upon as it is.
- In Pricing Order section 3.3 it is identified that outliers may be excluded. There is a huge problem with this – **what is an outlier?** Surely it is a valid data point and reflects actual costs. The exclusion of these (and I know for instance that one of the exclusions employed was from my own site – the only true market costed site in the subregion) distorts the actual market view – for instance how do you know if a site was established to be a taxation write-off by having higher costs (=TFD) than the returns from the impact causing the disturbance? Excluding the most expensive sites immediately establishes that the BCF is not allowing for the landholder to receive fair compensation for the allocation of biodiversity outcomes and needs to wear a penalty, as the average (which is what is supposedly used) is **no longer truly an average of all the values but of a subset**, chosen (in most cases) to be of the lower-priced trades rather than the upper priced trades). It would be better for the exclusion of those charges derived from sites established (or at least costed) by the developer as they have a clear profit motive to reduce costs to the lowest possible to protect returns / profit for their shareholders (an expectation under Australian law as suggested here<sup>11</sup>). This is even more important when it is noted that many of the major project developers in Australia (who form the bulk of the market demand) are also multinational companies addressing the legislated requirements of their home territories. While 3.7 in the Order suggests that these were not included, it is unclear

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<sup>10</sup> <https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-576>

<sup>11</sup> [https://law.unimelb.edu.au/\\_data/assets/pdf\\_file/0006/1586976/38\\_1\\_2.pdf](https://law.unimelb.edu.au/_data/assets/pdf_file/0006/1586976/38_1_2.pdf)

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language and does allow for these to be included, especially as they are not clearly demarcated in the available data.

- Section 3.3 notes that the Trust will publish annual updates. If those can be found, it would be good. **I see no evidence of compliance.** There is nothing at this page (<https://www.bct.nsw.gov.au/biodiversity-offsets-program>) or at this one (<https://www.bct.nsw.gov.au/info/biodiversity-offsets-program-outcomes>).
- In regard to determining value of species credits there are major flaws. There are assumptions made about survey costs and difficulty to offset which lead to entities such as the Hunter Valley Tiger Orchid population (*Cymbidium canaliculatum*) being priced at \$200 per credit. This is not an easy plant to survey for – it is cryptic, lives in trees and requires a lot of survey to prove presence (or disprove presence). On one site we spent effectively \$40,000 worth of survey time (when costing the hours myself and others spent crossing the very difficult site) to get 3 credits. That is not sustainable and certainly doesn't promote the inclusion, nor offset the cost, if **the BCF is acquiring the obligation for the lowest price charged for any credit type.** We have similar with other species, such as the slaty red gum (*Eucalyptus glaucina*), a by-count species I was required to (again) spend about \$40,000 worth of time to prove counts (the extrapolation method suggested was considered by the Department to have an 'unrealistic outcome of 3,000+ on the property' but proven right by the actual count). Again, this species – which is only identifiable for about 18 months after fire or other event causes the damage to allow juvenile foliage to be identified, or by looking carefully for flower buds under any smooth-barked gum tree in the survey area – is also the lowest priced credit. When the site was established – as a Biobank site – 7,100 credits were created, priced at \$250 each. When converted to BAM credits through equivalence this became 710 credits. The price actually went down, so the influence of being BAM equivalent credits means that those BBAM credits that were created are now worth \$20 each. If the 710 credits are calculated out at \$210 each, it is \$149,000, so potentially makes the price cover the costs of generating and managing the credits, but provides no effective income and shows investors that **this is an unreliable market to consider for investment.**
- The categorization – and review of any changes in listing status – takes a long time to work through the system. No list is provided of what species are in each of the nine categories identified, although we know that koalas were M1D1 species when they were considered Vulnerable in the listing. When they were upgraded to Endangered in May 2022 the price should have moved in the next iteration of the pricing schedule (when it came into effect in August 2022) to account for the increase in threat status. It did not, and price was only raised in the July 2024 update. For 2 years, developers were able to absolve themselves of impacting a nationally endangered species for the cheapest cost for an animal species in the BCF pricing. The BCF pricing needs to better respond to listings and changes in listing with an immediate change applied when a species is uplisted. The current system is too 'clunky'. **All the more reason to be rid of it for things that are actually in the market** – like koalas. Additionally, koalas are the ONLY species whose price has increased over the period since the order became effective. Everything else has either stayed the same, **or decreased**, despite factors such as inflation (especially of labour charges) applying to the input costs.

What is a solution? The simplest is for the values that are put to market for taking on the obligations (currently an 'average' value so immediately excluding half – or more – of the supplier sites) to be

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**pegged to a point that is 2 standard deviations above the true mean (of all values so related entity suppliers don't need identification)** (close to the 95<sup>th</sup> percentile), which would ensure that the costs coming into the BCF to seek obligations will be met in all but the rarest of cases, as **97.5% of credit values offered will be below that number and it drives developers to avoid, as they will have to pay a higher price to have government 'solve their problem'**. If the median value is used instead with the notional BCT Cost Price (as per the suggested changes to the Order) then there is likely still to be only a diminishingly small number of suppliers above that value and it would eliminate the need to exclude any transaction pricing.

Additionally, **in applying future pricing**, the prices that they have driven in the market should form part of the calculation for the Mean+2SD value. They cannot be ignored, and they also cannot be used as truly market representative, when they have actually had such a strong role in influencing the values of actual market trades being, as they are, for less than 10% of the credits offered that matched – on like-for-like grounds – the demands they sought to acquit.

Other advantages would be that **the BCF would have the money available to resolve the obligations it takes on**, there would be a strong price signal to the market (both for avoidance and for getting a fair return for suppliers) and **fewer examples of 'presumed presence'** would come into the marketplace.

## [Influence of the published inaccurate pricing order on the market](#)

In the most recent round of auctions by the CSF (which were not an auction but a market sounding exercise showing that **the Department fully intends to act as broker**) we had the opportunity to test a theory about the influence of the published, inaccurate (technically illegal) prices by the BCT.

As we have clients with multiple sites, we took the opportunity to have them put different values on their offerings of the same species credit type.

Only those offerings **BELOW** the **BCF published credit base price** were accepted. This is, of course, **NOT** the price they acquire obligations which is the **true market point**). Any offer which was 5%, 7% and 15% above those values were not accepted. Species credits (two different, high demand species) were used, and the result was consistent.

## [Unrealised capital gains being required to be paid in the tax return of the applicable year](#)

This is a huge reason why the supply of credits is 'seasonal' – with projects coming to Agreement stage early in the financial year to give themselves until May of the year following next to pay CGT.

But, the CGT issue only arises because the way in which the Federal taxation legislation is worded to capture every other jurisdiction which does biodiversity offsetting in Australia. These all pay a single value, upfront, to the landholder to cover all future costs. No other jurisdiction manages the landholder payment like NSW. However, the expectation and wording of the legislation say that returns from the future sale of credits have to be taxed on signing of the agreement – in that the signing is the trigger for the D4 event. Trading of credits is an A1 event, but the two are intricately entwined at the point of signing.

As this effectively leads to a case of taxing unrealised income, (which the federal government recently backed down about with regard to large personal superannuation balance earnings), it is requested that the Department, and IPART where possible, get this made a priority for solution.

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## Categorisation of the market – sub-markets

What is a true sub-market? The next section of this response will also have further detail of this consideration, but the breaking down into the three categories suggested is not realistic in practice. The movement of a credit type or OTG from untraded to nascent is a randomised occurrence within the market. It is not known exactly when a credit will be demanded, and therefore when it moves between categories.

I consider that there is a better distinction through considering credit demand by the type of buyer. Certain projects identify high demands (particularly energy-associated major projects), while others have very small demands (urban densification for instance). The philanthropic market – which should be considered a developing market as more influence of the TNFD reporting requirements becomes influential – also needs to be considered, as potentially it could absorb credits which, for whatever reason, have low trade need. Investors could also be placed into this group, with acquiring credits to hold and future sell being **an opportunity if the BCF was not a dominant market player**.

One of the matters often have raised is that we are a ‘monopoly’ holder (being the only one with credits of certain types). **In this market a monopoly is impossible**. To be a monopoly, the impact and offset would have to occur only on the same landholding. A developer can match its own obligations on avoided land, or another supplier could be given a true price signal to effect the BSA needed to be a competitor for supply. At present, that price signal doesn’t occur – and even with the regulation change proposed is still not guaranteed to occur – as the BCF is still the ‘gatekeeper’ – allowing the developer to absolve itself of the obligation while there is no market driver to do anything about it.

## Offset trading groups and likely market changes

The table in the Appendix and summarised below contains details for 122 projects we are tracking that have all reached or passed the stage of exhibiting their project on the Major Projects<sup>12</sup> page and cover all of the REZs plus more. It has been used to inform assessment of the determination by the Department in the imminent Regulation that they will make use of the BCF to resolve credit needs unavailable ‘only for those credit types for which a developer needs more than 100 credits’. The language shown in the presentation was not final but raises concerns. Is it for any individual credit type that is produced by a development? In that case, what penalty might an Assessor face if they suggest to their client to subdivide the site so that no single vegetation zone (the basis of a credit type) creates more than 100 credits, meaning they could all be resolved through the BCF and avoid the market? If the project is to have any credit in the same OTG amalgamated into a single unit, then that would be a reasonable outcome to resolve that issue and make it unattractive.

However, what do the numbers tell us? That 100 credits per unit (if assuming that the Regulation will enforce the OTG-per-project requirement) is marginally better for the developers than 30 credits per OTG-per-project. This is summarised in the next table.

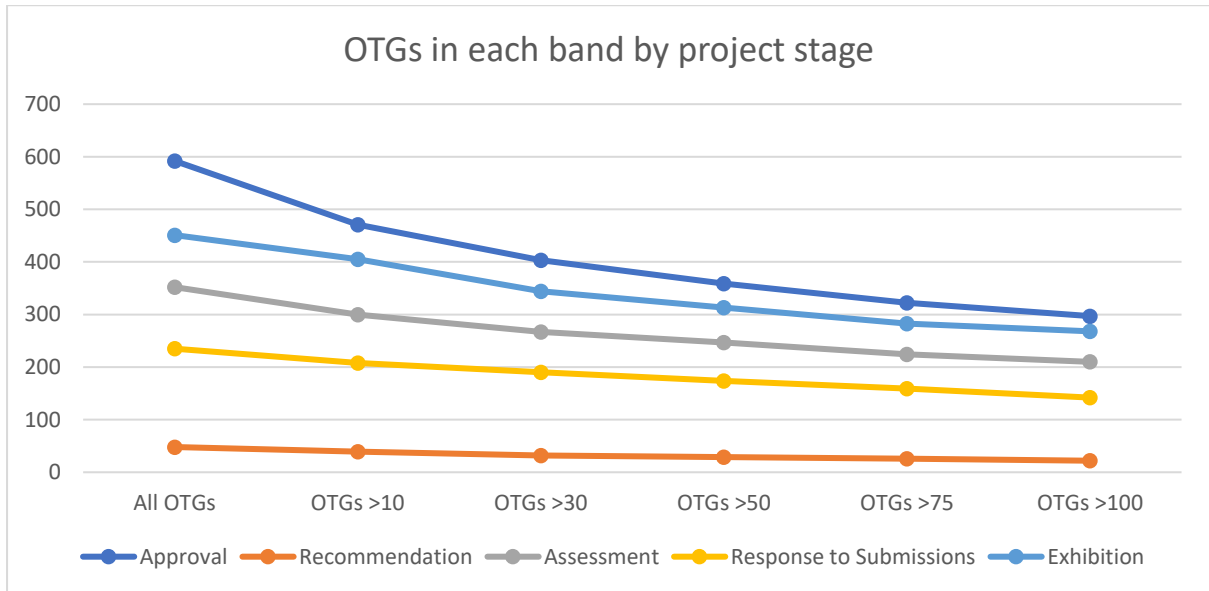
Project stage	Total OTGs	OTGs >10	proportion	OTGs >30	proportion	OTGs >50	proportion	OTGs >75	proportion	OTGs >100	proportion
Approval	592	471	.796	403	.681	359	.606	322	.544	297	.502
Recommendation	48	39	.813	32	.667	29	.604	26	.542	22	.458

<sup>12</sup> <https://www.planningportal.nsw.gov.au/major-projects>

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Assessment	352	300	.852	267	.759	247	.702	224	.636	210	.597
Response to Submissions	235	208	.885	190	.809	174	.740	159	.677	142	.604
Exhibition	451	405	.898	344	.763	313	.694	283	.627	268	.594
Grand Total	1678	1423	.848	1236	.737	1122	.669	1014	.604	939	.560

Proportions are of the total OTG count in each stage. When shown graphically:



Credit counts in each of the categories for OTGs

Project	All lots	Lots >10	Lots >30	Lots >50	Lots >75	Lots >100
Approval	585,384	584,870	583,516	581,713	579,332	577,038
Recommendation	16,879	16,841	16,714	16,614	16,425	16,100
Assessment	489,663	489,448	488,778	488,043	486,595	485,420
Response to Submissions	331,958	331,848	331,485	330,851	329,938	328,448
Exhibition	882,569	882,364	881,241	879,972	878,179	876,837
Grand Total	2,306,453	2,305,371	2,301,734	2,298,166	2,291,442	2,284,547

The numbers of credits difference between demand for all credits (2,306,453) and lots with more than 100 credits (2,284,547) in these 122 projects is relatively small (about 21,906 – 0.95% of total) – but what is not identified is **what entities and OTGs are only ever going to be traded through the BCF**. This would create a **single-buyer market**, and the HHI value would go through the roof. There will only be one price available to all those creating an impact, while the suppliers have to compete for a downward value from the ‘average’ (which will then push pricing further downwards) if the pricing order remains in its current form.

The Department needs to change the opportunity in the proposed Regulation from ‘more than 100’ to ‘more than 10’. For the considered projects, this then only culls 1,082 credits from the open market but would also better suit those with very small credit demands which are (in most cases)

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driven by urban projects and will be for types otherwise more widely available in the market. As a guide, with a notional 'average price' of about \$4,000 per credit, the BCF is obligated to find only \$4m worth of credits, as opposed to the current hundreds of millions which – as pointed out above and by many others – is being resolved by deviating from the impacts through either fewer of a type or moving into the variation options. This is what will lead to extinction.

Even a value of 30 credits will bring in a demand for about 4,719 credit obligations (\$18.9m presumed value) and be much more workable than the expected Regulation options, with maintaining a wider opportunity for sellers and therefore a true market.

Highlighted cells in the following are worth noting – they show the first standard deviation which is a value that (in a normalised curve) contains 66% of all of the values. They show that the distribution of data points is seriously skewed by a few, very large values as all exceed the mean (let alone the median), in most cases by values that are significantly more than the mean so the value given has 66% of all values lower than that).

	OTG total	Mean	Median	Frequency	SD*	min	max
<b>Project Totals</b>	<b>2,306,430</b>	18,905	1,433	122	43929.7	2	226,683
Mean	4,918	1,482	1,250	3	2,073	862	2,872
Median	435	282	212	1	610	63	377
Frequency	469	469	469	469	199	469	469
SD*	15472.1	5511.7	5467.6	4.67	3698.2	5195.9	7775.4
Min	1	1	1	1	3	1	
Max	140,457	96,249	96,249	49	20,266		96,249

\* - standard deviation can only be calculated where the value for the element is >1 (either credits for a project, or credits needed for all projects from a single OTG).

**Of 469 OTGs across the 122 projects** we are regularly observing, **there are 270 (57.6%) that are only needed once** (45% of those are species or endangered populations), and 448 (95.5%) that are needed for up to 10 projects. The most frequently needed are:

OTG	Projects	Total count	Min	Max	Average	median
Box-Gum Woodland TEC	49	62,950	1	16,931	1,285	223
Squirrel glider	41	106,372	1	23,507	2,594	714
Southern Myotis	38	20,268	1	8,858	533	142
Koala	32	89,677	1	20,562	2,802	967

It is worth noting that **many of these projects we track are probably using the 'assumed presence' option** (our data will be updated to note this over time but does not record this at present) which results in demand that exceeds supply and is possibly another area the Tribunal could look to providing advice to the department (for the regulation) and industry, viz. *'if a species is an assumed presence, it cannot be sought from the BCF'*. That would generate more need to confirm (as is required for a for BSA) or exempt the species, but also would ensure that the credits are in fact being sought from the market, where a price signal may induce a developer to reconsider it and look instead to exclude it (and therefore reduce the need to find offsets in the market).

This data will be made available to IPART on request, with recognition that it is Thesium IP and should be treated as such.

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## Appendix

Table of OTGs in the 122 projects we track.

Project	All OTGs	OTGs >10	OTGs >30	OTGs >50	OTGs >75	OTGs >100
<b>Approval</b>	<b>592</b>	<b>471</b>	<b>403</b>	<b>359</b>	<b>322</b>	<b>297</b>
Albion Park Quarry	3	3	2	2	2	2
Balranald Min Sands Mine	21	21	20	20	19	18
Beresfield BESS	2					
Beryl SF	1	1	1	1	1	1
Birriwa SF	4	4	3	3	2	2
Bonshaw SF	8	8	7	7	6	6
Central West Orana TZ	39	32	27	22	21	19
Coleambally BESS	8	3				
Coleambally SF	6	4	3	3	3	3
Coppabella (Yass Valley) WF	5	4	4	3	3	3
Culcairn SF	10	5	1	1		
Darlington Point SF	4	3	3	3	2	2
Deep Creek Quarry	9	8	8	8	7	6
Dunedoo SF	3	1				
Energy Connect (NSW west)	47	39	26	20	16	16
Federation Project	8	6	5	5	4	4
Forest Glen SF	2	2	1	1	1	
Gilgandra SF	1	1	1	1	1	
Glenellen SF	6	5	2	2	1	
Gregadoo SF	6	2				
Hearses Quarry	12	11	11	10	9	8
Hills of Gold WF	34	26	26	24	20	19
Inland Rail: Illabo-Stockinbingal	33	29	26	26	25	24
Inland Rail: Moree Phase 1	13	13	12	12	11	11
Inland Rail: North Star - Border	88	82	73	63	58	53
Jemalong SF	1					
Jindera SF	7	7	7	4	2	1
Karuah East Quarry	6	5	5	5	5	5
Limondale SF	2	2	2	2	2	
Liverpool Range WF	32	31	29	25	24	23
Marulan SF	9	8	5	3	2	1
Maryvale SF	1	1	1	1	1	1
McPhillamys Gold Project	32	22	17	14	11	8
Midldebrook SF	6	5	4	2	1	
Muswellbrook BESS	5					
Oxley SF	8	7	6	6	5	5

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Project	All OTGs	OTGs >10	OTGs >30	OTGs >50	OTGs >75	OTGs >100
Pacific Motorway - Raymond Terrace	20	20	20	17	16	15
Peninsula SF	17					
Silverleaf SF	1	1	1	1	1	1
Spicers Creek WF	10	10	10	10	8	8
Stubbo SF	19	17	16	15	15	15
Tamworth SF	1	1				
Thunderbolt WF	7	7	6	6	6	6
Tilbuster SF	10	8	7	6	6	6
Wellington North SF	7	6	5	5	5	5
Woodland BESS	18					
<b>Assessment</b>	<b>352</b>	<b>300</b>	<b>267</b>	<b>247</b>	<b>224</b>	<b>210</b>
Armidale BESS	1					
Awaba BESS	1					
Baldon WF	20	17	14	14	13	13
Bendemeer SF	3	3	3	3	3	3
Beryl BESS	1	1				
Boggabri Coal Mine mod 10	10	10	10	10	10	9
Bowdens Silver Mine	12	12	11	11	10	10
Bowmans Creek WF	33	31	27	25	20	19
Burroway SF	1					
Constellation Mine	4	2	2	2	2	2
Dalswinton Quarry	1	1	1	1	1	1
Daroolbalgie SF	7	7	4	4	3	2
Dinawan SF	9	6	6	5		
Dinawan WF	25	24	24	24	22	22
Dubbo Regional PS	2					
Great Western BESS	7	5	3			
Gregadoo SF - Mod 4	12	1				
Hanson Tweed Sand Plant Expansion	4	4	3	3	1	1
Holcim Salt Ash Sand Ops	5	5	5	5	4	1
Hume North BESS	1					
Hunter Central Logistics Estate HCLE	6	6	5	5	5	5
Inland Rail: Moree Phase 2	17	16	14	12	11	11
Junction Rivers WF	11	10	10	10	8	7
Karuah South Quarry	5	4	3	2	2	2
Lenaghan Lateral Pipeline	6	6				
Marulan Quarry	10	6	6	6	6	6
Oven Mountain PH	25	23	22	21	20	20
Sancrox Quarry	3	3	3	3	3	3
Sandy Creek SF	12	11	7	3	2	2

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Project	All OTGs	OTGs >10	OTGs >30	OTGs >50	OTGs >75	OTGs >100
Seaham Quarry	7	7	7	7	6	6
Stockton Dry Sand Extraction	3	3	3	2	2	2
Stratford Pumped Hydro	29	29	28	28	27	25
Sundown SF	6	4	4	4	3	2
The Plains WF	26	24	19	17	16	16
Tilbuster SF Mod 1	5	4	3	2		
Wallerawang Quarry	2	2	2	2	2	2
Winterbourne WF	22	21	18	16	16	16
<b>Exhibition</b>	<b>451</b>	<b>405</b>	<b>344</b>	<b>313</b>	<b>283</b>	<b>268</b>
Burrendong WF	35	33	32	30	26	25
Cobbora SF	9	9	7	7	7	5
Copi Mineral Sands	13	13	13	13	13	13
Cowarra Water Supply Scheme	12	9	4	4	4	3
Dubbo Quarry mod 1	3					
Gara BESS	2	2	1	1	1	1
Gunning SF	2	1	1	1		
Humelink	152	134	104	92	83	81
Hunter Transmission	114	107	101	91	83	79
Keri Keri WF	8	8	8	8	7	7
Kingswood BESS	1					
Mayfair SF	1	1				
Mount Piper - Wallerawang tx	14	14	14	14	12	12
Orana BESS	2	2				
Paling Yards WF	7	7	6	5	4	2
Richmond Valley SF	12	10	7	7	7	6
Silver City ESS	12	9	6	6	5	5
Summerville SF	10	9	8	7	6	5
Tamworth BESS	1	1	1			
The Plains SF	18	18	17	14	13	13
Tomago BESS	4	3	3	3	3	3
Wattle Creek SF	14	13	9	8	7	6
Whitehaven SF	5	2	2	2	2	2
<b>Recommendation</b>	<b>48</b>	<b>39</b>	<b>32</b>	<b>29</b>	<b>26</b>	<b>22</b>
Deniliquin BESS	2	1				
Eagleton Quarry	3	3	3	3	3	3
Glanmire SF	2					
Liverpool Range Quarry	2	2	2	2	2	1
Muswellbrook SF	11	10	9	9	9	9
Tallawang SF	5	5	3	3	3	1
Valley of the Winds WF	19	18	15	12	9	8

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Project	All OTGs	OTGs >10	OTGs >30	OTGs >50	OTGs >75	OTGs >100
Yanco BESS	4					
<b>Response to Submissions</b>	<b>235</b>	<b>208</b>	<b>190</b>	<b>174</b>	<b>159</b>	<b>142</b>
Bullawah WF	19	18	16	14	13	12
Energy Connect (NSW east)	77	68	62	58	53	46
Great Western Highway tunnel	6	4	3	3	2	2
Inland Rail: Albury-Illabo	9	5	5	2	2	1
Inland Rail: Narromine - Narrabri	57	54	51	48	47	47
Liddell Site	26	20	17	14	9	6
Snowy 2.0 tx	15	15	15	15	13	11
Yanco Delta WF	26	24	21	20	20	17
<b>Grand Total</b>	<b>1678</b>	<b>1423</b>	<b>1236</b>	<b>1122</b>	<b>1014</b>	<b>939</b>