Effect of DBCT declaration on competition for coal tenements

A report for DLA Piper

28 October 2019

Report authors

Daniel Young

Greg Houston

Contact Us

Sydney
Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore
8 Marina View
#15-10 Asia Square Tower 1
Singapore 018960

Phone: +65 6817 5010

Disclaimer

Contents

Figures

Tables

1. Introduction

The Queensland Competition Authority (QCA) is reviewing whether the coal handling service supplied at Dalrymple Bay Coal Terminal (DBCT) and specified in section 250 of the *Queensland Competition Authority Act* 1997 (QCA Act) should be declared following the expiry of its existing declaration on 8 September 2020. For the QCA to recommend that DBCT service be declared, it must reach the view that each of criteria (a), (b), (c) and (d) of section 76(2) of the QCA Act is satisfied.

In its initial submission to the QCA on 30 May 2018, DBCT Management (DBCTM) stated that if the coal handling service at DBCT were not declared, it would continue to provide open access to terminal services on substantively the same terms as it does under the current undertaking. To give effect to this, it proposed that access seekers would have access to a binding and effective access framework. The access framework would limit the prices that DBCTM may seek to charge in the future without declaration and provides for arbitration of price disputes.[1] Final drafting for the access framework and standard user access agreements giving effect to these changes were provided to the QCA on 29 June 2018.[2]

On 18 December 2018, the QCA published its draft recommendation. It concluded that each of the relevant criteria is satisfied in respect of the DBCT service. In its draft recommendation, the QCA did not consider the detail of DBCTM's proposed access framework or how it might constrain access prices if the coal handling service at DBCT were not declared. Rather, the QCA observed that:

- DBCTM had not executed the deed poll that would give effect to the access framework;[3] and
- DBCTM has the ability and incentive under the access framework to price above cost and provide access to terminal capacity based on willingness to pay, with the effect that;[4]

> …potential DBCT users would face the risk of paying a materially higher access charge reflecting the cost of accessing WICET as well as the uncertainty as to whether and when they would obtain access to the terminal.

In its submission responding to the QCA's draft recommendation, DBCTM submitted a revised access framework and executed a deed poll giving effect to that framework. The revised framework introduced an additional constraint on the prices that DBCTM may seek to charge in the future without declaration, limiting these to no more than the existing terminal TIC plus $3 per tonne. DBCTM considered that making this commitment and executing the deed poll would provide greater clarity and increase certainty for access seekers, as well as addressing the QCA's other concerns.[5]

Subsequently, on 4 October 2019 the QCA published a paper seeking submissions about the operation of the DBCT Management's (DBCTM) executed deed poll and access framework. The QCA acknowledges that, since the deed poll has been executed, it will consider its effect on access to the coal handling service at DBCT and on competition in dependent markets for the purpose of assessing whether criterion (a) is satisfied.[6]

[1] DBCT Management, *DBCT Management submission to the QCA*, 30 May 2018, paras 266-267.

[2] Available on the QCA's website at https://www.qca.org.au/wp-content/uploads/2019/05/33820_DBCT-Management-Late-Submission-29-Jun-18-2.pdf, accessed 23 October 2019.

[3] Queensland Competition Authority, *Draft recommendation | Part C: DBCT declaration review*, 18 December 2018, p 68.

[4] Queensland Competition Authority, *Draft recommendation | Part C: DBCT declaration review*, 18 December 2018, p 72.

[5] DBCT Management, *DBCT Management response to the QCA draft recommendation*, 11 March 2019, paras 186-189.

[6] Queensland Competition Authority, *QCA consultation paper | DBCT Management's executed deed poll*, 4 October 2019, p 3.

Specifically, the QCA is seeking submissions on the extent to which the executed deed poll and access framework, and the threat of declaration, will constrain DBCTM if it were no longer declared. Stakeholders are invited to comment on:[7]

> - whether the implementation of the Deed Poll and access framework on their terms, combined with the threat of declaration, would be sufficient to constrain DBCT Management's conduct in the absence of declaration—such that access (or increased access) as a result of declaration would not promote a material increase in competition in the coal tenements market; and
> - whether DBCT Management has demonstrated by its actions following the draft recommendation, including by putting in place the $3 price cap, that the threat of declaration is a constraint on DBCT Management's ability to exercise market power.

DLA Piper (DLA) has asked us to assess whether declaration of the coal handling service at DBCT will promote a material increase in competition in the market for coal tenements, having regard to the executed deed poll and access framework entered into by DBTCM and the questions posed by the QCA. DLA has also asked us to review the modelling undertaken by PwC, on behalf of the DBCT User Group, which assesses the impact of a $3 per tonne increase in TIC on tenement valuation.[8]

The remainder of this report is structured as follows:

- section 2 provides relevant context to this advice, including a description of PwC's modelling results;
- section 3 reviews the extent to which an increase in the TIC of $3 per tonne might be expected to affect the valuation for tenements for access seekers as compared to existing access holders; and
- section 4 assesses the extent to which an increase in the TIC of $3 per tonne might be expected to result in a coal tenement project not proceeding where it otherwise would have proceeded.

[7] Queensland Competition Authority, *QCA consultation paper | DBCT Management's executed deed poll*, 4 October 2019, p 4.

[8] PwC, *DBCT User Group | 2020 access declaration review*, April 2019, pp 34-37.

2. Context for our assessment

The assessment of criterion (a) requires a comparison between the future in which coal handling services at DBCT are declared and the future in which they are not declared. In this section, we set out the context to our assessment of the deed poll and access framework for the purpose of this comparison, including:

- the narrowing of the relevant markets to the market (or markets) for coal tenements;
- the theory of harm adopted by the QCA in its draft recommendation, being that differential terms of access between holders of existing access entitlements and potentially emergent access seekers without declaration means that criterion (a) is satisfied; and
- PwC’s analysis of the impact of a $3 per tonne increase on the TIC on the valuation of tenements.

2.1 Focus of analysis has narrowed to coal tenements

In the QCA’s draft recommendation and at the subsequent public forums, the focus of discussion in relation to criterion (a) has been on the markets for coal tenements. We have previously noted that the DBCT User Group’s representative emphasised that the criterion (a) competitive harm arises for exploration and development tenement holders.[9]

For concerns to arise as to the effect of actions by DBCTM on competition in the market for tenements the geographic boundary of the tenements market must be confined to the Hay Point catchment. If the QCA were to adopt a view that the market for tenements is broader than the Hay Point catchment – say extending to central Queensland – in our view it would be unable to conclude that DBCTM’s conduct could materially affect competition in that market, either with or without the deed poll and access framework.

The critical element determining the substitutability of tenements within the Hay Point catchment as compared to other areas is the ability of buyers to re-deploy capital and expertise from one region to another so as to bring about an equalisation in expected returns. We have provided evidence that many coal miners undertake operations across diverse geographic portfolios within Queensland,[10] while it is reasonable to assume that financial capital operates without regard to geographic distinctions, at least within Queensland.

Nevertheless, for the purposes of this report, we assume that the market for tenements is confined to the Hay Point catchment. This assumption allows us to focus on the extent to which the deed poll and access framework constrain DBCTM’s conduct in a way that could potentially affect competition in that market.

2.2 QCA draft contends harm to access seekers without declaration

The rationale advanced by the QCA in its draft recommendation as to why criterion (a) is satisfied in the market for coal tenements is that, given the prospect that DBCTM may seek to apply an increase in TIC without declaration:

- incumbent users of DBCT access the service using ‘evergreen’ contracts, which protect them from this increase;
- future potential users of DBCT are not protected from this increase and may therefore be exposed to a higher TIC than incumbent users without declaration; and
- the difference in TIC between incumbent users and future potential users is such that more efficient entrants would be kept out of the tenements market by less efficient incumbents, who would have a higher willingness to pay for tenements because of their preferential terms of access.

[9] HoustonKemp, *Economic concepts underpinning the assessment of access criteria*, April 2019, p 4.

[10] HoustonKemp, *Assessment of the QCA’s draft recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 27-32.

2.3 PwC undertakes modelling of coal tenement projects

PwC, on behalf of the DBCT User Group, presents analysis showing the effect of a $3 per tonne increase in the TIC on five development projects located in the Goonyella system. The DBCT User Group discloses that these projects are [redacted].

This analysis indicates that four of the five projects would be profitable at existing terminal charges, but that a $3 per tonne increase in the TIC would render one of these (Project 2) unprofitable.[11] PwC suggests that even the value of projects that remain profitable with a higher TIC would be significantly affected, with the increase in TIC reducing the valuation of such projects by between [redacted]

We note at the outset that reviewing and responding to PwC's analysis is complicated by the fact that, apart from the cost of capital, it does not disclose any of the underlying data that it draws upon from Wood Mackenzie. In particular, PwC does not provide estimates of:

- the production of coal in each year anticipated from each of the projects;
- the price associated with the coal produced from each of the projects; and
- the costs, both fixed and operating, associated with each of the projects.

Although we have sought to infer representative estimates for some of this information based on numbers and figures disclosed by PwC, the absence of transparency in relation to these parameters limits the extent to which we can fully scrutinise PwC's modelling and provide an unqualified response.

Notwithstanding these shortcomings, we reproduce the results of PwC's assessment at table 2.1 below.

Table 2.1: PwC's assessment of impact of additional TIC on project present value

	Project 1	Project 2	Project 3	Project 4	Project 5
Project present value at existing TIC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Impact of additional TIC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project present value at updated TIC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Change in project present value	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: PwC – Figure B1 and Table B1

The focus of PwC on the change in project value reflects the contentions of the DBCT User Group. The DBCT User Group submits that a $3 per tonne price difference for access is:[12]

> …highly material and will have a real impact on the level of value that a future user purchaser will see in a coal tenement relative to an existing user.

It goes on to contend that:[13]

> …without declaration this asymmetric treatment and monopoly pricing to future uses [sic] creates a clear and material barrier to entry which materially impacts on the likelihood of future users entering the market for exploration and development coal tenements in the Hay Point catchment.
>
> Consequently it is clear that criterion (a) is satisfied.

[11] PwC, *DBCT User Group | 2020 access declaration review*, April 2019, pp 34-37.

[12] DBCT User Group, *Submission in response to Queensland Competition Authority draft decision*, 26 April 2019, p 98.

[13] DBCT User Group, *Submission in response to Queensland Competition Authority draft decision*, 26 April 2019, p 98.

PwC's analysis suggests that a $3 per tonne increase in the TIC could:

- exert a significant effect on the valuation of tenements, with the implication that users without access under existing user agreements will be materially disadvantaged competing in the market for tenements; and
- reduce the profitability of coal projects such that some which would have proceeded with the existing TIC might no longer proceed with the higher TIC.

In sections 3 and 4 below we review these contentions to assess whether they are reasonable and, to the extent they are, whether they would be expected to be factors that materially affect competition in the market for tenements.

3. Effect of increased TIC on tenement value

PwC assesses the effect of a $3 per tonne increase in the TIC on access seekers through a comparison of tenement value under two scenarios in which:

- developers of prospective mines gain certain access to DBCT at existing charges; and
- developers of prospective mines gain certain access to DBCT at existing charges plus an additional impost of $3 per tonne.

The context of PwC's analysis might be construed as suggesting that a decision not to declare the coal handling service at DBCT would drive a significant divergence between:

- the valuation that existing holders of access rights at DBCT, or access seekers with declaration, would place on a tenement, as measured in the first scenario; and
- the valuation that access seekers without declaration would place on the same tenement, as measured in the second scenario.

However, PwC's analysis does not establish this result. It does not do so because:

- access seekers would face the prospect of paying a higher TIC than applies for use under existing user agreements both with and without declaration, since the approved access undertaking for DBCT (and the access framework) provides for differentiated expansions;
- uncertainty of access to coal handling services, rather than the price of that access, is the most fundamental driver of differences in the valuation of coal projects between parties with and without available existing access entitlements; and
- access holders' rights to use the coal handling service at DBCT at existing charges are limited to the tonnages specified under their existing user agreements and, given demand for the service, any increase in the TIC paid under the access framework will affect equally the valuation of tenements that are traded at the margin.

These propositions suggest that there may be little difference between the valuation that an existing holder of access rights would place on a tenement as compared to an access seeker without such rights.

We have previously collected and presented empirical evidence of tenement transactions that is consistent with these propositions. In the remainder of these section we assess these propositions in greater detail and explain why we consider that they are consistent with observed transactions for tenements.

3.1 Approved access undertaking provides for differentiated expansions

Under both the current approved access undertaking and DBCTM's access framework, the costs for expansions of DBCT's capacity may either be 'socialised' or 'differentiated', where:

- socialisation provides for the costs of the expansion to be recovered from all users with the determination of a socialised access charge; whereas
- differentiation provides for the costs of the expansion to be recovered only from the users of the expansion with the determination of a differentiated access charge.

It follows that, with declaration, there is a prospect that the costs of an expansion could be differentiated, such that access seekers face a higher TIC than applies for existing user entitlements. In its draft recommendation, the QCA estimated that a differentiated TIC could be at most $6 per tonne – approximately $3.50 per tonne higher than the TIC for existing capacity.[14]

The prospect of a higher TIC applying to access seekers also exists without declaration, since DBCTM's ceiling price commitment under the executed deed poll and access framework imposes a 'maximum spread' of $3 per tonne over the TIC for existing terminal capacity. Because the access framework also adopts the same provisions as the approved access undertaking in respect of expansions, this means that the highest TIC that might arise from application of the terms of the access framework is approximately $5.50 per tonne or the differentiated TIC (if this is higher).

Figure 3.1 below shows the potential ranges for the TIC that could result under the executed deed poll and access framework, given the QCA's own estimates (with teal shading) as compared to those that could apply with declaration (with red shading). We describe the derivation of these estimates in an earlier report.[15]

Figure 3.1: Terminal infrastructure charge at DBCT without and with declaration

Source: Estimates based on QCA data

Given the potential outcomes for the TIC without declaration – as indicated in left three columns of figure 3.1 – there does not appear to be any basis to assume that these would be materially different in prospect to those that might arise with declaration. These conclusions are also reflected in our previous report on this issue.[16]

Criterion (a) requires an assessment of whether declaration would promote a material increase in competition for at least one related market. Given that DBCTM's access framework provides for similar outcomes without declaration as would apply with declaration, there is no basis to conclude that declaration would materially increase the value that access seekers would place on coal tenements.

[14] Queensland Competition Authority, *Draft recommendation | Part C: DBCT declaration review*, December 2018, p 86.

[15] HoustonKemp, *Economic concepts underpinning the assessment of access criteria*, April 2019, p 3.

[16] HoustonKemp, *Economic concepts underpinning the assessment of access criteria*, April 2019, p 6.

3.2 Uncertainty of access is the critical determinant of valuations

PwC's comparison of tenement value proceeds on the assumption that all tenement holders have certainty of access to the coal handling service at DBCT. This assumption appears likely to overstate significantly the effect of an increase in the TIC on the economics of developing any particular tenement and so its valuation. We have previously noted that uncertainty associated with the ability to obtain access to coal supply infrastructure in Queensland, including at DBCT, would likely play a much greater role in decisions of whether to develop a tenement than the price of that access.[17]

In particular, in the comparison of the worlds with or without declaration, there is likely to be a substantial difference between the valuation placed on coal tenements by parties that:

- on the one hand, have a right of access to a coal handling service and can draw upon this right in respect of the coal resources extracted from the development of a tenement; and
- on the other hand, have no right of access to a coal handling service and have no certainty as to the availability or timing of such access.

Whereas the former have the means to monetise the output of their tenements with certainty – and value tenements accordingly – the latter must value tenements based only on their probabilistic assessment of whether and when they might be able to gain such access to a suitable coal handling facility (whether at DBCT or any other terminal) and realise the value of the coal resource. Further, the attainment of such access is not within those tenement holders' direct control, since it will depend on the timing and size of expansions of DBCT or any other terminal. It follows that this second group must necessarily place substantially lower valuations on tenements than the first.

Consistent with these observations, we explained in a previous report that:[18]

> …with or without declaration, new entrants in the market for tenements can have no certainty about the availability of access to the DBCT service, or potentially other infrastructure services over the period for which the DBCT service would be declared. In other words, an investment in a tenement is required before a new entrant can enter the access queue and begin to form expectations about when, and on what terms, they may be able to obtain access to the DBCT service. This is a significant barrier to entry that will persist whether the DBCT is declared or otherwise.

It follows that any difference between the valuation placed on tenements by access holders and access seekers caused by a $3 per tonne increase in the TIC is likely to be modest compared to the pre-existing effect that exists, with or without declaration, due to uncertainty of access.

By way of illustrating the strength of these observations, there are many tenements located within the Goonyella system. We have previously identified 109 exploration permits for coal (EPCs), 46 mineral development licences (MDLs) and 154 mining leases (MLs).[19] Across these tenements, there are likely to be many potential projects that may eventually be developed into an operating mine. It would be unrealistic in the extreme to assess the value of each of these potential projects on the basis that they would all be able to access DBCT with certainty at any particular time.

DBCTM states that its fastest possible rate of expansion would be:[20]

- Zone 4 by September 2023, increasing capacity by 4 mtpa;
- 8X Phase 1 by September 2025, increasing capacity by 5 mtpa;

[17] HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 35-37.

[18] HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 36-37.

[19] HoustonKemp, *Transactions of coal tenements in the Goonyella system*, April 2019, p 8.

[20] DBCT Management, *DBCT Management response to QCA draft recommendation*, 11 March 2019, para 159.

- 8X Phase 2 by February 2027, increasing capacity to 8 mtpa;

Taking into account this rate of expansion, and assuming that access holders under existing user agreements continue to use their full entitlements, the maximum additional revenue that could be extracted from new mining developments over the term of the access framework, and at the maximum spread of $3 per tonne, is $96.8 million.[21] In contrast, PwC's modelling indicates a total impact across four projects of [redacted] in present value terms.

The higher values estimated by PwC builds from its presentation of options that:[22]

- take into account payments that extend well beyond the term of the access framework, as far forward as 2061 in the case of one project; and
- reflect an impossible path of expansion for DBCT, with two of the projects projected to be developed in 2021, one in 2022, another in 2024 and another in 2026.

At face value, these assumptions appear to be of more consequence for the assessment of criterion (b) than for criterion (a), since they suggest there may be foreseeable demand for coal handling services in the market in which the coal handling service at DBCT is supplied, some of which cannot be met by DBCT.

3.3 Competition at the margin unaffected by access holders' entitlements

Any competitive advantage that incumbent holders of access entitlements at DBCT may enjoy in the form of their ability to acquire tenements, whether because of the factors discussed at section 3.2 or as otherwise contended by the DBCT User Group, could apply only up to the limits of these entitlements set out in the relevant user agreements. Such advantage could therefore only apply in respect of tenements for which incumbent miners seek to replace tonnages that cease production over the period that declaration would apply.

In its submission responding to the QCA's draft recommendation, DBCTM drew attention to those contracts for capacity associated with mines with economic lives that end during the period over which declaration would apply.[23] Users with mines ceasing production, identified in table 3.1 below, would presumably seek to retain their access rights to DBCT by replacing this with production from newly developed or acquired mines.

Table 3.1: Contracted capacity at DBCT allocated to mines expected to cease production

Miner and mine	Contracted capacity	Economic life ending
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	

Source: DBCTM

[21] We calculate this value using a cost of capital of 13.75 per cent, consistent with PwC's assumption.

[22] These timelines are apparent from figure B2 of PwC's report, indicating the operating life of each project.

[23] DBCT Management, *DBCT Management response to QCA draft recommendation*, 11 March 2019, Figure 24.

However, the QCA states that foreseeable demand for the coal handling services at DBCT exceeds the existing capacity of the terminal. To meet this demand, the terminal will need to be expanded and provide new coal handling services.

It follows from these observations that the marginal value placed on coal tenements will reflect their development into operating mines that use expanded capacity at DBCT. The prospect of an increase in the TIC that might be applied without declaration applies equally to coal from these tenements, regardless of whether this is produced by a holder of existing access entitlements at DBCT or otherwise. In other words, at the margin, there is no advantage conferred on incumbent holders of access entitlements at DBCT.

Further, even if there were a residual advantage held by incumbent holders of access entitlements at DBCT – although in our opinion there is not – this advantage would be limited by the extent to which:

- incumbent miners already have substantial tenement holdings that they can draw from to meet their needs for additional production; or
- competition between incumbent miners provides robust resale opportunities for access seekers who acquire tenements to develop but subsequently cannot obtain access to coal handling services.

Drawing inferences about competition for tenements from a comparison of the values that two different parties place on tenements assumes that these parties might both be competing to acquire similar tenements. However, if incumbent miners already have substantial tenement holdings to replenish production handled at DBCT under their existing user agreements, they may not need to go into the market to acquire tenements.

We have previously shown that, of the users in table 3.1 above, Peabody and Fitzroy already have substantial portfolios of tenements in the Goonyella system, which include EPCs and MDLs. Glencore holds only a single MDL but also 14 MLs, while Terracom retains only one ML.[24]

Further, PwC's assessment assumes that tenement value depends on the terms of access to DBCT that the tenement owner can establish. However, this assessment does not take into account that the value of a tenement to a buyer could include the prospect of developing the tenement and selling it to another party with access entitlements (or improved prospects of access entitlements) at DBCT.

In these circumstances, any differences in valuation between existing access holders and access seekers for infra-marginal tenements (those that are required by existing access holders to utilise their access entitlements) will depend on the extent to which there is competitive tension between existing access holders to acquire these tenements.

3.4 Empirical evidence for these propositions

We have previously examined evidence about tenement transactions in the Goonyella system over time, collating this evidence by reference to:

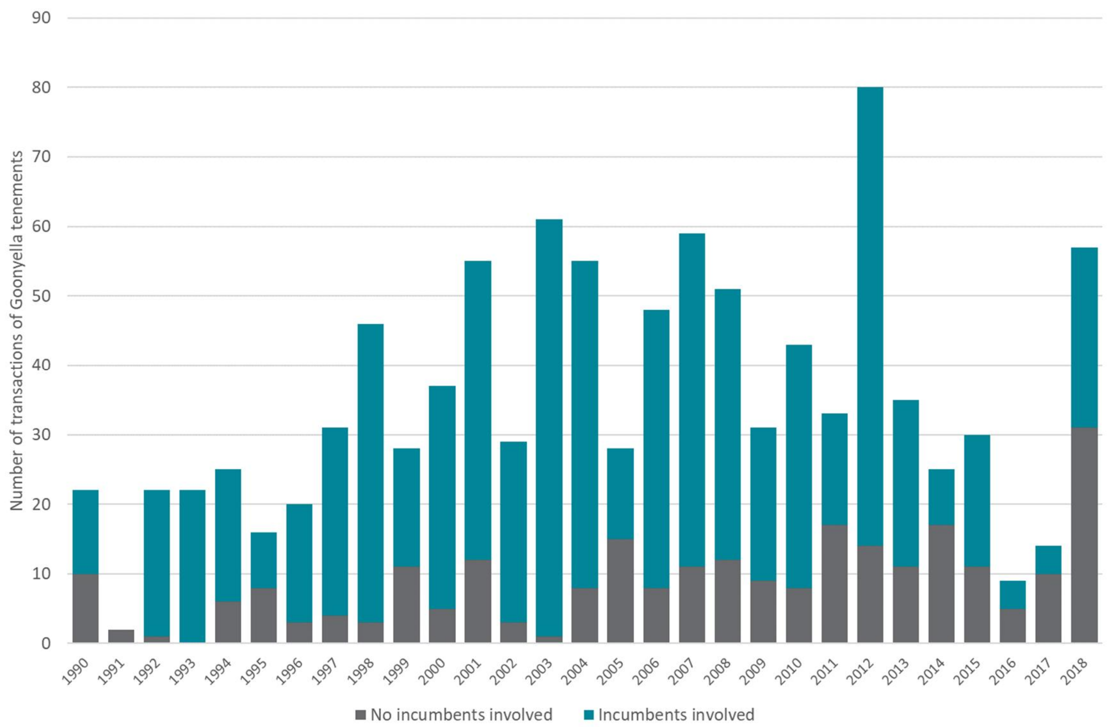
- whether each transaction involved acquiring parties that are only future potential miners with the result that the transaction results in the tenement being held *entirely* by future potential miners; and
- the type of tenement transacted, distinguishing tenements that are permits for the purpose of exploration and development of coal resources – EPCs and MDLs.

Figure 3.2 and figure 3.3 below set out this evidence – for coal tenements generally, and for exploration and development tenements. It indicates strong involvement of potential miners in the acquisition of tenements, particularly in recent years. This effect is even stronger in respect of tenements for exploration and

[24] HoustonKemp, *Transactions of coal tenements in the Goonyella system*, April 2019, p 9.

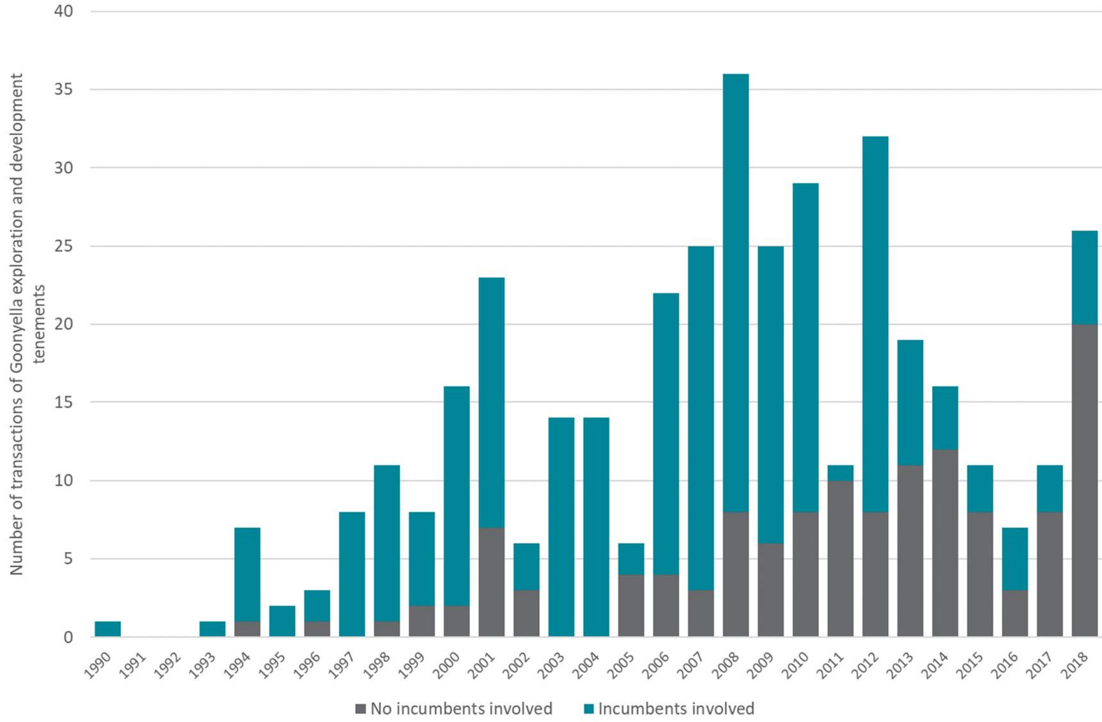
development. For example, in 2018 there were 26 transactions of Goonyella exploration and development tenements, of which 20 resulted in the tenement being held only by potential users of DBCT.

Figure 3.2: Transactions of coal tenements in the Goonyella system



Source: HoustonKemp analysis; https://myminesonline.business.qld.gov.au/suite/apps, accessed 2 April 2019.

Figure 3.3: Transactions of exploration and development coal tenements in the Goonyella system



Source: HoustonKemp analysis; **https://myminesonline.business.qld.gov.au/suite/apps***, accessed 2 April 2019.*

This evidence lends support to the propositions that we set out above, which underpin our view that there may be little difference between the valuation that an existing holder of access rights would place on tenement as compared to an access seeker without such rights. If this were not the case, we would not expect to see strong and increasing involvement from new entrants in the tenements market, particularly in the context of recent years in which the prospect of a declaration review has arisen. We explained that:[25]

> …the results of our review of the available evidence indicate that non-incumbent users have not been dissuaded from entering into tenement transactions in recent years. This is despite the expiry of declaration at DBCT in September 2020 and the prospect that the terminal would no longer be declared, with the potential implications for access charges at the terminal.

Our review of the evidence suggests that the price of coal, not the status of declaration at DBCT or the prospective level of access charges, is the most relevant factor determining the level of economic activity in tenement transactions, including by prospective users.[26] This findings appears sensible given that the price of coal is the primary driver of the value of coal tenements.

[25] HoustonKemp, *Transactions of coal tenements in the Goonyella system*, April 2019, p 15.

[26] HoustonKemp, *Transactions of coal tenements in the Goonyella system*, April 2019, pp 15-16.

4. Effect of the TIC on tenement development

PwC's analysis indicates a $3 per tonne increase in the TIC gives rise to a change in the value of Project 2 from [redacted] to [redacted]. This result appears to raise the prospect that an increase of TIC of this magnitude might cause a project not to proceed. However, we consider that this prospect is remote because:

- Project 2 is unlikely to proceed with declaration in any case, since its investment proposition is extremely marginal and other projects are likely to proceed before it; and
- If Project 2 does proceed with declaration, then it will likely also proceed without declaration under plausible alternative assumptions and taking into account the ceiling TIC under the access framework.

In the remainder of this section we explain the basis for these propositions in greater detail.

4.1 Project 2 is unlikely to proceed with declaration

PwC does not state whether it considers that Project 2 would proceed with declaration. In our view, there are very good reasons to believe this is highly unlikely, since:

- the investment proposition provided by Project 2 is extremely marginal and could be eliminated by a very minor movement in the coal price; and
- at current coal prices there are likely to be many tenement projects that have positive present values (conditional on access) so that Project 2 appears unlikely to proceed ahead of others given its low value proposition.

We describe the basis for these opinions in more detail below.

4.1.1 Project 2 is a marginal investment proposition

Coal prices are the most fundamental factor determining the valuation for a tenement. Changes in the price of coal gives rise to significant changes in tenement valuation. For this reason, it appears unlikely that a tenement with a positive present value of [redacted], as Project 2 does, would be considered a viable prospect.

Although PwC has not provided the cashflow and volume data that it uses for each project, we have inferred representative estimates from the information that it has provided.[27] We estimate from this information that a decrease in coal price in the order of $1 per tonne would be sufficient to render the value of Project 2 negative.[28]

Figure 4.1 below shows quarterly free-on-board prices for Australian coking and thermal coal, sourced from Bloomberg.[29] The figure shows that coal prices are highly variable and support a view that there is likely to be significant uncertainty about future coal prices when developing a project. Given the extent of this

[redacted]

variability and resulting uncertainty, it appears very unlikely that a tenement that would be rendered unprofitable in the face of a decrease in the coal price in the order of $1 per tonne would proceed.

Figure 4.1: Quarterly prices for coking and thermal coal (A$ per tonne)

Source: Bloomberg

We further note that, although figure 4.1 indicates changes quarterly prices of coal, even daily expectations of coal prices can change by substantially more than $1 per tonne. By way of example, daily swap prices for Australian hard coking coal free-on-board from Hay Point often vary by considerably more than this amount. Since the series began reporting on 11 May 2016, over the 762 daily movements reported since then:

- 461 daily movements – or 60 per cent in total – are greater than $1 per tonne in either direction; and
- 202 daily movements – or 27 per cent in total – are greater than $3 per tonne in either direction.

These figures support our view that a project that would be rendered unprofitable with a relatively small change in forward-looking coal prices is extremely unlikely to proceed.

4.1.2 With declaration, other tenement projects are likely to be developed ahead of Project 2

We explain at section 3.2 that any potential expanded capacity at DBCT over the period for which the service would be declared is finite. Given current prices for coal, the availability of expanded capacity is likely to be low in comparison to the tonnages of coal that could be developed from potential projects. These observations suggest that only a fraction of potential projects will be successfully developed into operating mines with access to coal handling services.

Given this dynamic, it is implausible that, with declaration, a project with the characteristics of Project 2 would be developed ahead of other more lucrative projects. This observation follows from:

- the greater incentives that tenement developers have to pursue projects with higher returns, given the constraint posed by potential terminal capacity; and

- the object of Part 5 of the QCA Act which refers to the promotion of, amongst other things, the efficient use of significant infrastructure.[30]

4.2 If Project 2 proceeds it will also proceed without declaration

If one were to conclude that Project 2 may proceed to production at the existing TIC despite the reasons that we discuss at section 4.1 above, there are still good reasons to believe that it would not be affected by a $3 per tonne increase in TIC, since:

- the result that Project 2's present value is rendered uneconomic by a $3 per tonne increase in TIC is very sensitive to assumptions made by PwC; and
- the access framework provides further pricing protections and, in some circumstances, may impose a lower ceiling than the $3 per tonne modelled by PwC.

4.2.1 Project 2 may not be rendered uneconomic by a $3 per tonne increase in TIC

PwC has not provided details of the data that inform its modelling, aside from the cost of capital. In this section we show that very plausible alternative values for this parameter could change the result that a $3 per tonne increase in TIC makes Project 2 uneconomic. Although PwC has selected a cost of capital of 13.75 per cent, we estimate that:[31]

- at a cost of capital of less than [redacted], Project 2 would be economic both with and without the $3 per tonne increase in TIC; and
- at a cost of capital of more than [redacted], Project 2 would be uneconomic both with and without the $3 per tonne increase in TIC.

We have not reviewed PwC's estimate in detail. However, we note that, relative to conventional approaches, its estimate of the cost of equity appears to be substantially inflated, reflecting:

- a risk free rate of 4.0 per cent, which is substantially higher than long term government bond yields have been since 2014;[32]
- an 'asset specific risk premium' of 2.5 per cent, which PwC does not justify or explain.

Recalculating the cost of capital with a risk free rate of 1.0 per cent and without the asset specific risk premium, gives rise to a revised estimate of 9.75 per cent. At this revised cost of capital estimate, the value of Project 2 is approximately:

- [redacted] with the existing TIC; and
- [redacted] with a TIC that is $3 per tonne higher.

This establishes that the contended result that Project 2 would be rendered uneconomic by a $3 per tonne change in TIC is very sensitive to input assumptions. PwC's less conventional estimate of the cost of capital fits within a narrow window within which Project 2 is viable without the $3 per tonne maximum spread but unviable with it. With the adoption of more conventional cost of capital assumptions, this result no longer applies.

[30] We have previously discussed this aspect of the regulatory regime. See HoustonKemp, *Does DBCT's coal handling service satisfy criterion (a)?*, 29 May 2018, pp 19-20.

[31] The assumptions underpinning these calculations are described in footnote 27 above.

[32] Further, PwC's estimate of the cost of debt for a mining business is 3.0 per cent – lower than its estimate of the risk free rate. This defies common sense. If a mining business can obtain debt financing at 3.0 per cent, then the risk free rate must be lower, not higher, than this.

4.2.2 The access framework may impose a lower ceiling than $3 per tonne

The $3 per tonne maximum spread is only one component of the pricing commitment provided by DBCTM in the access framework.

Under the access framework, the TIC may not exceed the ceiling TIC, the formulation for which is set out at schedule C2 of DBCTM's access framework. The essential elements of the calculation are that the ceiling TIC is not to exceed the floor TIC by more than $3 per tonne (in 2020-21 price terms) and, subject to this:[33]

> …set equal to the lowest 'willingness to pay' (as defined in paragraph (d) below) to be served at the relevant Terminal Component of those mines expected to be served at the Terminal Component, where:
>
> (1) mines are served at the Terminal Component in the order of the their 'willingness to pay' to be served at that Terminal Component, with those with higher 'willingness to pay' served before those with lower 'willingness to pay'; and
>
> (2) the coal volumes to be served at the Terminal Component are the same as if the Floor TIC in respect of that Terminal Component applied and do not exceed the capacity of that Terminal Component to serve those coal volumes.

It follows from this formulation that if coal from Project 2 would be expected to be handled at DBCT, given its ranking in terms of its willingness to pay, then the ceiling TIC can be no more than the willingness to pay of the project. Based on the information provided by PwC, we estimate that this would be approximately $1.12 per tonne above the existing TIC.[34]

Further, the access framework directs the arbitrator to determine a price that *'would be agreed between a willing but not anxious buyer and a willing but not anxious seller'* – a concept that we have previously discussed in detail.[35] This is the primary guidance supplied to the arbitrator, and is constrained only by the resulting price being bounded below and above by the floor TIC and the ceiling TIC. In the circumstances implied by PwC's Project 2, it would seem very likely that the actual TIC applying to that project would be less than the ceiling TIC.

These additional commitments provide that, if coal from Project 2 would be profitably and efficiently handled at DBCT with declaration, then it also would be profitably and efficiently handled at DBCT without declaration.

[33] DBCTM access framework, schedule C2(b) and (c).

[34] We calculate this as the increase in TIC, under the assumptions set out in footnote 27 above, the makes the project value equal to zero.

[35] HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 11-12.

HOUSTONKEMP
Economists

Sydney
Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore
8 Marina View
#15-10 Asia Square Tower 1
Singapore 018960

Phone: +65 6817 5010