

Dalrymple Bay Coal Terminal User Group

Submission in response to Queensland Competition Authority Draft Decision

11 March 2019



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Schedule 1 – 2nd Wood Mackenzie Report

Schedule 2 – 3rd PwC Report

Schedule 3 – Palaris Report

1 Introduction

This submission is made on behalf of the Dalrymple Bay Coal Terminal User Group (the **DBCT User Group**), including for these purposes both users with existing access agreements and a number of future access seekers who have not currently contracted capacity.

The DBCT User Group thanks the Queensland Competition Authority (**QCA**) for its thorough analysis in this process to date and welcomes the opportunity to provide further submissions to the QCA in respect of both:

- (a) the QCA's Draft Decision (the **QCA Draft Decision**) to declare the coal handling services at Dalrymple Bay Coal Terminal (**DBCT**) under Part 5 of the *Queensland Competition Authority Act 1997* (Qld) (the **QCA Act**); and
- (b) the two late submissions made by the DBCT Management Pty Ltd (**DBCTM**) on 29 June 2018 and 7 November 2018 (and the related report on terminal and system capacity prepared by Integrated Logistics Company Pty Ltd, referred to in the 7 November 2018 submission).

2 Executive Summary

The DBCT User Group strongly supports the QCA's conclusion that each of the access criteria are satisfied, and resulting QCA recommendation that the DBCT service be declared.

Those conclusions have been reached based on clear economic and practical market based evidence. They are consistent with expert reports provided by numerous expert consultants, including Castalia, Balance Advisory and MMI Advisory.

The DBCT User Group also supports nearly all of the QCA's views on the legal interpretation of each of the access criteria, and considers they properly reflect the wording of the QCA Act and appropriate regulatory and judicial precedent. The very limited areas of difference relate to issues that, based on the findings in the QCA Draft Decision, do not impact on the QCA's conclusions in relation to the access criteria being satisfied or ultimate recommendation that declaration should be continued.

This submission is therefore principally focused on:

- (a) confirming those parts of the QCA Draft Decision the DBCT User Group agree with and support;
- (b) responding to those areas in which the QCA has sought further information; and
- (c) explaining further those parts of the QCA's analysis that the DBCT User Group do not consider appropriate – which primarily relate to issues regarding the application of the criteria in the circumstances specific to the DBCT service.

This submission is supported by and draws on:

- (a) an updated demand forecast report provided by Wood Mackenzie in respect of criterion (b) (the **2nd Wood Mackenzie Report**) enclosed in Schedule 1 of these submissions;
- (b) further economic modelling conducted by PricewaterhouseCoopers (**PwC**) demonstrating that DBCT (as expanded) meets foreseeable demand at least cost such that criterion (b) is satisfied with additional commentary on public interest issues regarding criterion (d) (the **3rd PwC Report**), enclosed in Schedule 2 of these submissions; and
- (c) a report from Palaris providing further evidence confirming that the Hay Point catchment coal exploration and development tenements market and Hay Point catchment coal production tenements market are appropriate market definitions for the purposes of

criterion (a) (the *Palaris Report*), and that declaration would promote a material increase in competition in those markets, enclosed in Schedule 3 of these submissions.

3 QCA's approach to interpretation of the access criteria

3.1 Period of declaration

(a) Support for factors to be taken into account in setting the appropriate period

The DBCT User Group is largely supportive of the QCA's approach to defining the appropriate period for declaration.¹

In particular, the DBCT User Group agrees with the QCA² that it is relevant to determining the appropriate period for declaration to take into account:

- (i) the importance of providing long term-certainty to service providers and access seekers who have made (or may in the future make) significant investments;
- (ii) the duration of time for which users may seek access (taking account of mine life, and the economic life of investments in related markets such as coal terminals and above rail assets);
- (iii) the certainty of demand forecasts;
- (iv) the foreseeable timing of potential changes in the market environment; and
- (v) the need for periodic reviews of declaration arrangements.

As the QCA notes, that is consistent with the approach of the NCC.

(b) Willingness to accept the proposed 10 year declaration period

While the DBCT User Group submitted a 15 year declaration period would be appropriate based on those considerations, it appreciates that it is a matter of weighing up what can be competing factors and agrees with the QCA that the QCA Act does not require declaration over the longest possible period in which each of the access criteria may be satisfied.

Accordingly, on balance, if the QCA ultimately finds that the access criteria are satisfied over a 10 year declaration period, the DBCT User Group would be willing to support the QCA's proposed 10 year declaration period.

(c) Reconsideration of declaration period where access criteria not met

The one difference in interpretation between the DBCT User Group and the QCA in relation to the declaration period only becomes relevant if (contrary to the QCA Draft Decision) the QCA is not satisfied of an access criterion across its preferred declaration period.

The DBCT User Group continues to consider that if the access criteria were determined not to be satisfied for the initially preferred declaration period, the declaration period should be reduced to see whether the access criteria are met against a shorter period and, if met, the service should be declared for that shorter period.³

The QCA rejected the DBCT User Group position, on the basis the position the QCA felt it was inconsistent with the object of Part 5 as it means a declaration period of a year or less could be appropriate.⁴ However, that is not the 'logical conclusion of the DBCT User Group's position', as it is extremely unlikely that any service would satisfy criterion (d) (promotion of the public interest) if the access criteria were considered for such a short declaration period. By contrast the QCA

¹ [2.1.2] and Part C [2.5.2] QCA Draft Decision.

² [2.1.2] QCA Draft Decision.

³ [7.5] in DBCT User Group Initial Submission.

⁴ [2.5.2] Part C, QCA Draft Decision.

position appears to run the risk of not declaring the service even if it meets all the access criteria for 9 years.

The legislative intent on this issue is clearly set out in the explanatory memorandum accompanying the equivalent changes to the national access regime declaration criteria, which provide that '*The Council and the Minister may need to consider multiple potential declaration periods in determining whether there is an appropriate declaration period over which criterion (b) would be met*'.⁵ As noted in explanatory notes for the bill amending the QCA Act access criteria, the QCA Act amendments to the access criteria are '*intended to reflect the revised criteria being introduced at the national level*'⁶

Accordingly, at least to the extent it becomes necessary, the DBCT User Group respectfully requests the QCA reconsider its position on this issue.

3.2 Criterion (b) – meeting foreseeable demand at least cost

(a) Defining the market through substitution

The DBCT User Group agrees with the summary of the QCA's approach to assessing criterion (b) as set out in the QCA Draft Decision⁷, including the steps of identifying the service, the facility, the market in which the service is provided, total foreseeable demand in the market, if the facility can meet the total foreseeable demand in the market, and the cost of the facility (as expanded where relevant) meeting that demand at least cost compared to the cost of any two or more potential suppliers meeting the foreseeable demand.

Much of the submissions to the QCA (and the QCA's Draft Decision) discuss the appropriate approach to defining the market in which the service is provided (and the 'meaning of able to be substituted for, or are otherwise competitive with' in section 71 QCA Act).

In that regard, the DBCT User Group strongly supports the QCA's approach⁸ that:

- (i) market definition in the context of the declaration review is appropriately determined by reference to substitutability (which, as the QCA notes, is consistent with the extensive judicial and regulatory precedent);
- (ii) assessing substitutability is a practical matter of business and commercial reality;
- (iii) substitution possibilities will be influenced by a range of factors including economic considerations (such as the costs of switching), regulatory/legislative frameworks and geographic and operational constraints (including transportation costs or long-term contracts that may limit substitutability between otherwise similar services);
- (iv) products will be substitutable only where switching occurs (or would occur) as a result of price or quality incentives (i.e. where the hypothetical monopolist was to 'give less and charge more' as the classic formulation of substitution was described in *Re Queensland Cooperative Milling Associated Ltd*⁹);
- (v) substitution is properly analysed by employing a 'SSNIP' test – that is, asking whether customers would switch to other services in the event of a hypothetical monopolist for the service engaging in a small, but significant, non-transitory increase in price.

⁵ Explanatory Memorandum to *Competition and Consumer Amendment (Competition Policy Review) Bill 2017* at [12.27]

⁶ Explanatory Notes to the *Queensland Competition Authority Amendment Bill 2018* (Qld), p 2.

⁷ [2.3] QCA Draft Decision.

⁸ [2.3.5] QCA Draft Decision.

⁹ (1976) 25 FLR 169 at 190.

It clearly follows from that analysis (consistent with judicial precedent such as *Arnotts Limited & Ors v Trade Practices Commission*,¹⁰ *Singapore Airlines Ltd v Taprobane Tours WA Pty Ltd*¹¹ and the previous submissions of the DBCT User Group) that the fact that a customer buys two services does not demonstrate that such services are substitutes. One needs to ask why that is occurring – and unless the second service is one to which switching would occur as a result of a SSNIP, it will not be a close substitute of the type that is provided in the same market as the declared service.

Despite DBCTM's increasingly hyperbolic submissions to the contrary, the approach to defining the market adopted by the QCA is absolutely orthodox and reflective of long history of regulatory and judicial precedent in respect of market definition, including in the context of access regulation matters.

(b) Reasonably possible to expand

Following the recently conducted 'notifying access seeker' process which has resulted in DBCT's capacity being full contracted, it is clear that in considering whether DBCT can meet foreseeable demand at least cost, the QCA must have regard to the facility (i.e. DBCT), including as it is reasonably possible to expand its capacity in accordance with section 76(3) QCA Act.

The DBCT User Group appreciates the QCA's view that 'reasonably possible to expand' is a difficult (and not particularly useful) phrase to give a definitive meaning.¹²

However, the DBCT User Group:

- (i) agrees with the QCA's formulation of the threshold as 'reasonably possible' as contrasted with being 'merely theoretical or fanciful', and that it requires judgment by the QCA informed by the facts of each case¹³;
- (ii) considers that the QRC's submissions¹⁴ (as quoted in the QCA Draft Decision) that 'reasonably possible' sets a lower threshold than 'reasonably likely' or 'reasonably practical' are clearly correct and reflect the differences in the ordinary meaning of those words (whereas DBCTM's submissions seek to impose a higher threshold that has absolutely no basis in the wording of the QCA Act); and
- (iii) therefore considers that the QCA is not required to conduct a detailed analysis of the exact prospects or likelihood of a particular expansion proceeding – just whether the barriers and impediments to an expansion are such that they would make an expansion impossible, theoretical or fanciful.

(c) At least cost and the relevance of sunk costs

In relation to the costs that are relevant to criterion (b), the DBCT User Group strongly agree with the QCA's assessment in the QCA Draft Decision¹⁵ that:

- (i) the language of the access criteria is paramount (such that DBCTM's reliance on strict literal readings of isolated passages of decisions made based on the previous wording of the criterion is inappropriate);
- (ii) section 76(4) QCA Act is clearly not intended to limit the types of costs which are to be taken into account (as is particularly evident in the context of DBCT, where costs arising from having multiple users of the service will be relevant both with and without declaration);

¹⁰ (1990) 24 FCR 313 at 332.

¹¹ (1991) FCA 621.

¹² [2.3.7] QCA Draft Decision.

¹³ [2.3.7] QCA Draft Decision.

¹⁴ QRC, Initial Submission at 30.

¹⁵ [2.3.8] and Part C, [2.7] QCA Draft Decision.

- (iii) costs should be construed widely, so as to capture all costs of meeting total foreseeable demand in the market using the facility in question, or using two or more facilities;
- (iv) the reference in section 76(3) QCA Act to having regard to 'the facility as if had that expanded capacity' clearly suggests a hypothetical assessment requiring the averaging of costs across the entire facility (as expanded);
- (v) consequently, average costs (and therefore both sunk costs and incremental costs) are relevant to the 'least cost' analysis required under criterion (b) (which as the QCA notes¹⁶ is actually consistent with the previous approach of the Australian Competition Tribunal and Productivity Commission as well).

There is nothing in the wording of the QCA Act or the materials available evidencing the legislature's intention which suggest that costs should be given anything other than its ordinary meaning.

In particular, the DBCT User Group note that costs clearly include costs of meeting foreseeable demand irrespective of whether they are incurred by the facility operator or by participants in dependent markets. Supporting evidence that that was the legislature's intention can be found in the explanatory memorandum to the bill which introduced the equivalent criterion into the national access regimes. That explanatory memorandum provides an example of assessing costs of an existing airport or the combination of an existing airport and a new airport, and indicates that the costs of supporting infrastructure such as metro lines, roads and highways would be a relevant cost.¹⁷ In the context of DBCT, that means that the QCA is absolutely correct in considering that the additional costs of rail infrastructure, rail haulage and mine site infrastructure are clearly all relevant costs for these purposes. Any other interpretation is not consistent with the 'natural monopoly' nature of the revised criterion (b).

In addition, the DBCT User Group strongly supports the QCA's analysis that sunk costs are relevant (even if they may not need to be specifically quantified where they will be incurred both with and without the declaration). Given that the access criteria (and criterion (b) specifically) is addressed to natural monopoly infrastructure, where the bulk of costs incurred are in fact likely to be sunk costs, it would be an outcome at stark odds with the intention of the revised criterion (b) and objects of the access regime in Part 5 of the QCA Act to exclude such costs.

(d) Foreseeable demand – contracted capacity or throughput/utilisation

Many of the previous considerations of criterion (b) in its current or previous guises have considered an infrastructure service which is (without declaration) not being provided to third parties, such that the question of whether foreseeable demand should be measured by reference to contracted capacity or utilisation has not previously been determined.

The DBCT User Group is also not aware of any previous decision (before the QCA Draft Decision) where a natural monopoly or foreseeable demand at least cost interpretation has been applied, where any court or regulator has determined that contracted capacity entitlements are the relevant measure of foreseeable demand.

How the QCA formed that view is not apparent to the DBCT User Group from the QCA Draft Decision, as the only explanation appears to be the statement in the Draft Decision that '*Given the QCA's view that capacity entitlement are the relevant measure of total foreseeable demand ...*'¹⁸

¹⁶ Part C, [2.7] QCA Draft Decision.

¹⁷ Explanatory Memorandum to the *Competition and Consumer Amendment (Competition Policy Review) Bill 2017* (Qld) at [12.41], Example 12.2.

¹⁸ Part C, [2.6.3] QCA Draft Decision.

The DBCT User Group's concern is that that approach artificially inflates demand. Demand for the service is reflected by throughput or utilisation. The declared service is coal handling, not coal handling plus the asserted 10% buffer for contracted capacity. That buffer is not true demand for the service but really an insurance policy and risk management decision of individual users (with the buffer which each user operates with varying based on risk appetite).

In addition, the DBCT User Group questions how the interpretation that demand should be measured by contracted capacity would operate in the more typical scenario of declaration being sought of an infrastructure service that is not subject to third party access. In that scenario, there is no existing third party contracts and throughput data with which to determine a ratio between contracted capacity and throughput – and therefore would be no way to seek to 'gross up' actual demand for the service to contracted capacity as DBCTM and the QCA have undertaken. Surely 'foreseeable demand' needs to be given an interpretation that operates in that likely scenario such that that example alone, shows this cannot have been the intended interpretation of 'demand' in criterion (b).

Finally, the interpretation that contracted capacity equates to demand for the service does not seem appropriate in this particular context, where there is clear evidence of users without contracting capacity or with insufficient contracted capacity obtaining further volumes of the service (without any further contracted capacity) through the secondary capacity trading market.

The DBCT User Group considers that, for the reasons noted above, the appropriate measure of demand is foreseeable throughput.

To the extent that the QCA continues to take the contrary view then the DBCT User Group also considers that the proposition that there is a 0.9:1 ratio between throughput and contracted should receive more scrutiny. As demand rises closer to terminal capacity it would be assumed the proportionate utilisation of the terminal would increase.

3.3 Criterion (a) – promotion of competition

(a) Access on reasonable terms and conditions as a result of declaration

The DBCT User Group agrees with the summary of the QCA's approach to assessing criterion (a) as set out in the QCA Draft Decision,¹⁹ including the steps of identifying the market for the service, identifying the relevant dependent markets, confirming the dependent markets are functionally separate and then assessing whether declaration would promote a material increase in competition in at least one of those dependent markets.

As part of that final step, the DBCT User Group agrees that the revised criterion (a) refocuses on the test on the effect of declaration rather than access, and effectively requires the QCA to consider the likely future state of dependent markets with and without declaration.

(b) NCC Statement

The DBCT User Group acknowledges that since the QCA's Draft Decision, the NCC published its Statement of Preliminary views on the Newcastle shipping channel revocation application (the **NCC Statement**).²⁰

While the NCC's preliminary finding in its consideration of the Newcastle shipping channel is obviously distinguishable given the stark factual differences between the shipping channel service and the DBCT service, the NCC's legal interpretation of what criterion (a) requires is completely consistent with, and supports the approach of, the QCA in the Draft Decision.

¹⁹ [2.4] QCA Draft Decision.

²⁰ NCC, *Revocation of the declaration of the shipping channel service at the Port of Newcastle – Statement of Preliminary Views*, 19 December 2018.

The DBCT User Group does, however, note that it would otherwise be highly dangerous and inappropriate to attempt to draw any analogies between the Newcastle shipping channel service and the DBCT service or how the access criteria should be applied to the DBCT service.

That is the case, because there are significant differences between the Newcastle shipping channel service and DBCT coal handling service that are highly material to how the access criteria should be applied to them including:

- (i) the magnitude of the price rises, which the NCC appears to have assessed as fairly limited in the case of the shipping channel service (in the order of a few dollars) – and the QCA has assessed as \$15 in the case of the DBCT service – such that it is not particularly surprising that the impact on competition in dependent markets is likely to be different;
- (ii) the asymmetric nature of how likely price rises of the DBCT service without declaration would impact on existing users and future users, is not the case in respect of the shipping channel service for which there are no existing long term contracts, with uniform fees being set for all users on an annual basis – such that the impact on competition in a dependent market caused by an unequal impact on participants arising from a two-tiered pricing system, was not something that the NCC had to consider in respect of the shipping channel service; and
- (iii) the NCC's drafting finding is that the provider of the shipping channel service would maximise profit by increasing volume rather than increasing price, and (leaving aside the lack of economic evidence to support the NCC's conclusion), it is, by contrast, clear (as the QCA has found in the QCA Draft Decision) that DBCTM would maximise profit in a future without declaration by increasing prices.

Consequently, instances of the DBCT User Group referencing the NCC's interpretation of criterion (a) throughout this submission are in respect of interpretation matters only – as the factual circumstances, and therefore application of the access criteria, are clearly starkly different.

(c) Meaning of promotion of competition

The DBCT User Group strongly agrees that the promotion of a material increase in competition required by criterion (a) involves an improvement in the opportunities and environment for competition such that competitive outcomes are materially more likely to occur (as set out in the QCA Draft Decision²¹).

As the QCA Draft Decision and previous DBCT User Group submissions note, that interpretation reflects:

- (i) the existing legal precedent on the meaning of 'promotion of competition' in this context, being the Sydney Airport decision of the Australian Competition Tribunal²² – which has never been challenged in this respect; and
- (ii) the NCC's interpretation as set out in the NCC's Guide to Declaration.²³

The NCC Statement indicates the NCC adopted an identical interpretation when it was recently called on to assess a revocation application, stating:²⁴

²¹ [2.4.6] and Part C, [3.4] QCA Draft Decision.

²² *Re Virgin Blue Airlines Pty Limited* [2005] ACompT 5 at [146]

²³ NCC, *Declaration of Services, A guide to declaration under Part IIIA of the Competition and Consumer Act 2010* (Cth) (the Guide to Declaration), April 2018 edn, page 32.

²⁴ NCC Statement at [6.51.]

The Council considers that competition is a dynamic process and the promotion of a material increase in competition involves an improvement in the opportunities and environment for competition such that competitive outcomes are materially more likely to occur.

Accordingly, the DBCT User Group considers that the QCA is clearly correct in its interpretation of what is required for declaration to promote a material increase in competition.

It follows that, because the focus is on the opportunities and environment for competition, the QCA is also correct that (as stated in QCA Draft Decision)²⁵:

In undertaking the analysis the QCA has considered aspects such as the likely entry condition in a dependent market in a future with and without declaration – for example, whether the service provider's conduct in the market for the service would discourage entry or restrict participation in a dependent market. What matters in terms of a material impact on competition is not necessarily the number of potential entrants that would be discouraged, but the possibility that more efficient firms would be discouraged from entering a dependent market in a future without declaration compared to a future with declaration.

(d) Assessing whether there has been a promotion of competition

As the QCA Draft Decision and previous DBCT User Group submissions noted, given that a declaration already exists, the fact that a number of dependent markets are currently workably competitive does not indicate that declaration would not promote a material increase in competition.

As the QCA Draft Decision succinctly puts it:²⁶

the QCA must decide whether to recommend the declaration of certain services, which are already declared (and have been for some time). This means the existing competitive conditions in a dependent market do not necessarily represent the 'future without declaration'; they in fact may reflect the 'future with'.

As recognised in the NCC Statement:²⁷

when making judgements about likely future conditions and the environment for competition it is necessary to look beyond short-term static effects. In particular, it is appropriate to consider the effects of declaration on investment incentives in dependent markets

Both the QCA Draft Decision and NCC Statement, appropriately, seek to make this assessment by analysing:

- (i) whether the service provider has market power (i.e. the ability to charge monopoly prices);
- (ii) whether it has incentives to do so; and
- (iii) whether doing so would materially affect the environment and opportunities for competition in a dependent market.

(e) Section 46 CCA does not impose a relevant constraint

While the specifics of DBCTM's market power, incentives and the impact on competition are analysed in more detail in section 5 of this submission below, the DBCT User Group notes its agreement with the QCA's conclusions in relation to the extent to which section 46 of the *Competition and Consumer Act 2010* (Cth) (**CCA**) is relevant,²⁸ namely that:

²⁵ Part C, [3.4], QCA Draft Decision.

²⁶ [2.4.6] QCA Draft Decision.

²⁷ NCC Statement at [5.7].

²⁸ [2.4.7] QCA Draft Decision.

- (i) the threat of liability under section 46 CCA is not sufficient, in the absence of declaration, to result in service providers choosing to offer access to services on reasonable terms and conditions (in part due to uncertainties over its coverage); and
- (ii) section 46 is an enforcement tool, not an effective mechanism by which terms and conditions of access can be determined and administered on an ex-ante basis for all users and prospective users.

Those findings are unsurprising and consistent with Australian court's rejection of an 'essential facilities doctrine' (applied by United States court in respect of denial of access to essential facilities) as part of section 46 CCA,²⁹ and the fact that the Hilmer Review (and ultimately the legislature) determined it was necessary to introduce the national access regime to deal with issues arising from market power relating to monopoly infrastructure services.

In addition, the DBCT User Group's legal advisers (Allens) would particularly like to draw the QCA's attention to the requirement in sections 46(1)(b) and (c) CCA that the market in which the purpose, effect or likely effect of a substantial lessening of competition must occur in order to constitute a misuse of market power prohibited by that section is a market in which the entity with market power (or its related bodies corporate) participates. This would mean that for example, a substantial lessening of competition in a coal tenements market when brought about by the conduct of an entity with market power in a coal handling services market like DBCTM who does not participate in the coal tenements market, will not constitute a breach of section 46 CCA. That makes the scope of section 46 CCA fundamentally different as it means that it is not even concerned with the state of competition in most of the dependent markets that are relevant for the purposes of criterion (a)).

3.4 Criterion (c) – significance

While the DBCT User Group appreciates that the application of criterion (c) is not contentious in respect of the Dalrymple Bay Coal Terminal, it confirms its agreement with the QCA's interpretations and approach in the QCA Draft Decision, that:³⁰

- (a) criterion (c) requires the QCA to be satisfied of a facility's significance, having regard to only one of the two alternative considerations (i.e. size or importance to the State's economy);
- (b) size includes both physical and geographic dimensions of the facility as well as physical capacity and throughput; and
- (c) importance to the State's economy includes contributions to export, employment and gross state product, and that, as part of assessing that importance, significance to the State's economy will be established if the facility is an essential element of a supply chain, and enables significant revenues to be earned by businesses participating in dependent markets.

3.5 Criterion (d) – promotion of the public interest

(a) Promotion of the public interest

The DBCT User Group agrees with the summary of the QCA's approach to assessing criterion (d) as set out in the QCA Draft Decision,³¹ including the future with and without approach, the extensive width of public interest matters that the QCA can consider, and the threshold for

²⁹ See *Queensland Wire* (1988) 17 FCR 211 at 221-222

³⁰ [2.5] QCA Draft Decision.

³¹ [2.6] QCA Draft Decision.

satisfaction of criterion (d) now being whether declaration is likely to generate overall gains to the community.

As the QCA rightly states,³² criterion (d) accepts the results of the other criteria in determining whether criterion (d) is satisfied. That is consistent with the stated intent in the explanatory memorandum to the amendments which made the equivalent revisions to criterion (d) in the national access regime.³³

Consequently, while criterion (d) involves an additional consideration of the public interest, where there are findings that criterion (a), (b) and (c) are satisfied it would be rare for it to be determined that criterion (d) was not satisfied.

In particular, if there is a material promotion of competition and a positive impact on investment (which would be anticipated to be the case in circumstances where criterion (a) is found to be satisfied) that would be anticipated to be influential in the weighing of costs and benefits to determine whether declaration gave rise to overall gains to the community, and conclusive of criterion (d) being satisfied unless there were additional costs arising from declaration that were completely disproportionate to those benefits.

(b) Lack of materiality threshold

The DBCT User Group also strongly supports the QCA's rejection of DBCTM's submissions that there is any significance threshold which should be somehow read into criterion (d).³⁴

There is nothing in the wording of criterion (d) or the extrinsic material, which suggests any legislative intention to impose such a threshold.

If anything, as noted in the DBCT User Group's prior submissions (and noting the QCA's early comments that the language of the statute is paramount):

- (i) there is no reference to materiality or significance in criterion (d); and
- (ii) that stands in stark contrast to criterion (a) – which has retained a materiality threshold,

clearly suggesting that criterion (d) is simply a matter of assessing whether there are overall gains, and involves no testing of the magnitude or materiality of those gains.

(c) Mandatory considerations

The DBCT User Group agrees with the QCA's assessment³⁵ that in having regard to the effect that declaring the service would have on investment (as required by section 76(5)(b) QCA Act):

- (i) the QCA is required to have regard to investment in any facilities (not just the facility which provides the declared service) and all dependent markets;
- (ii) that consideration raises consideration of matters like additional risks for investments and the level of returns on those investments; and
- (iii) that consideration should take into account that declaration provides a mechanism for certainty and transparency in terms of access and access disputes for participants in dependent markets, on which future investment decisions can be based.

³² [2.6.4] QCA Draft Decision.

³³ Explanatory Memorandum to the Competition and Consumer Amendment (Competition Policy Review) Bill 2017 at [12.40]

³⁴ [2.6.4] QCA Draft Decision.

³⁵ [2.6.7] QCA Draft Decision.

Similarly the DBCT User Group agrees with the QCA's assessment³⁶ that in having regard to the effect that declaring the service would have on administrative and compliance costs that would be incurred by the service provider (as required by section 76(5)(c) QCA Act):

- (i) that includes not just the regulatory costs of submitting and complying with access undertakings – but also the costs of negotiating access and arbitrating access disputes; and that
- (ii) consistent with the NCC's position,³⁷ costs to a service provider that can be compensated for through access charges (as seems to be the case in respect of all of DBCTM's administrative and compliance costs arising from declaration) are unlikely to be relevant to the assessment of the public interest.

³⁶ [2.6.8] QCA Draft Decision.

³⁷ NCC Guide to Declaration, at [6.17].

4 Application of Criterion (b) to the DBCT Service – foreseeable demand at least cost

4.1 The Service

The DBCT User Group agrees that the appropriate definition of the service is that described in section 250(1)(c) QCA Act, being the handling of coal at the Dalrymple Bay Coal Terminal by the terminal operator.

4.2 Facility

The DBCT User Group agrees that the appropriate definition of the facility is the Dalrymple Bay Coal Terminal as defined in s 250(5) QCA Act.

4.3 Defining the market in which the Service is provided

As discussed in section 3.2(a) of these submissions above, the DBCT User Group agrees with the QCA that the market is defined by reference to the close substitutes (if any) of the declared service.

There is no contention over the product/service dimension of the market as that of coal handling services, such that this submission focuses on responding to the analysis performed by the QCA (and other stakeholders) in relation to the geographic dimension of the market.

Based on the clear lack of close substitutes provided by other coal terminals, as demonstrated by the analysis in these submissions, the QCA Draft Decision and the previous DBCT User Group submissions, the DBCT User Group supports the QCA's market definition of 'the market for coal handling services in the Goonyella system'.

The simplified map below from the QCA's website provides a high level view as to the extent of the Goonyella system (in yellow) – with the boundaries of the market effectively being delineated by the North Goonyella, Hail Creek, Blair Athol and Oakey Creek/Gregory mines.



Source: QCA website

The distinction between that and the DBCT User Group's suggested market of a 'market for common user coal handling services in the Hay Point catchment' is limited (and, in the DBCT User Group's view, not determinative of the findings that should be made in relation to criterion (b) or the QCA's recommendation).

As noted by the QCA³⁸ and previous DBCT User Group submissions, precise geographic market definitions can be difficult at the margins, and it is notable that each of the QCA, DBCT User Group and DBCTM have proposed very similar geographic market boundaries.

As discussed in section 3.2(a) of this submission, the DBCT User Group agrees that the best way of testing substitutability is, consistent with the QCA's analysis, by assessing switching decisions applying a hypothetical monopoly or SSNIP (small but significant non-transitory increase in price) test.

³⁸ Part C, [2.4.4] QCA Draft Decision.

What is being assessed is the competitive tension provided by other coal terminals such that all constraints on switching – whether they are cost based, or based on other factors such as infrastructure constraints or contractual restrictions are clearly also relevant to determining substitutability.

The DBCT User Group agrees with the QCA's assessment that coal handling at any of the other Queensland coal terminals does not provide a close substitute for the declared service, with the analysis below separated into the non-Goonyella system terminals and the Hay Point coal terminal – as the QCA is clearly correct in finding that the constraints on switching are partly different for those two groupings of terminals.

4.4 Non-Goonyella terminals are not close substitutes

DBCTM has alleged that the coal handling services provided by three other coal terminals at distant ports are close substitutes for the declared service, being Abbot Point Coal Terminal at the Port of Abbot Point (**APCT**) and RG Tanna (**RGT**) and Wiggins Island Coal Export Terminal (**WICET**) at the Port of Gladstone.

The DBCT User Group continues to consider these non-Goonyella system terminals are clearly not close substitutes for the declared service. That is demonstrably the case based solely on cost issues which make it uneconomic for Goonyella customers to switch to usage of a non-Goonyella terminal in response to a SSNIP in the provision of the DBCT service. However, consistent with the QCA's findings,³⁹ it is also the case for a range of strong non-cost factors that further constrain the likely future behaviour of Goonyella users.

(a) Overview of cost factors

As the QCA has identified, and consistent with the analysis in section 3.2(c) of this submission, the costs to a Goonyella user of switching from the DBCT service to the services provided at APCT, RGT or WICET involve not just any differences in terminal costs but additional costs of above rail and below rail services required to transport a Goonyella users' coal.

As shown in the figure below the differences in distance between these terminals is vast. The differences in haulage distances are typically even greater again.

³⁹ Part C, [2.4.4], QCA Draft Decision.

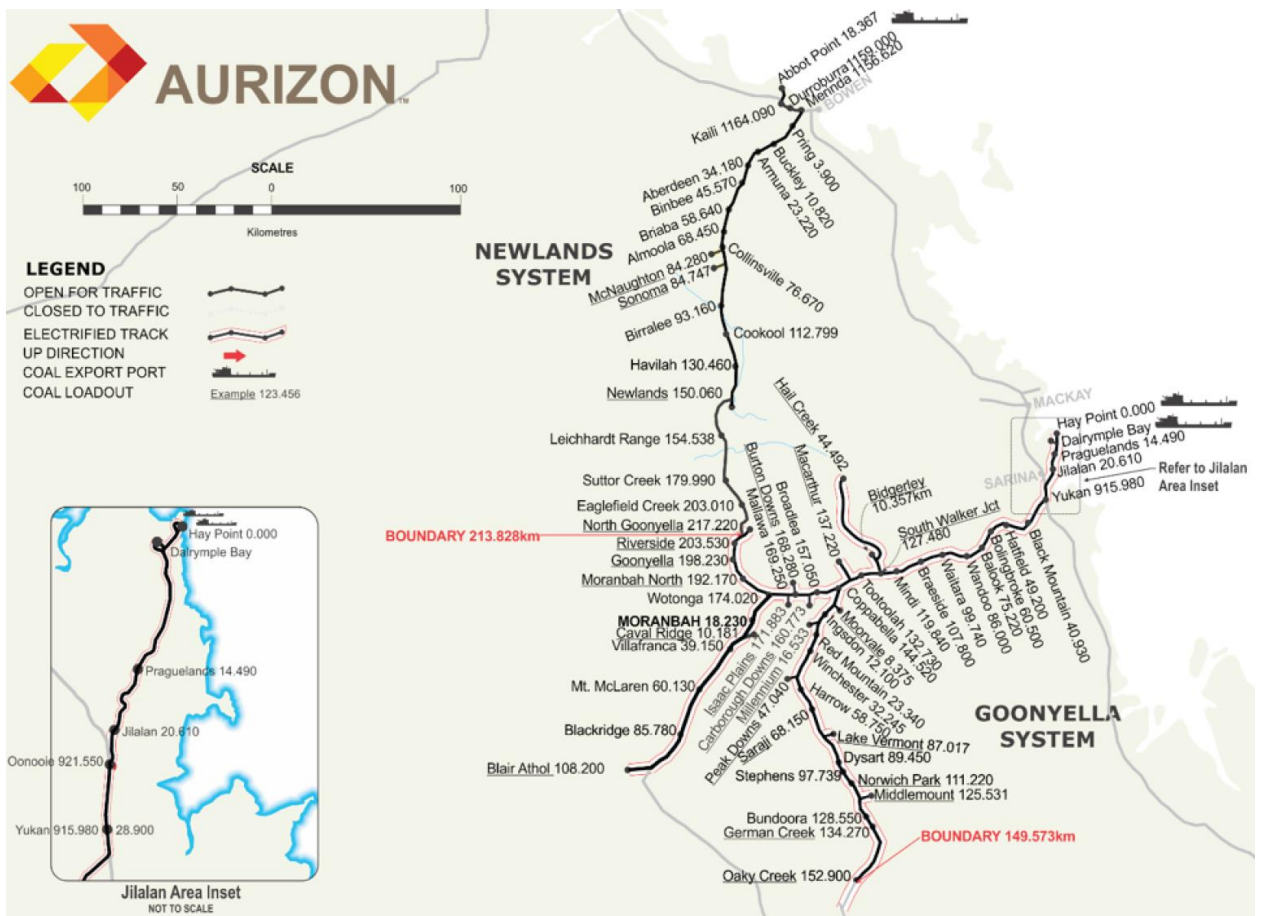


Source: Aurizon website

Table 4 in the QCA Draft Decision⁴⁰ demonstrates the significant differences in haulage distances for three of the most distant (from DBCT) Goonyella users, with additional rail distance ranging from 26 kilometres (for North Goonyella to Abbot Point) to 109 kilometres (for Blair Athol to Abbot Point).

However, for the bulk of Goonyella users the distance is much greater (or at least closer to the Blair Athol distances due to the need to travel west along the Goonyella system before doubling back to the coast along the Newlands or Blackwater system. The huge distances involved are clearly evident from the distances shown in the below map from the Goonyella system summary information pack produced by Aurizon Network.

⁴⁰ Part C, [2.4.4] QCA Draft Decision.



Source: Aurizon Network, Goonyella System Summary Sheet, version 7.0 March 2017

Those greater distances self-evidently result in additional below rail and above rail charges – making substitution materially more costly for the vast majority of mines in the Goonyella system than a mine located right on the edge of the Goonyella system.

In addition, there are (as raised in previous DBCT User Group submissions and recognised by the QCA) costs issues not strictly related to distances, such as:

- (i) the costs (over and above the QCA reference tariffs) for users arising through payment of the GAPE fee (required for rail access for any Goonyella mine seeking to rail to Abbot Point) or the WIRP fee (required for rail access for any Goonyella mine seeking to rail to WICET); and
- (ii) the costs arising from smaller payload trains which operate on the Newlands (to APCT) and Blackwater (to RGT and WICET) systems, relative to the standard trains which operate on the Goonyella system.

(b) QCA cost estimates demonstrate the non-Goonyella terminals are not substitutes

Table 5 of the QCA Draft Decision⁴¹ shows the QCA's cost estimates for Goonyella system users utilising alternative terminals as follows:

⁴¹ Part C, [2.4.4] QCA Draft Decision.

Cost components	DBCT	APCT	RGT	WICET
Below rail (lower bound)	\$2.62	\$9.23	\$6.33	\$6.33
Above-rail (lower bound)	\$3.70	\$5.73	\$5.17	\$5.17
Coal handling	\$5.05	\$7.01	\$5.18	\$14.67
Other port and shipping	\$0.05	\$0.05	\$0.05	\$0.05
Total supply chain cost	\$11.42	At least \$22.02	At least \$16.73	At least \$26.22
Cost difference		At least \$10.60 (93%)	At least \$5.32 (47%)	At least \$14.81 (130%)

As clearly acknowledged by the QCA,⁴² the below rail and above rail cost components are clearly understated as they do not include the cost that Goonyella system users would incur on the Goonyella system before their coal is hauled through the Newlands or Blackwater system, which results in the total cost difference estimates being extremely conservative.

That is not a small exclusion – some mines would need to travel over 100 kilometres extra on the Goonyella system before entering the Newlands or Blackwater system. DBCT User Group members have confirmed that the QCA's estimates of costs to access other terminals are understated based on their actual experience in relation to considering access options.

However, where it is clearly evident even on that extremely conservative basis that DBCTM could significantly increase its terminal charges (by more than a SSNIP of 5-10%) without it being economic for Goonyella users to switch, it is clear that (as the QCA concluded) the non-Goonyella terminals are clearly not close substitutes and not within the same market as the declared service.

(c) DBCT User Group cost estimates

As noted by the QCA, the DBCT User Group provided alternative cost estimates. For completeness, the DBCT User Group notes they were (as described in the 3rd PwC Report enclosed with this submission) presented on a different base where the above / below rail costs incurred to haul coal from Goonyella mines to DBCT were not included and consequently the above / below rail costs for other terminals were only included to the extent they were incremental/additional costs beyond what would have been incurred for rail to DBCT. In other words, it would be expected that all of the DBCT User Group cost estimates would be lower by the Goonyella rail cost components.

If they were restated showing all costs (consistent with the QCA's presentation of the cost components), the DBCT User Group estimates are set out below:⁴³

⁴² Part C, [2.4.4] and Appendix A, QCA Draft Decision.

⁴³ PwC 3rd Report at 11.

Table 3: Average supply chain costs, PwC compared to QCA

Cost component	DBCT	Abbot Point	RG Tanna	WICT
PwC rail cost estimates	\$9.56	\$16.05	\$17.43	\$17.43
PwC port cost estimates	\$5.05	\$6.77	\$4.00	\$22.00
PwC supply chain estimate	\$14.61	\$22.82	\$21.43	\$39.43
PwC difference to DBCT	-	\$8.21 (+56%)	\$6.82 (+47%)	\$24.82 (+170%)
QCA rail cost estimates	\$6.32	\$14.96	\$11.50	\$11.50
QCA port cost estimates	\$5.10	\$7.06	\$5.23	\$14.72
QCA supply chain cost estimate	\$11.42	at least \$22.02	at least \$16.73	at least \$26.22
QCA difference to DBCT	-	at least \$10.60 (+93%)	at least \$5.32 (+46%)	at least \$14.80 (+129%)

Source: PwC modelling, QCA supply chain cost estimate per Draft Recommendation, Page 16, Table 5

As that demonstrates, the DBCT User Group's estimates are comparable to the QCA estimates – and certainly of the same order of magnitude, such that the DBCT User Group considers they reinforce the QCA's conclusion that it would not be economic for Goonyella users to switch to non-Goonyella terminals in the event of a SSNIP of the declared service, such that they are not close substitutes and not within the same market as the declared service.

The differences between the QCA costs modelling and DBCT User Group modelling is likely to be attributable to either:

- (i) the fact that the DBCT User Group costs are sourced from averaging of actual data for a selection of mine sites (whereas the QCA methodology is different and works back from understood regulated tariffs and an estimate of haulage costs to seek to reflect average costs) and the DBCT User Group acknowledges that calculating such an average is obviously dependent on the individual projects which were used in the DBCT User Group sample to calculate the average (given that each mine's position on the network impacts on their below rail and above rail costs) – such that the differences may be attributable to costs for individual mines being higher or lower than the average;
- (ii) differences in the assumptions made by the QCA in modelling the costs (which in particular understate rail costs, by excluding the Goonyella costs of cross-system traffics to other terminals, as discussed in the QCA Draft Decision and above – and as is evident from the lower QCA estimates for rail costs shown in the table above); and
- (iii) complexities in the way changes in volume impact on the costs of utilising certain infrastructure services (as such WICET and GAPE).

(d) Conclusions on costs analysis for non-Goonyella terminals

Irrespective of which cost estimates are used, the costs to a Goonyella user of accessing non-Goonyella terminals are all clearly well beyond a SSNIP (5-10%), such that it will not be economically viable to switch in response to a SSNIP even ignoring all the non-cost barriers discussed below.

This is, of course, not a particularly surprising position, given that (as noted in previous DBCT User Group submissions and the QCA Draft Decision), the Terminal Infrastructure Charge at DBCT has increased by more than a SSNIP in the past with absolutely no evidence of switching.

While the DBCT User Group appreciates the market analysis is a forward looking one, that practical evidence of past behaviour is strong practical and market based evidence that the above economic analysis is correct.

Based on the above cost and economic analysis alone, it is clear that the services provided by APCT, RGT and WICET are not close substitutes to those of DBCT, and not provided in the same market.

(e) Non-cost barriers to switching

As discussed at length in the previous DBCT User Group submissions and the QCA Draft Decision,⁴⁴ there is also a significant number of non-cost based constraints to switching.

The DBCT User Group has reconfirmed with its members that these are real barriers which would make Goonyella system users reluctant to switch to using another coal terminal even if the economics of switching were within a SSNIP.

In particular, the DBCT User Group reiterates that each of the following presents a material non-cost barrier to switching:

Barrier	DBCT User Group analysis
Below and above rail differences	<p>The standard train configuration varies between the Goonyella network (to DBCT) and the Blackwater (to RG Tanna/WICET) and Newlands (APCT) systems.</p> <p>In particular:</p> <ul style="list-style-type: none">• the nominal payloads of the Blackwater (8,350) and Newlands (7,000 tonnes) system are smaller than the Goonyella (10,500), such that a cross-system service commencing in the Goonyella system and ending in the Blackwater or Newlands system have a smaller payload with a higher cost per tonne (without even factoring in the greater distance involved);• the Newlands system is not electrified – such that where a customer is serviced by a haulage provider which has more significantly invested in electric locomotives (e.g. Aurizon Operations), there will be limits to how much of a customer's contracted haulage rights could be switched to a non-electrified system like Newlands even if their haulage agreement provide for changes to the rail destination; and• as would be evident to the QCA from its assessment of Aurizon Network reference tariffs and underlying volume forecasts (and as

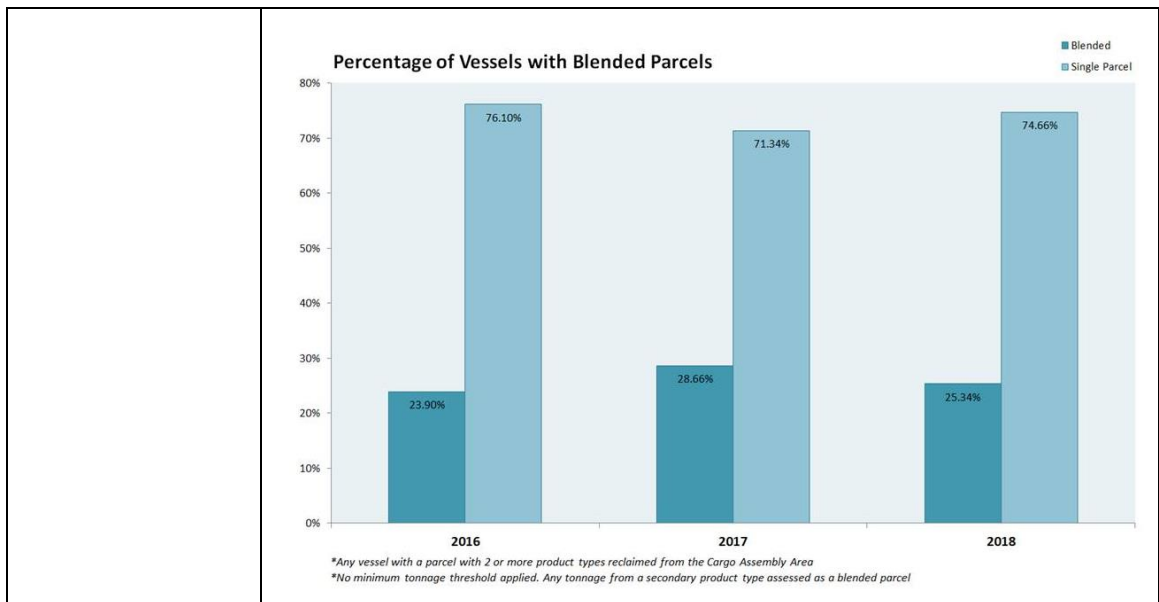
⁴⁴ Part C, [2.4.4] QCA Draft Decision.

	<p>noted in the Draft Decision),⁴⁵ cross-system traffic accounts for a minor component of utilisation of the Aurizon Network rail network. Cross-system traffic is very limited on the Aurizon Network rail network (accounting for approximately 5% of revenue relative to within system services – which presumably equates to less than 5% of throughput given the higher charges for such cross-system services).</p>
<p>Insufficient terminal capacity</p>	<p>Consistent with previous DBCT User Group submissions, the QCA Draft Decision and the assessment of Balance Advisory, the DBCT User Group confirms that the understanding of its members remains that:</p> <ul style="list-style-type: none"> • RG Tanna is fully contracted; • APCT is effectively not available for long term third party access, in part given Adani's commitment to developing the Carmichael project; and • there is no likely proposal to expand either of RG Tanna or APCT over the period of declaration being considered. <p>For APCT, the DBCT User Group understands that substantial capacity is either contracted by Adani or, in practical, terms currently being reserved by Adani, for use by Adani's Carmichael projects (which Adani has announced it is proceeding with). While the DBCT User Group acknowledges there are some uncertainties in relation to the prospects of development and timing of development of that project – it agrees with the QCA conclusion that, while those uncertainties exist, it should be assumed that Adani's approach to APCT capacity will continue.</p>
<p>Impact of APCT being vertically integrated</p>	<p>In respect of APCT, the DBCT User Group also notes that utilising an unregulated and vertically integrated port is clearly less desirable, due to concerns that Adani will have the ability and incentives to operationally preference volumes from the Carmichael project.</p> <p>As noted above, the prospect of this occurring has heightened with Adani's announced commitment to proceed with the project.</p>
<p>Insufficient below rail capacity</p>	<p>Even assuming that alternative terminal capacity could be sourced, the DBCT User Group consider that there is insufficient below rail capacity to accommodate further cross-system traffics and the costs and time frames to expand the below rail network will make it completely impractical to switch material volumes from DBCT to another terminal.</p> <p>Previous DBCT User Group submissions have noted Aurizon Network's capacity information, which shows capacity constraints on the Goonyella system.</p> <p>In addition, as part of the notifying access seeker process, DBCTM commissioned Integrated Logistics Company Pty Ltd (<i>ILCO</i>) to conduct a system capacity estimate of the Dalrymple Bay Terminal coal supply chain, which demonstrated that the Goonyella system itself has capacity constraints (as per the table below) resulting in system capacity being less than DBCT's capacity:</p>

⁴⁵ Part C, Appendix A, QCA Draft Decision.

	<p>Table 3 Capacity Estimates over assessment period</p> <table border="1" data-bbox="635 286 1375 526"> <thead> <tr> <th>Financial Year</th> <th>Contracted Demand (Mtpa)</th> <th>Existing Terminal Capacity Estimate (Mtpa)</th> <th>System Capacity Estimate (Mtpa)</th> </tr> </thead> <tbody> <tr> <td>FY19</td> <td>79.3</td> <td>90.1 ± 1</td> <td>81.9 ± 1</td> </tr> <tr> <td>FY20</td> <td>81.1</td> <td>90.8 ± 1</td> <td>82.3 ± 1</td> </tr> <tr> <td>FY21</td> <td>83.6</td> <td>95.4 ± 1</td> <td>84.4 ± 1</td> </tr> <tr> <td>FY22 onwards</td> <td>86.1</td> <td>94.7 ± 1</td> <td>84.2 ± 1</td> </tr> </tbody> </table> <p>Source: Integrated Logistics Company Pty Ltd, DBCT Capacity Estimates, 19 October 2018</p> <p>Consequently it is clear that the Goonyella system does not have surplus capacity to accommodate services travelling in the opposite direction (i.e. inland in order to reach the connection with the Newlands or Blackwater system connections), such that any theoretical switching decision would require incurring significant cost and time delays, making substitution impractical.</p>	Financial Year	Contracted Demand (Mtpa)	Existing Terminal Capacity Estimate (Mtpa)	System Capacity Estimate (Mtpa)	FY19	79.3	90.1 ± 1	81.9 ± 1	FY20	81.1	90.8 ± 1	82.3 ± 1	FY21	83.6	95.4 ± 1	84.4 ± 1	FY22 onwards	86.1	94.7 ± 1	84.2 ± 1
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FY22 onwards	86.1	94.7 ± 1	84.2 ± 1																		
<p>Metallurgical coal co-shipping opportunities</p>	<p>The DBCT User Group confirm that metallurgical coal co-shipping opportunities are:</p> <ul style="list-style-type: none"> valuable to customers (both by way of higher sales prices that can be obtained for a user's coal and by being able to make sales to customers which the user would not otherwise be able to sell to); and available to a much greater extent at DBCT due to the substantially higher volume and different mix of metallurgical coals exported through DBCT relative to other coal terminals. <p>The Houston Kemp report in respect of criterion (b) included in DBCTM's last cross-submission indicates that in 2017-18 they understood about 38% of throughput of DBCT was co-shipped. The DBCT User Group consider that is a much higher proportion than would exist at other coal terminals.</p> <p>Steel mill customers typically use a blend of different metallurgical coals in the production of steel and value taking a mixed cargo of different metallurgical coal types (e.g. typically with different grades – such as hard coking coal and semi-hard coking coal or a principal coking coal with a coal for a different purpose, such as PCI coal).</p> <p>A number of individual DBCT User Group members, have privately confirmed to the DBCT User Group's advisers that this aspect of the DBCT service is a particular benefit for producers of lower grade or PCI coal where steel mill customers are less likely to want a full cargo of that coal type, but are happy to buy that coal in combination with a higher grade / premium hard coking coal.</p> <p>DBCT User Group members have also indicated that steel customers generally prefer to ship coal on a 'just in time' basis (to minimise coal inventory holding costs), further cementing the requirement for multi-parcel shipping to supplement their requirements.</p>																				
<p>Blending opportunities</p>	<p>A number of DBCT Users have also confirmed that they have utilised the blending opportunities available at DBCT and, similar to co-shipping</p>																				

	<p>opportunities, consider them superior to that available at other terminals due to:</p> <ul style="list-style-type: none">• the greater range of metallurgical coal products available (which cannot be replicated by other terminals irrespective of plant, equipment and stockpile space);• the existing facilities at DBCT which allow 2 stacker reclaimers to be used to create a homogenous blend in a surge bin of up to 3 different coal products to meet customer specifications (which is not possible based on the current coal handling operations at other terminals); and• the ability to generate a further variety of blends by way of multiple grades of coal being delivered into a stockpile that will then be homogeneously blended by the dual reclaim method. <p>By way of a detailed comparison, blending at RG Tanna can only occur by use of dozers pushing coal from large stockpiles into a coal-valve. While blending is available, it is not likely to maintain the same homogenous blending as the use of multiple reclaimers at DBCT, with the biggest variance being that the last coal on is generally the first coal off for the customer, whereas a stockpile at DBCT can be reclaimed in full benches (top to bottom) or south-north and top-to bottom (effectively reducing length in smaller benches and ensuring more consistent quality for the customer across the blend).</p> <p>Some users have indicated that they place a particularly high value on blending opportunities at DBCT due to concerns with product quality and saleability of some of their coal production in the absence of blending. That is particularly the case for users which have multiple mines in the Goonyella system, where blending allows them to mine different quality coal at each operation while still meeting bespoke customer desired blends or grade specifications.</p> <p>The importance of blending is demonstrated by the high proportion of vessels shipping blended parcels from the terminal (ranging between 23.9 and 28.66% over the last 3 full financial years).</p>
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Long term take or pay contracts

The QCA appears to have concluded that users have contracts for coal handling, above-rail and below-rail services that have 'broadly similar expiry dates', such that take or pay contracts are not a barrier to switching that is relevant at the point of renewal / recontracting.

However, the DBCT User Group knows that assumption does not reflect market realities. Numerous DBCT Users have confirmed that they do not currently have aligned terms for their DBCT, rail haulage and rail access arrangements.

Misalignment of contracts does create real barriers to switching, such that it is not an accurate assumption that an opportunity to switch without a material take or pay liability will exist during the proposed declaration period. In particular:

- below rail access is typically contracted for 10 year fixed terms (given the treatment of lesser terms in terms of priority for obtaining future access under Aurizon Network's access undertaking);
- DBCT capacity is renewed for 5 year terms (even if it was initially contracted for a 10 year or longer period);
- above rail haulage is sometimes contracted for substantial periods (in order to encourage haulage operators to make investment in new fleet to service the customer or to obtain improved pricing) but can be contracted for much shorter terms;
- where capacity is obtained through capacity trading, the term of the capacity will often not be aligned with the plans of the original acquirer of capacity rather than the transferee (and may revert to the original acquirer at some point);
- port capacity is easier to trade than below rail capacity (due to the rail service being different for different mine locations), such that port capacity is sometimes traded without corresponding rail capacity; and
- where capacity is obtained through the acquisition of a mine from a vendor with a portfolio of mines (and logistics contracts), the term of

	<p>capacity will often not be aligned with the other capacity for that individual mining operations.</p> <p>Multiple DBCT User Group members have confirmed they do not currently have aligned contract expiry dates for the reasons noted above – with contracts often years apart in expiry dates.</p> <p>At the point of a switching decision in respect of coal handling services, if a user has existing rail capacity on a take or pay basis, even for a year, that will make switching economically prohibitive (even ignoring all of the other cost factors noted above which make switching uneconomic even if it is assumed there is no take or pay tail of this nature).</p>
<p>Mine infrastructure costs</p>	<p>The DBCT User Group strongly agrees that mine-site infrastructure is a barrier to switching.</p> <p>The DBCT User Group particularly notes each of the following examples:</p> <ul style="list-style-type: none"> • The North Goonyella mine which transports coal to DBCT has a rail angle which turns south (towards DBCT). For North Goonyella to transport coal, on a regular basis, north to Abbot Point requires building a northern turning angle. • The Kestrel mine which transports coal to RG Tanna has a rail angle which turns south (towards RG Tanna). For Kestrel to transport coal north to DBCT requires building a northern turning angle. <p>The estimates provided by Aurizon Network for construction of those turning angles (which involved material costs) were discussed in the DBCT User Group's previous submission.</p> <p>The only alternative to such turning angles is for the haulage provider to operate a 'push-pull' service which involves additional above rail costs and significantly less certainty of actually being operated due to being given lower priority than all standard services in relation to access scheduling.</p> <p>In addition to the mine site turning angles, for any mine east of the Coppabella junction, to go north to APCT would require a west facing turning angle.</p> <p>The DBCT User Group members who have faced such choices confirm that the costs of the mine infrastructure or additional operational costs (and loss of priority) of a push pull service is sufficient that they have not proceeded with these options – other than operating a small number of push pull operations on a temporary or ad-hoc basis.</p>

Consequently, it is clear that there are a wide range of barriers to switching that prevent coal handling services at the non-Goonyella terminals being close substitutes for the DBCT service.

4.5 Hay Point Coal Terminal is not a substitute

(a) When would a vertically integrated supplier be included in the market?

The DBCT User Group strongly agrees with the QCA's conclusion⁴⁶ that access to HPCT is not a close substitute for access to DBCT.

⁴⁶ Part C, [2.4.4] QCA Draft Decision.

The fact that the physical nature of the service and geographic location are similar, means some of the factors discussed above in relation to the non-Goonyella system terminals are less relevant.

However, HPCT is clearly not a substitute for different reasons, namely that:

- (i) it is not capable of, or available for, meeting any part of the foreseeable demand in the market arising from non-BHP / BHP Mitsui Coal (**BMC**) users; and
- (ii) consequently will clearly not provide any competitive constraint on DBCTM.

As the QCA correctly notes,⁴⁷ the extent to which another facility would constrain DBCTM in the absence of regulation is directly related to assessing whether HPCT operates in the same market as DBCT.

The passage from the Australian Competition Tribunal's judgment in *Re Fortescue Metals Group Limited*⁴⁸ is particularly appropriate to the circumstances where it stated:

The in-house producer should be included in the dependent market if a hypothetical monopolist of vertically separated supply could not profitably increase its price ...

The better view is that if the vertically integrated producer responds directly or indirectly to a price increase, it should be included in the market because it is in competition (whether directly or indirectly) with the other firms in the market.

Consequently, the QCA is absolutely correct in stating the threshold question to be, if there was a SSNIP in the DBCT terminal infrastructure charge whether DBCT users would switch to utilising coal handling services at HPCT.

(b) Would DBCT Users switch to HPCT?

It is absolutely clear that, consistent with the QCA's findings, HPCT is not currently operated as a common user facility.

That was confirmed both by BMA itself in its own submissions and by DBCT User Group submissions confirming no third party has utilised HPCT in the past.

The key question therefore is whether BMA is likely to operate HPCT as a common user facility in the future which, as the QCA acknowledges, is informed to a significant extent by the incentives likely to be faced by BMA.

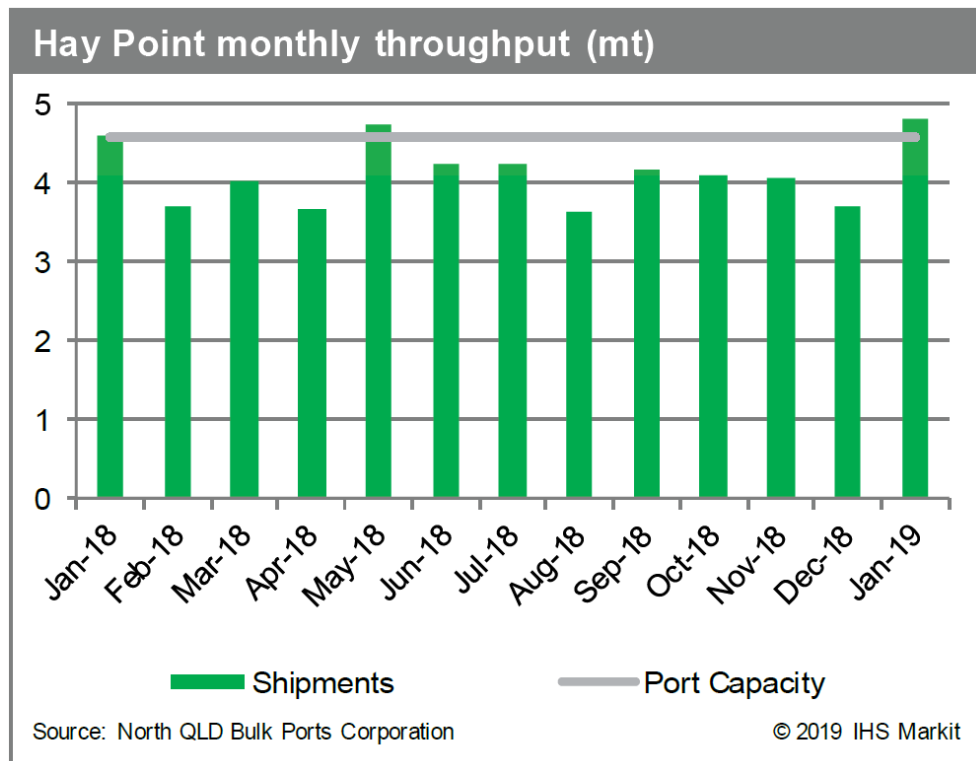
The DBCT User Group (including BMA) strongly agree with the QCA's assessment that BMA has no incentives to operate HPCT as a common user terminal over the declaration period under consideration and is therefore not likely to do so (and consequently is not a close substitute to which DBCT users can switch).

As the QCA notes:

- (i) HPCT is currently operating at, or near, full capacity as shown in the diagram below – such that there is no spare capacity which can be offered to third parties (and no evidence that BMA has any plans to undertake such an expansion);

⁴⁷ Part C, [2.4.4] QCA Draft Decision.

⁴⁸ [2010] ACompT 2 at [1038]-[1039]



Source: HIS Markit, *Australian Coal Report*, 13 February 2019

- (ii) Consistent with BHP's (and the DBCT User Group's) previous submissions, BMA has strong incentives to continue operating HPCT as a dedicated component of part of its vertically integrated system:

In that regard, the DBCT User Group notes the clear explanation provided by BHP itself in its previous submissions in this process.⁴⁹

⁴⁹ BHP Submission, 16 July 2018.

- 2.2 The HPCT is not declared.² BMA commenced operations at HPCT to provide coal terminal services for the coal produced at the BMA mines set out in the left hand column of Table 1, other than Blackwater. HPCT does not provide contracted coal terminal services capacity to any party other than BMA. BMC (ex the South Walker Creek and Poitrel mines) has shipped coal through the HPCT for some years, where it is efficient to do so, pursuant to an arrangement between BMA and BMC. BMC does not have committed capacity at HPCT available to it.
- 2.3 Since its construction in 1971, the HPCT has been used by BMA effectively as a dedicated, largely single-user coal loading facility. It is efficient for BMA to continue to use the HPCT in this way. To do so, enables BMA to:
- (a) maximise capacity utilisation at the HPCT, so as to achieve low per-unit operating costs at the HPCT, for the benefit of the BMA business;
 - (b) coordinate its mining operations, above rail operations (including those operated by BMA Rail) on the Goonyella system, and the coal handling services at HPCT efficiently, so as to eliminate or reduce interface inefficiencies between those functions;
 - (c) maximise operational simplicity and flexibility at HPCT (by avoiding multi-user interface requirements, and by coordinating mine production, rail and loading terminal operations where required: for example, being able to "surge" production and coal loading capacity in response to outages or other events); and
 - (d) maximise flexibility and responsiveness in identifying and implementing capital improvements and capacity expansions at the HPCT.
- 2.4 Further, even as expanded in 2015, the current capacity of the HPCT is insufficient to load and export all of the coal produced by the BMA and BMC mines set out in Table 1 (other than Blackwater).
- 2.5 In this context, BMA anticipates that it will continue to utilise all of the capacity of the HPCT for its own operations, and those of BMC where it is efficient to do so. In the interests of preserving the efficiencies set out in paragraph 2.3, BMA does not anticipate offering services at the HPCT to third parties.

(c) The fact that BHP has some contracted capacity at DBCT does not make HPCT a close substitute

As the QCA correctly concludes, the fact that BMA/BMC have contracted some capacity at DBCT is not (as DBCTM continues to assert, including seemingly in one of the late submissions) evidence that it is a close substitute.

Rather, what DBCTM seemingly fails to appreciate is that DBCT capacity is being acquired by BMA/BMC because there is insufficient capacity at HPCT. Even as expanded in 2015, the current capacity of HPCT is insufficient to load and export all of the coal produced by the BMA and BMC mines.

This is not a case of BMA/BMC 'switching' between the coal handling services of the terminals in response to a SSNIP. That is clearly demonstrated by the fact that:

- (i) as noted by the QCA, BMA proceeded with the last expansion of HPCT at higher cost than would have been incurred through accessing what was then existing DBCT capacity; and
- (ii) there are examples of changes in the DBCT terminal infrastructure charge arising from the QCA regulatory process which produced a SSNIP in the price of the DBCT service and were not followed by any evidence of switching to acquiring services at HPCT (by BMA/ BMC or any other producers).

In any case, it follows from the dedicated nature of HPCT that any substitution which is alleged to occur will be asymmetric substitution only available to BHP users (which represent a marginal part of the demand in the relevant market when appropriately defined). That will not result in

HPCT providing any switching potential or competitive constraint on how DBCTM conducts itself in relation to all other users, and consequently does not indicate it is a close substitute for or in the same market as DBCT's services. DBCTM's submissions on this point do not appear to appreciate this distinction.

For completeness, the DBCT User Group notes its agreement with the QCA's view that it is not being called on to determine whether the coal handling service at HPCT would satisfy the access criteria or should be declared. In any case, as the QCA Draft Decision notes, even if the HPCT coal handling service was declared, section 119 QCA Act imposes restrictions on the type of access determinations the QCA could make in an access dispute, including being prohibited from making a determination that would reduce the amount of the service able to be obtained by an access provider. Given that HPCT's capacity is fully utilised by BMA (and BMA has a continuing pipeline of projects which are likely to fully utilise that capacity into the future), it is therefore difficult to see how even any theoretical future declaration of HPCT would make any difference to the lack of constraints HPCT would impose on DBCTM in a future without declaration. While it is theoretically possible under section 119 QCA Act for the QCA to order an expansion in an access determination, that can only be ordered on the basis the access seeker pays all costs of expansion and that the access seeker does not obtain any ownership of the facility, such that any determination is likely to be unworkable from the perspective of a third party access seeker (both in terms of time, cost and bankability).

Accordingly, it is absolutely clear that HPCT does not provide services in the same market as DBCT and, where the QCA considers the likely state of markets in the future based on the incentives BHP faces (rather than DBCTM's pure speculation that BHP might in the future act contrary to all of its known incentives), it is clear HPCT will not provide a competitive constraint to DBCTM or a close substitute for DBCT users at any point over the declaration period being considered.

4.6 Marginal use of other terminals by Goonyella mines does not make them close substitutes

It follows from the detailed analysis in sections 4.4 and 4.5 of this submission above, that none of the other central Queensland coal terminals are alternative suppliers in the same market as DBCT's coal handling services.

However, given the emphasis that DBCTM continues to give to it, the DBCT User Group is also separately addressing why the marginal use of other terminals by Goonyella users is not evidence of them being close substitutes.

The DBCT User Group has set out below its understanding of the reasons for each of the following Goonyella operations having utilised capacity at other terminals:

Lake Vermont (Jellinbah)	Jellinbah has confirmed to the DBCT User Group's legal adviser that it would have preferred to contract capacity at DBCT but was forced to contract APCT capacity due to being unable to obtain DBCT capacity in the time required for development of the mining project. Jellinbah has also indicated that it is uncertain as to what terminal it will contract when its existing supply chain arrangements expire.
Middlemount (Middlemount Coal)	As described in Peabody's submission ⁵⁰ (Peabody being the 50% owner of Middlemount Coal), at the time the Middlemount mine was being developed DBCTM would not commit to an expansion and only ACPT could make a firm offer of supply.

⁵⁰ Peabody submission, 16 July 2018.

BMA/BMC	<p>As described in BHP's submission:⁵¹</p> <ul style="list-style-type: none"> • BMA's previous 3 year APCT contract and BMC's current APCT contract were driven by lack of available capacity at DPCT and HPCT being fully utilised (particularly during a previous expansion of HPCT); • The small volumes of capacity utilised by BMC at APCT since its contract expired have been based on peaking capacity requirements or short term capacity constraints due to plant availability and maintenance – not a switching of volume to APCT for reasons of cost; and • BHP/BMC's Goonyella mines have not used WICET and its very limited use of RTG has been confined to small volumes from Caval Ridge for blending with Blackwater Coal and small volumes railed for two months post Cyclone Debbie when the Goonyella system was closed for repair work.
Oaky Creek (Glencore)	<p>Glencore has confirmed to the DBCT User Group's legal advisers that Oaky Creek's use of RG Tanna is a small proportion of its production and that only occurs on an ad-hoc basis to provide risk mitigation and flexibility to deal with supply chain outages.</p>
Capcoal (Anglo American)	<p>As described in Anglo American's submission,⁵² only a small proportion of Anglo American's production is transported to RGT and that occurs as part of its sales strategy to take advantage of coal blending and co-shipping opportunities (with other Anglo American coal) – rather than the blending or co-shipping with other producers which would be available at DBCT.</p>

All of the coal producers noted above have confirmed that the contracting and utilisation decisions described were not a case of economic substitution or switching in response to DBCTM 'charging more or giving less'.

They are, in fact, clear evidence of producers selecting a different service when the declared service was simply not available or despite having a very different cost (more than a SSNIP as discussed earlier in these submissions), for the different characteristics it provides (i.e. marketing opportunities at other ports or risk mitigation opportunities created by its very nature as a terminal in a different location and on a different rail system).

Given:

- (a) clear evidence from the entities that made the contracting decisions in question that usage of other terminals was not a case of economic substitution;
- (b) the clear economic evidence that it is materially more costly for a Goonyella producer to switch to an alternative terminal; and
- (c) the marginal volumes of usage of other terminals by Goonyella mines not being representative of the type of significant switching one would expect if other terminals were in fact close substitutes (both in terms of number of mines, volume involved and location of the mines involved),

the DBCT User Group considers it is clear the QCA has reached the appropriate conclusion that the other coal terminals do not provide close substitutes to DBCT and are not in the same market.

⁵¹ BHP submission, 16 July 2018.

⁵² Anglo American submission, 16 July 2018.

4.7 Non-Goonyella customers

The DBCT User Group also agrees with the QCA's conclusion⁵³ that non-Goonyella coal chain customers will not consider the DBCT service a substitute for coal handling services at the other more proximate terminal(s) they utilise in the Newlands or Blackwater systems.

That conclusion is supported by the fact that:

- (a) there is limited if any evidence of non-Goonyella mining operations exporting through DBCT on anything other than a very ad-hoc and opportunistic basis;
- (b) the DBCT User Group assumes that no non-Goonyella system users applied for access as part of the notifying access seeker process (otherwise it would presumably have been mentioned in DBCTM's late submission concerning the outcomes of that process) – which is good evidence that non-Goonyella users were not seeking access to the DBCT service;
- (c) as the QCA notes in the Draft Decision, cross-system traffic is very limited on the Aurizon Network rail network (accounting for approximately 5% of revenue relative to within system services);
- (d) the greater rail distances (and therefore rail haulage and rail access charges) will make it economically unviable to access DBCT;
- (e) rail capacity constraints exist on other rail systems (and on the Goonyella system – as reflected in the ILCO analysis described above) – such that the costs and delay of rail expansions also act as a barrier to entry; and
- (f) numerous users of the non-Goonyella systems have executed long term arrangements to use the GAPE (Goonyella to Abbot Point Expansion) or WIRP (Wiggins Island Rail Project) infrastructure on a take or pay basis, committing them to significant fixed costs on other coal supply chains.

In relation to Kestrel's previous usage of DBCT (which is presented by DBCTM as evidence of a non-Goonyella user using DBCT), it is clear that was a legacy of Kestrel being managed as part of Rio Tinto's portfolio of coal mines. The DBCT User Group understands that Kestrel production was only transported to DBCT for selected sales opportunities involving blending of coal with the other then Rio Tinto mine (Hail Creek) and where there were temporary issues in the Blackwater coal supply chain. If any clearer evidence of that is needed, it is notable that the new owners of Kestrel are now seeking to transfer the DBCT capacity they assumed through the Kestrel acquisition. That strongly suggests that MMI's advice to the QCA is correct – that there is no prospect of Kestrel switching to usage of DBCT in the future.

4.8 Conclusions on Market Definition

For the reasons set out in detail above (and in earlier DBCT User Group submissions and the QCA's Draft Decision), the DBCT User Group agrees with the QCA's assessment of the appropriate market definition for the purposes of criterion (b) as the market for DBCT's coal handling services in the Goonyella coal system.

4.9 Period for assessing demand

As discussed above in detail in section 3.1, the DBCT User Group is willing to support the QCA's proposed 10 year declaration period, acknowledging that such a period:

- (a) reflects the period of the existing declaration;

⁵³ Part C, [2.4.4] QCA Draft Decision.

- (b) provides a reasonable period of certainty (albeit one shorter than requested by User Group);
- (c) is consistent with principle of providing a periodic review of declarations,

and that there is contention between the stakeholders, and in the QCA's initial view some difficulty, in forecasting demand beyond 10 years.

However, as discussed in section 3.1, that acceptance is subject to the DBCT User Group maintaining the view that if all criteria are not satisfied at 10 years, the QCA should reconsider a shorter period. To the extent that (contrary to both the draft decision and all of the DBCT User Group's submissions) the QCA considers all of the access criteria are not satisfied, then the DBCT User Group consider the QCA is actually legally required to consider whether the declaration criteria would be satisfied over shorter declaration periods (taking the alternative approach the QCA appears to accept is open to it in the Draft Decision.⁵⁴

In relation to whether the period of declaration should be shortened given the issue of potential market changes, the DBCT User Group agrees with the QCA's assessment⁵⁵ that doing so is not appropriate given that:

- (a) the costs modelling and information on non-cost barriers to switching so clearly indicates that other terminals are not close substitutes, and the timing for any development (given the lack of any clear decision to proceed to date) means that speculation about any future Adani APCT expansion, GVK Abbot Point terminal or Dudgeon Point terminal is not relevant to foreseeable demand – noting for completeness that previous DBCT User Group submissions and PwC reports included modelling indicating that it would be uneconomic for Goonyella users to switch to Dudgeon Point even if it was theoretically developed;
- (b) given the high proportion of throughput for DBCT that is metallurgical coal, the DBCT User Group does not consider that climate change policies will have a material impact on demand for the DBCT service over the declaration period – and, if anything, tends to indicate the QCA should be more sceptical of demand forecasts relating to new thermal mines in the outer years of the period, rather than being something which weighs in favour of reducing the declaration period; and
- (c) as the QCA correctly notes, it will be open for DBCTM to apply for revocation if there is an unanticipated material change in relevant markets during the period for which the service is declared.

4.10 Foreseeable demand – updating for more recent information and response to 7 November 2018 submission

The DBCT User Group acknowledges that it is appropriate for the determination of foreseeable demand to be updated with the most recent information available to the QCA and stakeholders.

That information includes (but is obviously not limited to) the notifying access seeker process completed in late 2017, which is addressed to some degree in DBCTM's 7 November 2018 late submission.

There are a few parts to the 7 November 2018 late submission:

- (a) suggestions that demand forecasts need to be reconsidered – which the DBCT User Group acknowledges should be based on the latest possible information (putting to one side the over exaggerated claims DBCTM has made about previous demand forecasts

⁵⁴ Part C, [2.5.2] QCA Draft Decision.

⁵⁵ Part C, [2.5.2] QCA Draft Decision.

provided by the DBCT User Group and hypocritical nature of DBCTM's claims given DBCTM's own lesser demand outlooks discussed in the QCA Decision – which were highly consistent with the DBCT User Group forecasts);

- (b) commentary regarding the conduct of particular users regarding use of terminals - which is simply a more specific and aggressive restatement of DBCTM's previous arguments that marginal use of a second terminal is evidence of close substitution, an argument that has already been rejected by the QCA and should be rejected again for the reasons discussed in detail above); and
- (c) a discussion relating to criterion (a) – that is considered in relation to the application of criterion (a) further below.

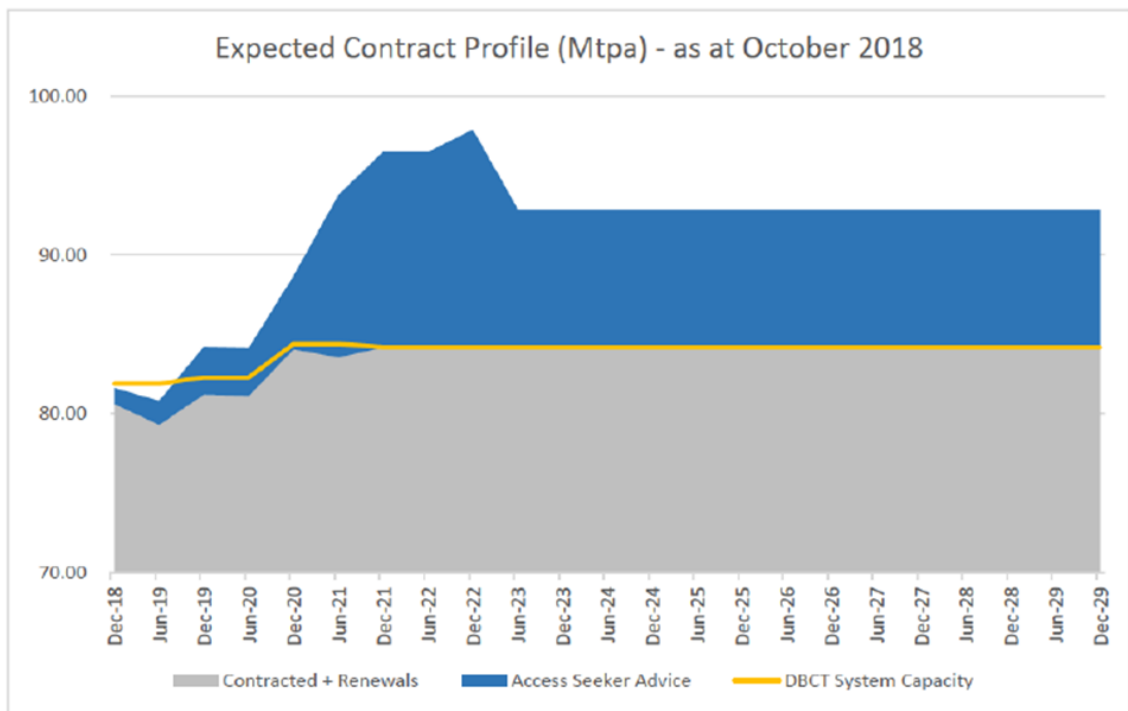
In relation to reconsideration of demand forecasts, the DBCT User Group readily acknowledges it is appropriate to update foreseeable demand estimates and provides an updated commentary and estimates of foreseeable demand in its submissions below.

In relation to some of the specific references DBCT makes to particular users contracting or utilising APCT or DBCT, the DBCT User Group once again notes that:

- (a) to the extent that the 7 November letter refers to existing or proposed marginal use of Abbot Point – that is not substitution on the basis of price or service (of the type which occurs for close substitutes) – such that it does not provide any additional evidence of other coal terminals' services being included in the same market as the DBCT service; and
- (b) to the extent that the 7 November letter suggests that a confidential user ([REDACTED]) taking up capacity suggests that all demand from that user is demand in the market – it completely ignores the correct analysis conducted by the QCA that the vast majority of [REDACTED] demand is actually dedicated to [REDACTED] and [REDACTED] does not impose any competitive constraint on DBCTM.

The 7 November 2018 late submission goes on to provide the 'expected contract profile' set out below. [REDACTED]

[REDACTED].



However, for completeness the DBCT User Group notes that:

- (a) the 'expected contract profile' assumes renewals for all users (seemingly without acknowledging that any of the access seeker advice is actually likely to replace some of that existing user profile as capacity is not renewed where mine lives expire or capacity trading occurs); and
- (b) it is not clear to the DBCT User Group what the blue line of 'access seeker advice' is supposed to represent, but if that is simply the addition of all (or large parts of) the access queue as it was in October 2018, then for all of the reasons set out in previous DBCT User Group submissions and in section 4.11 of this submission below, it is not appropriate to use access seeker requests or the access queue as a credible addition to aggregate foreseeable demand.

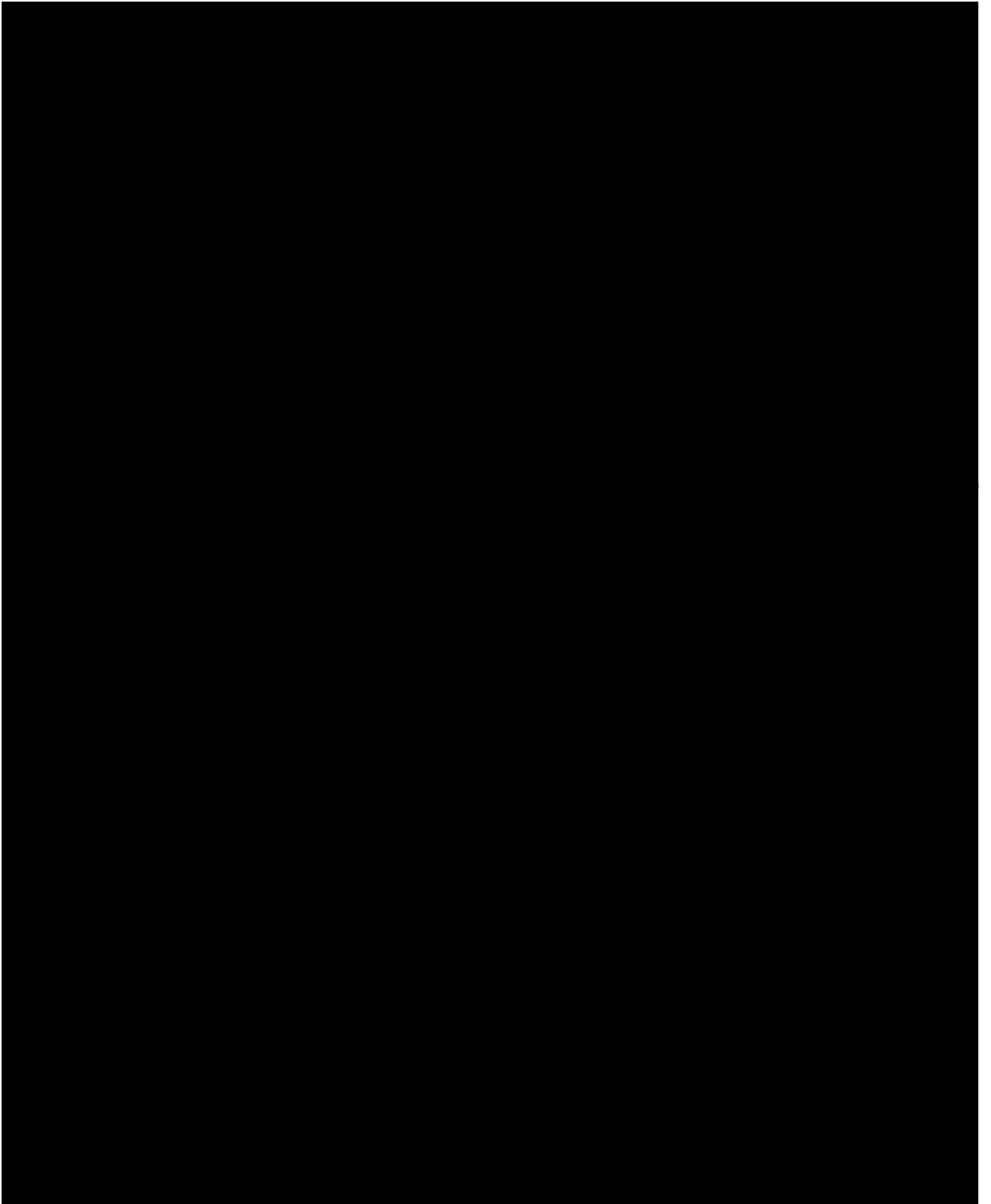
4.11 Latest capacity and access queue projections

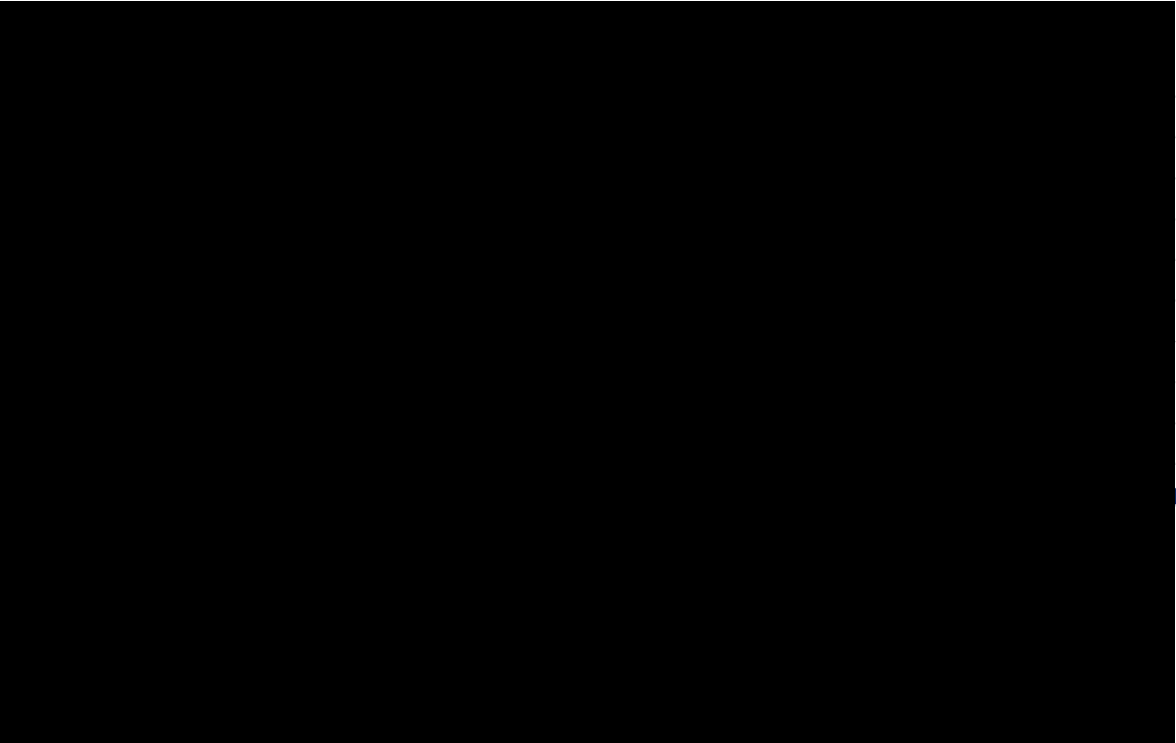
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





Consistent with the DBCT User Group's previous submissions in relation to the extent to which the queue has any relationship to foreseeable demand:

- (a) as must be evident to the QCA from the continuous large queue profiles provided by DBCTM and relatively minor changes in actual contracted capacity, it is actually relatively rare for access requests to convert into contracted capacity (at least in the timing and tonnages initially sought by access seeker);
- (b) it is unsurprising that a position in the queue does not often translate to contracted capacity as there is no cost of being in the queue, and it is effectively a free option that provides optionality to a coal producer or proponent of a future coal project without any penalty or disadvantage to the access seeker if they don't ultimately contract the requested access;
- (c) if the near term access requests in that queue were actually representative of near term demand then they presumably should have sought access during the recent notifying access seeker process (which was generally known in the industry to be likely to be the last opportunity to acquire DBCT capacity without an expansion in the short to medium term). In that regard it is clear that the removal of access seekers from the queue who did not seek to participate in that process has made the queue significantly smaller;
- (d) to the DBCT User Group's knowledge no expansion of DBCT is currently the subject of a feasibility study (suggesting that DBCTM knows the access requests will not convert to short term demand);
- (e) no DBCT User Group member is aware of being approached by DBCTM under clause 20 of their access agreements indicating that no current access seeker is willing to contract capacity which can only be provided if the renewal rights of existing access holders are waived or an expansion is developed;
- (f) DBCTM does not, in the DBCT User Group's view, vigorously test the reality of access applications and has not required any of the access applications now in the queue to demonstrate their bona fides in any annual renewal process; and

- (g) access requests in the queue do not necessarily represent additional aggregate demand even to the extent they represent demand, as queue access seekers may replace existing users (either through trading or through existing capacity not being renewed by existing users such that it reverts to becoming available for contracting).

Consequently, the DBCT User Group considers that the access queue provides limited if any guidance as to what actually constitutes foreseeable demand – and certainly can't just be added to the existing contracted capacity to produce a demand forecast.

4.12 Revised Wood Mackenzie Forecast

(a) Base Case Wood Mackenzie Forecast

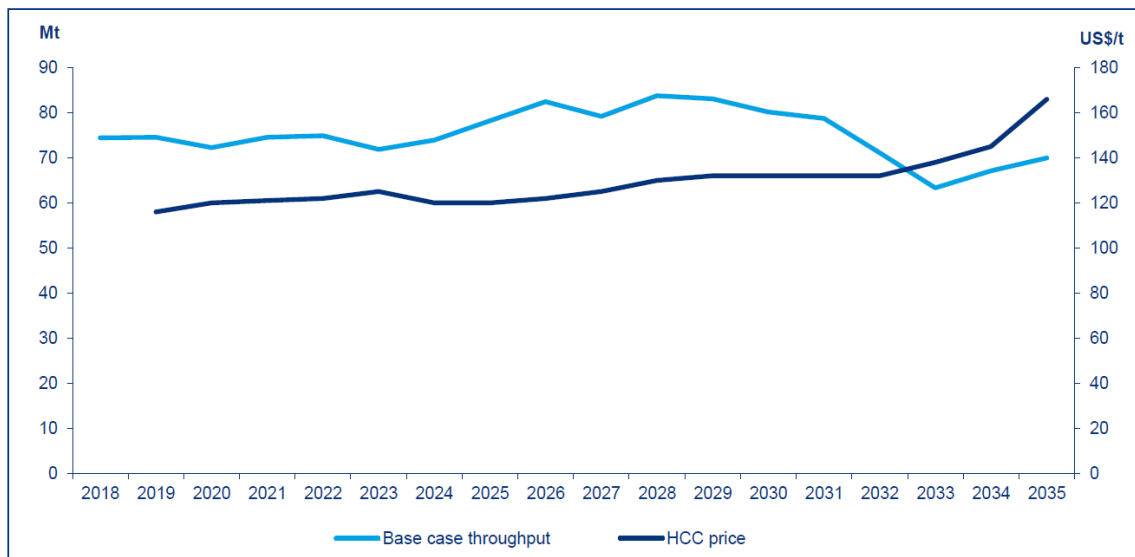
Wood Mackenzie, as one of the world's leading independent coal market analysts has prepared a revised forecast in respect of utilisation for DBCT.

A full version of that report, is included in Schedule 1 of this submission.

To address the QCA's comments in the Draft Decision regarding seeking more clarity in relation to the projects included, the report included in Schedule 1 also provides the mine by mine build-up of that demand forecast which underlies Wood Mackenzie's aggregate forecast, and a clear description of the assumptions made in compiling the demand forecast.

The below graphs and tables provide Wood Mackenzie 'base case' forecast of throughput at DBCT from 2018 to 2035.

Figure 1 Throughput at DBCT and seaborne price forecast



Source: Wood Mackenzie

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Demand	74.4	74.5	72.3	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2	78.8	71.1	63.3	67.1	70.0

Within the declaration period(s) being considered (i.e. from 2020 onwards), that shows a peak in expected demand of 83.8 mtpa.

That projection of throughput led Wood Mackenzie to conclude:

Expected DBCT throughput suggests that expansions of DBCT capacity are unlikely to be required. Any tonnages over capacity are small and there is uncertainty as to whether an

expansion would be developed and contracted by users on a longer term basis given the transitory nature of peak demand.

As discussed in section 3.2(d) of these submissions above, the DBCT User Group does not consider it accords with a proper interpretation of criterion (b) to assess foreseeable demand by reference to contracted capacity. However, for comparison purposes and given criterion (b) is clearly satisfied on either interpretation, using DBCTM's proposed ratio of throughput constituting 90% of contracted capacity, the base case estimate equates to a peak contracting capacity of approximately 93.1 mtpa.

The DBCT User Group consider that in respect of this independent forecast of demand from a consultant used internationally, without a stake in this regulatory decision, and for which accuracy of its forecasts is its core business and important for its reputation, the base case estimate provides a highly credible projection of foreseeable demand produced during this declaration review process, and should be given significant weight in the QCA reaching its ultimate estimate of foreseeable demand.

(b) Consistency with QCA Estimate

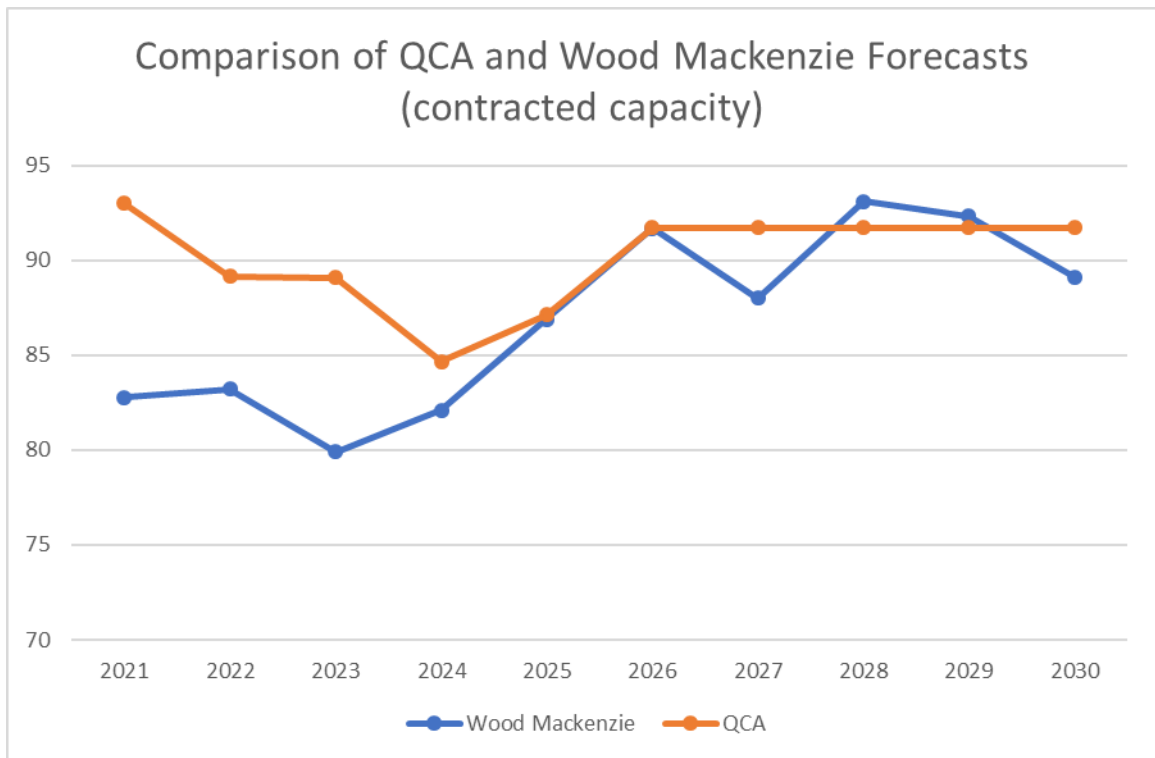
The DBCT User Group notes that the base case peak foreseeable demand estimate is highly consistent with the QCA's estimates, namely:

- (i) in terms of forecast throughput, 83.69 mtpa (QCA) and 83.8 mtpa (Wood Mackenzie); and
- (ii) when converted to a contracted capacity basis, 92.99 mtpa (QCA) and 93.1 mtpa (Wood Mackenzie).

A comparison of the year by year Wood Mackenzie forecast and the QCA estimates is shown in the tables and graphs below:

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wood Mackenzie Demand	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2
Converted to Contracted Capacity*	82.78	83.22	79.89	82.11	86.89	91.67	88.0	93.11	92.33	89.11
QCA Estimate	92.99	89.14	89.10	84.68	87.14	91.71	91.71	91.71	91.71	91.71

* Wood Mackenzie throughput forecast converted to contracted capacity using the ratio of 0.9 used by DBCTM and the QCA. As discussed elsewhere in this submission, the DBCT User Group considers that is not foreseeable demand for the purposes of criterion (b), but has provided the data on that basis as it is clear that criterion (b) is satisfied even on that basis.



While there will always be differences, the high degree of correlation – particularly in the uncertain 'outer years' suggests both are reasonable forecasts.

Consequently the DBCT User Group considers that the QCA's estimates of foreseeable demand and reasonable and appropriate – and supports either the Wood Mackenzie 'base case' foreseeable demand or the QCA estimates being used to estimate peak foreseeable demand.

The DBCT User Group's serious concerns with the MMI 'high case' are discussed further in section 4.14 below.

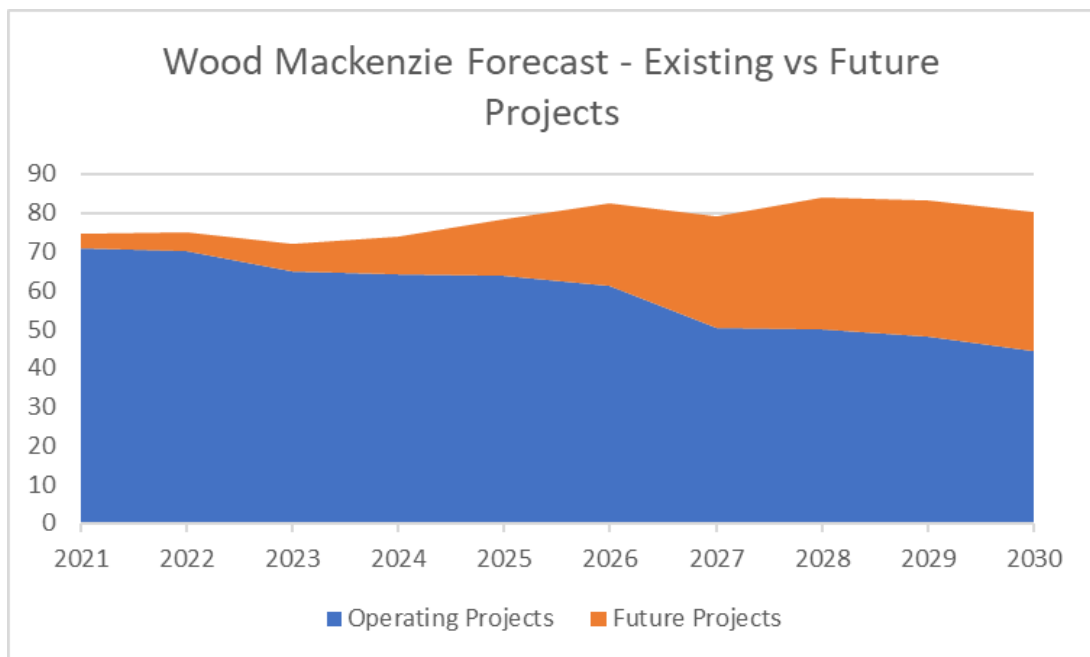
(c) Uncertainties in relation to development projects

As the QCA has noted, the greatest uncertainties in relation to the demand forecast relate to the timing and volume of throughput relating to future development projects.

In that regard, the QCA has expressed its reluctance to adopt an overly conservative approach in reaching its estimate.

The below table and graphs shows the division of the Wood Mackenzie base case estimate of foreseeable throughput

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Operating Projects Demand	70.8	70.2	65.0	64.0	63.8	61.3	50.3	50.0	48.3	44.3
Future Projects Demand	3.7	4.8	6.9	9.9	14.5	21.2	28.9	33.8	34.8	35.9
Total Demand	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2



Notably Wood Mackenzie's base case involves, in the years where demand is at or near its peak – very significant volumes being assumed from future projects.

As is evident from a review of the Wood Mackenzie 2nd Report, that estimated throughput involves a combination of what Wood Mackenzie classifies as 'probable projects' and 'possible projects', defined in the report as:

- (i) Probable project – project which is *likely to enter commercial production* in the future, *but is subject to a significant degree of uncertainty*, particularly with regard to timing, economic or technical matters.
- (ii) Possible project – project which has a *high degree of uncertainty* and is usually at a very early stage of development.

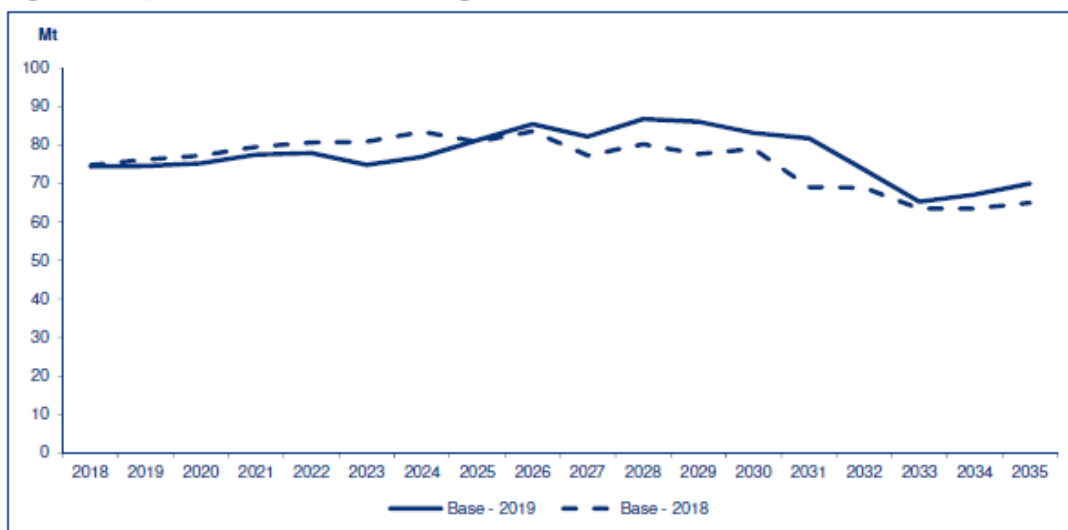
In other words, Wood Mackenzie's base case already takes a conservative approach which assumes significant volume from uncertain future projects.

While there will always be differences in timing and production volumes estimated for particular projects by the various credible forecasts of demand by different consultants, the DBCT User Group considers that the Wood Mackenzie forecast is clearly not a conservative forecast of the type the QCA was reluctant to adopt.

(d) Changes from previous Wood Mackenzie forecast

For completeness, the DBCT User Group notes that the Wood Mackenzie 2nd Report transparently explains the differences to the previous throughput forecast provided, with the below graph showing the changes.

Figure 4 Comparison of 2018 and 2019 throughput forecasts



Source: Wood Mackenzie

As is evident from the graph, Wood Mackenzie's view, based on, among other things changes in coal price projects and changes in the assessment of individual projects, produces a higher peak demand, but remains largely aligned.

4.13 Overstated DBCTM / Houston Kemp forecasts

(a) DBCTM / Houston Kemp forecasts rely on artificial and unrealistic assumptions

The DBCT User Group strongly agrees with the QCA analysis that previous estimates for foreseeable demand provided by DBCTM and Houston Kemp overstates demand,⁵⁶ and suggests a growth in aggregate demand that is simply very difficult to reconcile with the realities of the market and coal project development and approval time frames.

Some of that relates to the flawed conclusions that DBCTM and Houston Kemp have reached in relation to market definition.

However, as recognised by the QCA,⁵⁷ the DBCTM / Houston Kemp projections also rely on:

- (i) completely artificial assumptions that rail capacity will automatically be increased to meet changes in foreseeable demand; and
- (ii) taking a very optimistic view on the likelihood that projects will commence and the timing of such projects.

(b) Rail capacity

In relation to rail capacity, the DBCT User Group confirm the correctness of the QCA's thinking that coal miners would be unlikely to develop tenements (thereby creating demand for the DBCT service) if there was a lack of certainty about corresponding rail capacity in the Goonyella system.

In addition, it is clear from a range of sources that there are currently capacity constraints in the Goonyella system.

In particular, the 2018 Aurizon Network Development Plan suggests the Goonyella system 'has only limited latent capacity on the mainline trunk', with the Connors Range described as the 'constraining section in the Goonyella system'.⁵⁸

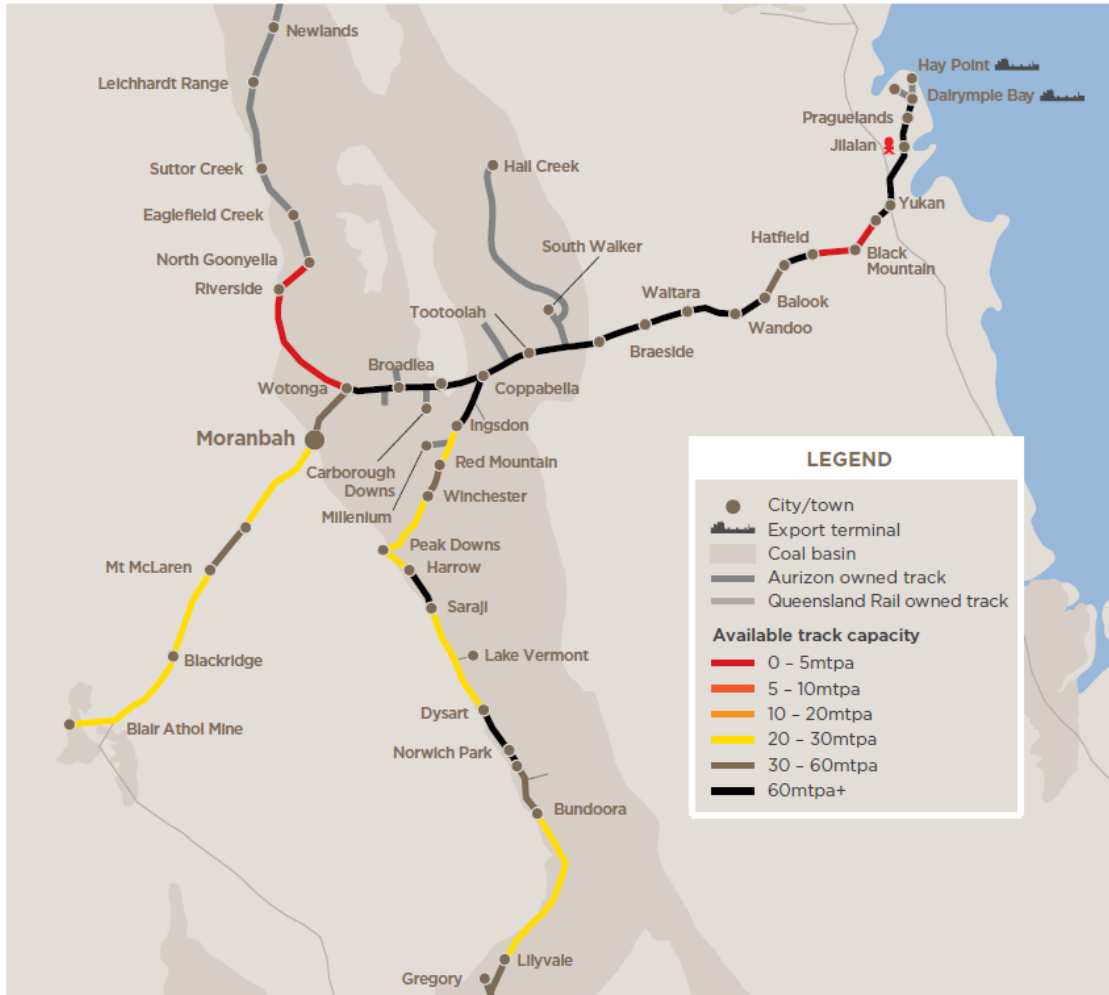
⁵⁶ Part C, [2.6.3] QCA Draft Decision.

⁵⁷ Part C, [2.6.3] QCA Draft Decision.

⁵⁸ 2018 Aurizon Network Development Plan at 7.

The below diagram extracted from the 2018 Network Development Plan shows the constraints Aurizon Network considers exist.

Figure 3: Goonyella System available capacity and constraints



The Aurizon Network Development Plan provides a range of possible alternatives for overcoming that capacity constraint – with varying costs up to \$800 million for a third track over the constrained section of the line.

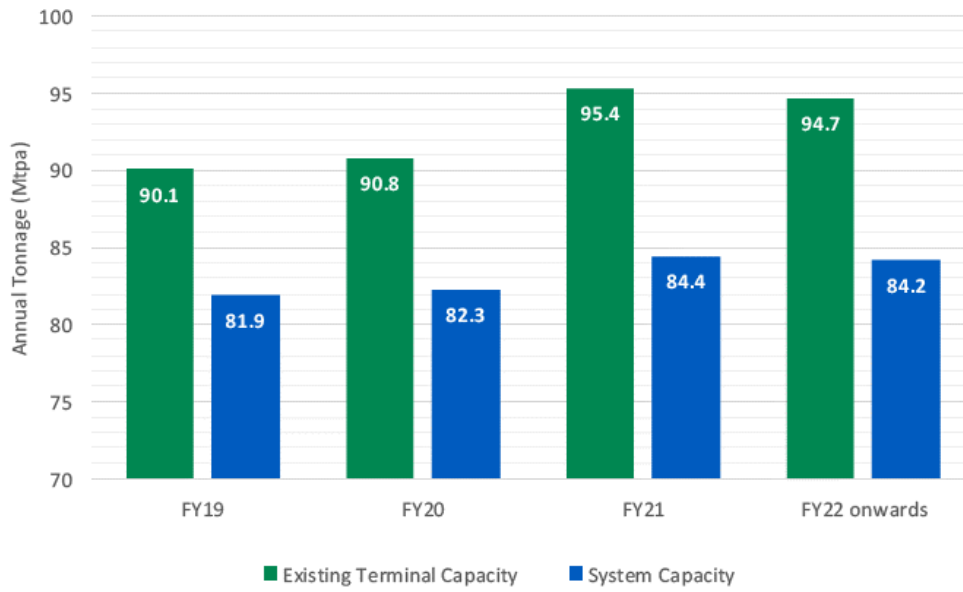
In addition, the QCA is correct in noting that Houston Kemp's demand forecasts are actually well in excess of even the most ambitious growth scenarios contained in the 2016-17 Aurizon Network Development Plan.

Similarly, as noted earlier in this submission, the ILCO system capacity modelling in October 2018 also found there were system constraints such that system capacity was actually lower than terminal capacity as set out in the following tables and graphs from the ILCO report:

Table 1 Capacity Estimates over assessment period

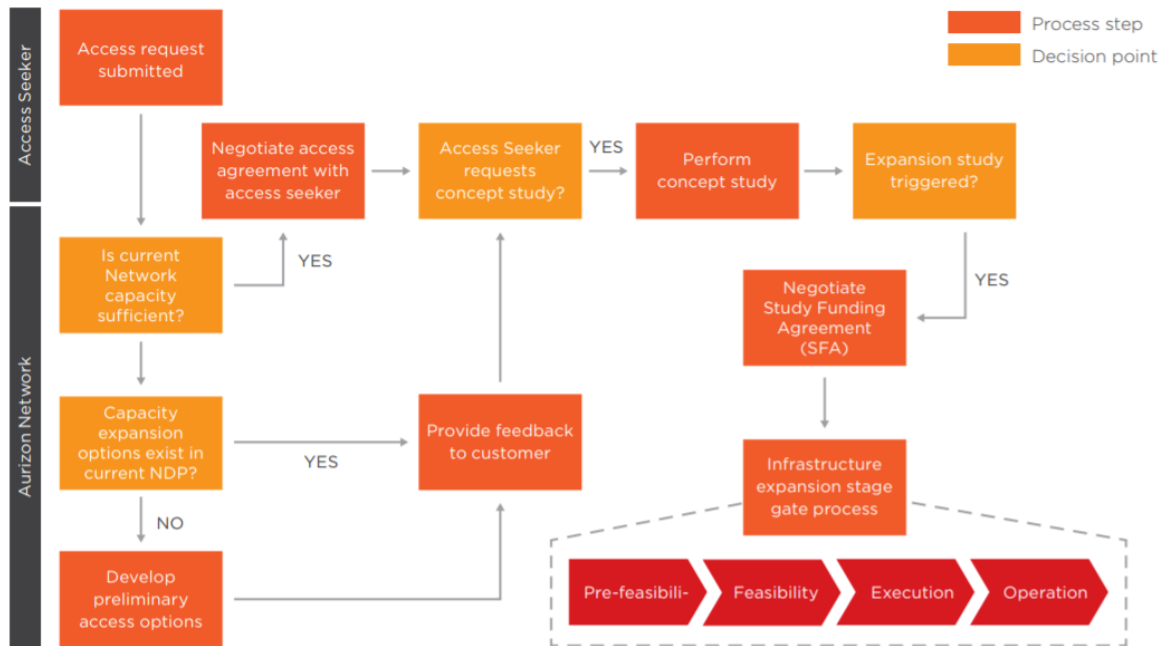
Financial Year	Contracted Demand (Mtpa)	Existing Terminal Capacity Estimate (Mtpa)	System Capacity Estimate (Mtpa)
FY19	79.3	90.1 ± 1	81.9 ± 1
FY20	81.1	90.8 ± 1	82.3 ± 1
FY21	83.6	95.4 ± 1	84.4 ± 1
FY22 onwards	86.1	94.7 ± 1	84.2 ± 1

Figure 1 Capacity Estimates over assessment period



Even the below diagram from the 2016-17 Aurizon Network Development Plan shows how many steps there are just in planning a rail expansion (let alone the time involved in all the studies, negotiation of commercial agreements and actual construction and commissioning).

Figure 2: Expansion planning process



The other issue that is notable from the Aurizon Network Development Plan is the 'lumpy' nature of the capacity expansions. It should not be assumed that small incremental increases in theoretical demand for DBCTM capacity will be supported by rail expansions (as is frankly demonstrated by the differences ILCO has indicated exist between terminal and system capacity), at least until the point where the aggregated additional demand which is sustained over the long term (rather than for a temporary peak as both the QCA and Wood Mackenzie predict) is sufficient to justify the next logical rail capacity expansion.

All of that serves simply to demonstrate the artificiality of the rail capacity assumption that is critical to Houston Kemp's demand forecasts, such that by not taking account of constraints and the likely delays in development of expansions to address them, they will be inherently overstating demand.

(c) Early project commencement

As the independent MMI report demonstrates, Houston Kemp has also made a series of aggressive assumptions about whether new projects will be developed and the timing of their development. That is not just making a 'conservative' estimate as the QCA has considered, rather Houston Kemp's estimate is completely out of line with all credible forecasts of demand, by assuming future projects will be developed (and developed quickly for large volumes of production) without sufficient regard to the current status of such projects, development timeframes, the intentions of the project proponents or their economics.

An overview of the treatment of the following development projects in the various estimates demonstrates how aggressive the Houston Kemp approach is relative to the MMI and Wood Mackenzie base cases.

Project	Houston Kemp	MMI	Wood Mackenzie
Moranbah South	Include	Exclude	Exclude assuming QCA proposed declaration period (commencing 2034)

Talwood	Include	Exclude	Exclude
Grosvenor West	Include	Exclude	Exclude
Ironbark	Include	Include at reduced tonnage	Exclude
New Lenton	Include	Include but 5 years delayed, commencing 2025	Include commencing 2021
Denham	Include	Exclude	Exclude
West/North Burton	Include	Exclude	Include commencing 2019
Codrilla	Include	Exclude	Exclude
Moorvale West	Include	Exclude	Exclude
Vermont East / Wilunga	Include	Include but at delayed ramp-up commencing at 2028	Include commencing at 2029
Winchester South	Include	Exclude	Include commencing at 2024
Harrybrandt	Include	Exclude	Exclude

While there are different judgments applied by Wood Mackenzie and MMI (with one more optimistic on some projects and the other more optimistic on others), it is clear that both MMI and Wood Mackenzie are highly sceptical of Houston Kemp's assessment of likely future demand from these projects and the aggregate demand that is likely to arise from the portfolio of these possible future projects.

4.14 QCA / MMI Estimates

(a) MMI base case

Given the substantially different demand forecasts provided by stakeholders, the DBCT User Group agrees it was appropriate for the QCA to commission an independent review of DBCTM/Houston Kemp's demand forecasts.

While the DBCT User Group might take issues with MMI's assessment of individual projects, at an aggregate level its 'base case' assessment is mostly regarded by the DBCT User Group as a reasonable estimate of forecast demand, subject to thinking that the forecasts in the earlier parts of the proposed declaration period appear higher than is justified.

The below shows that it starts higher than the Wood Mackenzie base forecast before falling away – but actually produces nearly identical peak demand forecasts of 83.69 mtpa (MMI) and 83.8 mtpa (Wood Mackenzie).

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
MMI Base Case	83.69	80.23	80.19	76.21	77.53	72.23	59.19	64.69	70.04	70.74
Wood Mackenzie Base Case	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2

The DBCT User Group's concerns relate to the initial years where that high level of throughput demand is not reflective (at least when converted to forecast contracted capacity using the 0.9 ratio the QCA and DBCTM have utilised) of market realities. In particular, for there to be the

assumed level of contracted capacity (using the 0.9 ratio) there should be significantly more action now on developing an expansion to DBCT than is currently the case.

(b) MMI High Case not reasonable

However, the DBCT User Group strongly disagrees with MMI's approach in relation to its 'high case'.

The DBCT User Group agrees that Houston Kemp has significantly overstated the demand from future projects through a combination of including projects that will not be developed in the relevant time frame, assuming an earlier commencement of production and assumption a higher rate of production.

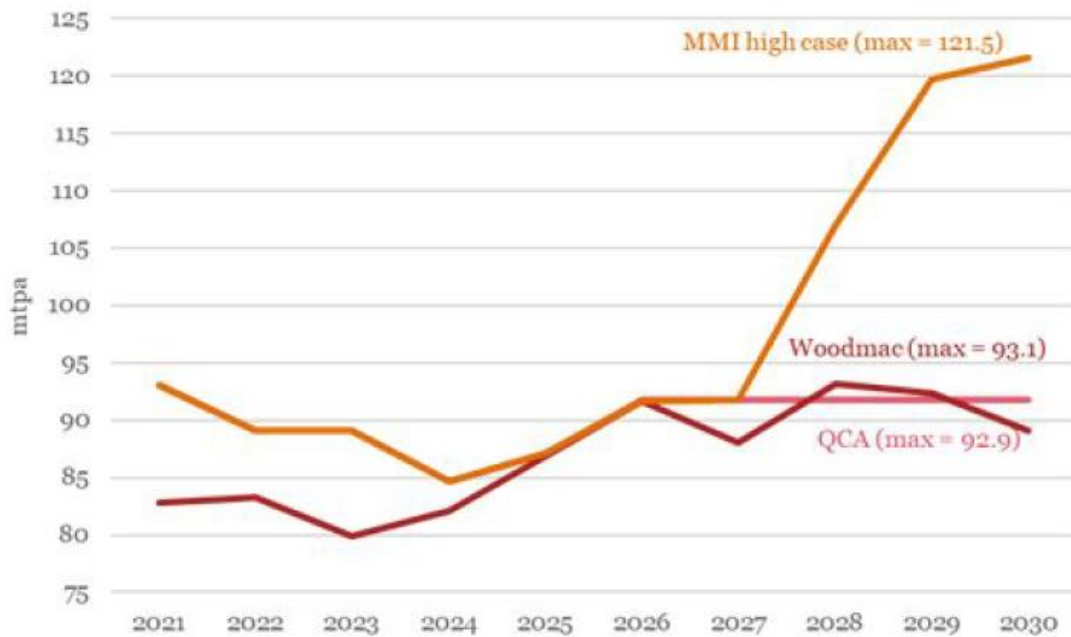
The DBCT User Group also agrees with the MMI assessment that 'there is at least a five-year development phase, including obtaining approvals, followed by construction for most new developments' such that MMI's exclusions of numerous projects from the base case is entirely appropriate. The DBCT User Group in fact notes that, based on their own experiences, for a greenfield project, that 5 year timing could be highly optimistic, at least for larger scale projects.

However, the construction of the MMI 'high case' (and ultimately its use in the QCA estimate in the 'outer years') is highly problematic. If the DBCT User Group has understood the MMI Report and QCA Draft Decision properly, the MMI high case arbitrarily includes half way through the 10 year period a series of projects MMI considers are actually highly unlikely to be developed in that period.

This is not like a typical 'high case' or 'upside' forecast where projects that have some prospect of being developed (but insufficient levels of confidence to be included in the base case) are added beyond the base case. Rather it is an entirely artificial estimate where MMI has clearly indicated that it has made no attempt to make any specific assumptions regarding any of the projects for which demand is added. Instead, MMI has simply represented half of the demand profile provided by Houston Kemp, which has been recognised by the QCA and MMI as completely artificial for reasons including the express assumption there are no rail capacity constraints.

To show the extent of the difference this causes, the below diagram from the 3rd PwC Report shows the comparison of the QCA estimates, Wood Mackenzie base case and MMI high case:

Figure 6: Contract entitlement estimates - QCA, MMI and Woodmac



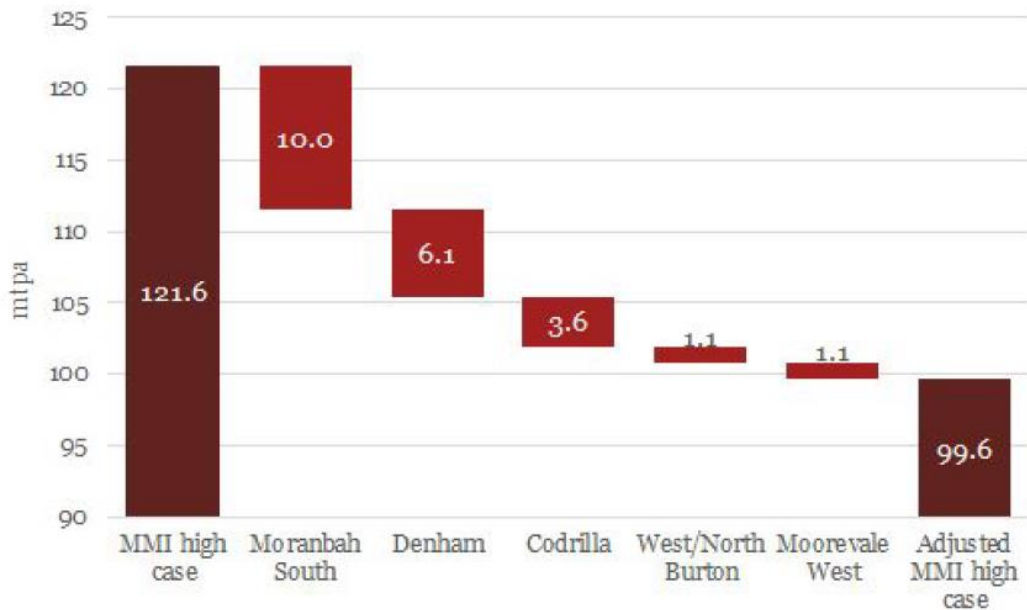
Source: MMI⁴², QCA, Woodmac (adjusted to capacity entitlement equivalent)

As is evident from that graph alone, the MMI high case involves a very aggressive demand forecast that bears no resemblance to any other credible forecast and suddenly 'takes off' in a way that does not reflect the lived experience of how increase in volumes occur in this coal supply chain.

To help to understand the massive gap, PwC have conducted an analysis of the material variances between the MMI 'high case' and Wood Mackenzie base case, and sought to determine how the MMI high case would appear when some clearly wrong assumptions were corrected.

This creates the 'adjusted MMI high case' referred to in the PwC 3rd Report (and utilised in the modelling in section 4.16 of this submission below). The below diagram shows the bridging items removed from the demand forecast to produce a more credible forecast.

Figure 8: Adjusted MMI high case⁴⁴



Source: MMI, PwC analysis

As the 3rd PwC Report notes, advice from the relevant members of the DBCT User Group who are proponents for the projects mentioned in the graph above have indicated:

- (i) Moranbah South is unlikely to commence operations until 2029; and
- (ii) Denham, Codrilla, Moorevale West and West/North Burton, among others are either very unlikely to proceed or not proceeding at all.

While the DBCT User Group considers the MMI 'high case' is completely artificial and arbitrary, to demonstrate how clear it is that criterion (b) is satisfied, the PwC Report also contains some alternative modelling to show that criterion (b) would also be satisfied assuming this adjusted MMI high case was used as the estimate of foreseeable demand.

(c) No rationale for using a high case

Despite all of the flaws and artificiality of the MMI high case it appears as though the QCA has adopted as its estimate for 2026-2030, estimates that are half way between the MMI base case and the MMI high case as at 2026.

The QCA appears to have adopted this approach as it is 'reluctant to adopt an overly conservative approach to estimating total foreseeable demand'.⁵⁹

However, that rests on the clearly false assumption that the MMI base case is somehow 'overly conservative'. To the contrary, it has clearly involved a thorough check of public materials, and is relatively close to other credible demand forecasts.

To the extent that MMI has had to make judgements in respect of individual projects in the base case, they are just as likely to be overstated as understated. Consequently, the MMI high case should be disregarded and the MMI base case is clearly the appropriate reference point for the QCA estimate.

⁵⁹ Part C, [2.6.3] QCA Draft Decision.

In any case, as a matter of principle it is simply inappropriate for the QCA to be taking a conservative approach to its forecast (unless that is acknowledged as not being its forecast, but a testing that criterion (b) would still be satisfied based on an aggressive demand forecast).

Rather, the requirement of criterion (b) is that foreseeable demand is met at least cost by the facility, not that foreseeable demand plus an artificial inclusion of additional demand so as to be 'conservative' is met at least cost. If it artificially inflates the estimate of foreseeable demand in this way, the QCA would be erroneously setting the threshold for criterion (b) higher than the QCA Act provides for.

4.15 Conclusions on foreseeable demand

Based on all of the available data, it appears that peak demand for the service should be, at its highest, estimated using the MMI base case of 83.69 mtpa throughput and 92.99 mtpa contracted capacity or the Wood Mackenzie base case of 83.8 mtpa throughout and 93.1 mtpa contracted capacity.

However, the DBCT User Group continues to consider those represent relatively high estimates of foreseeable demand, given the extension of volume assumed from future projects, for which the development of, timing of development and ultimate production volumes are uncertain.

There is also credible evidence arising from the notifying access seeker process, users subsequent conduct, and [REDACTED] suggesting forecast demand should be lower.

In any case, to demonstrate that criterion (b) is clearly satisfied even at high forecast demand profiles, the QCA estimate, Wood Mackenzie base case and adjusted MMI high cases have been modelled by PwC, with the results of that modelling discussed below.

4.16 At the least cost

(a) Methodological issues

As discussed in detail in section 3.2(c) of these submissions, the DBCT User Group strongly support the QCA's view that the cost of meeting total foreseeable demand in a given scenario is the total cost of meeting demand (including sunk costs), not just the incremental cost to society (as DBCTM appears to assert).

Accordingly, the modelling of the cost of meeting demand discussed further below in this submission is prepared on that basis – considering average costs rather than incremental costs.

(b) Relevance of the existing reference tariff

The DBCT User Group also supports the QCA reference tariff (as revenue reflecting recovery of efficient costs and a reasonable return on and of capital) as good evidence of the cost of meeting the existing demand.

(c) Cost estimates being utilised by QCA

The User Group appreciates that the QCA has adopted:

- (i) the highest estimate of expansion costs available; and
- (ii) a methodology of estimating below rail costs that is also likely to over-estimate those costs,

because despite using those ultra-conservative approaches it is still clear that criterion (b) is satisfied. On that basis, the PwC modelling is based on modelling the various demand forecasts and the various estimates of DBCT expansion costs.

However, for the avoidance of any doubt the DBCT User Group continues to question DBCTM's revised estimates of the costs of the Zone 4 and 8X (and 9X) expansions.

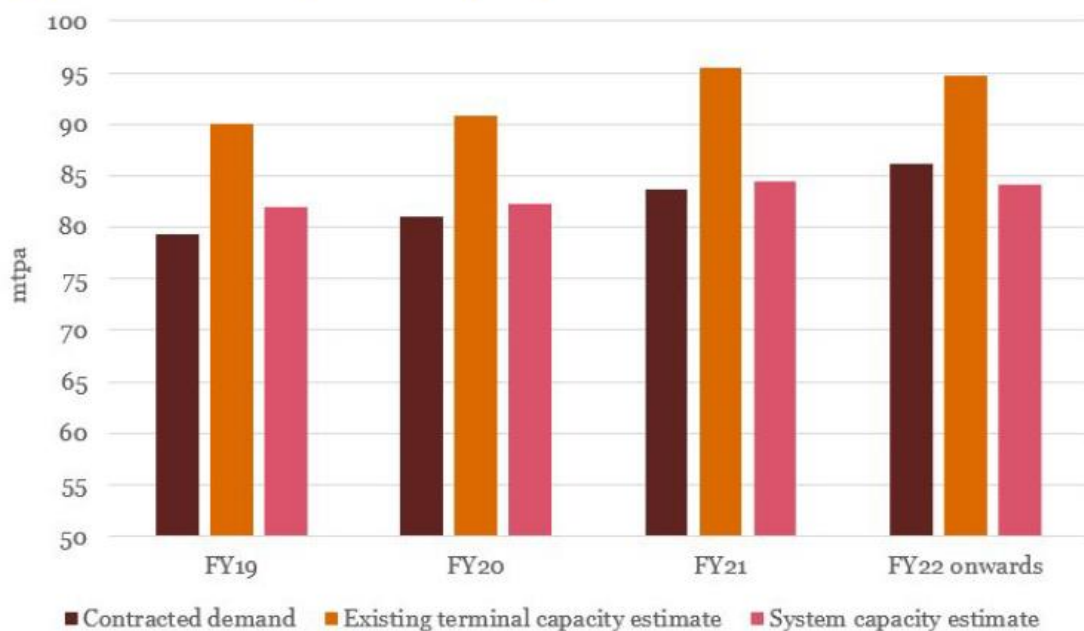
To the extent it would actually make any difference to the assessment of criterion (b), the QCA would obviously be required to make an appropriate estimate of costs (which will require a critique of the inflated costs now asserted by DBCTM) – not one which is ultra-conservative.

(d) Extent to which expansions of DBCT are actually needed to service higher demand

As discussed in the PwC 3rd Report and elsewhere in this submission, ILCO's modelling suggests that terminal capacity is actually materially higher than the nominally accepted 85 mtpa, being about 90 mtpa in financial year 2019 and increases to around 94 mtpa from financial year 2022 onwards.

The graph below shows the significant difference which will exist between terminal capacity (as assessed by ILCO) and contracted capacity.

Figure 3: ILC modelling - DBCT capacity



Source: DBCT capacity estimates per ILC (2018), unpublished

What those ILCO capacity estimates suggest is that if the other system constraints were resolved, DBCTM would be able to contract up to 94 mtpa of capacity (i.e. above all of the credible demand forecasts) based on the existing terminal capacity.

That would obviously make a significant difference to the assessment of criterion (b) (relative to an assumption of the existing terminal having 85 mtpa, which is the basis for all modelling provided to date).

As discussed in the PwC Report, recognising the greater terminal capacity that exists makes a material difference to the volume of demand for which DBCT alone is the least cost way of meeting that demand.

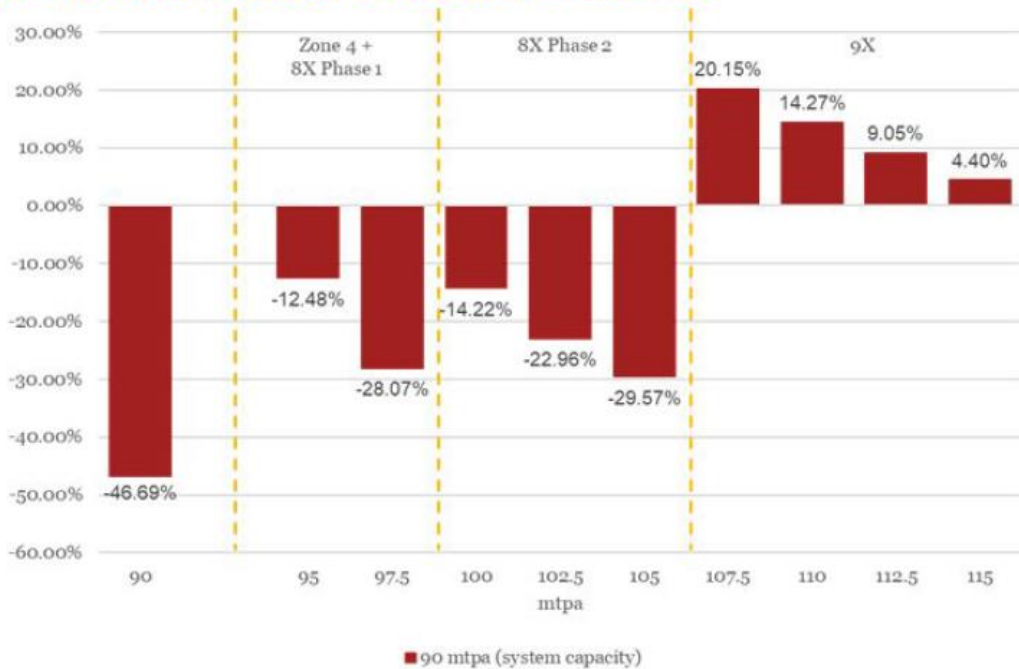
The below diagrams from the PwC 3rd Report shows how using even 90 mtpa as system capacity changes the point at which the incremental costs per tonne to service total foreseeable demand at DBCT becomes more expensive than the other alternatives:

Figure 4: Incremental cost per tonne to service total foreseeable demand - DBCT (85 mtpa terminal capacity) versus cheapest alternative



Source: PwC modelling

Figure 5: Incremental cost per tonne to service total foreseeable demand - DBCT (90 mtpa system capacity) versus cheapest alternative



Source: PwC modelling

It is obviously absolutely clear from that modelling that if DBCT is not required to be expanded that their will be higher costs of meeting that demand elsewhere (given the higher costs incurred to access other supply chains as discussed in detail earlier in this submission) – such that the ILCO assessment of long term terminal capacity of approximately 94 mtpa – is strong evidence that criterion (b) is satisfied.

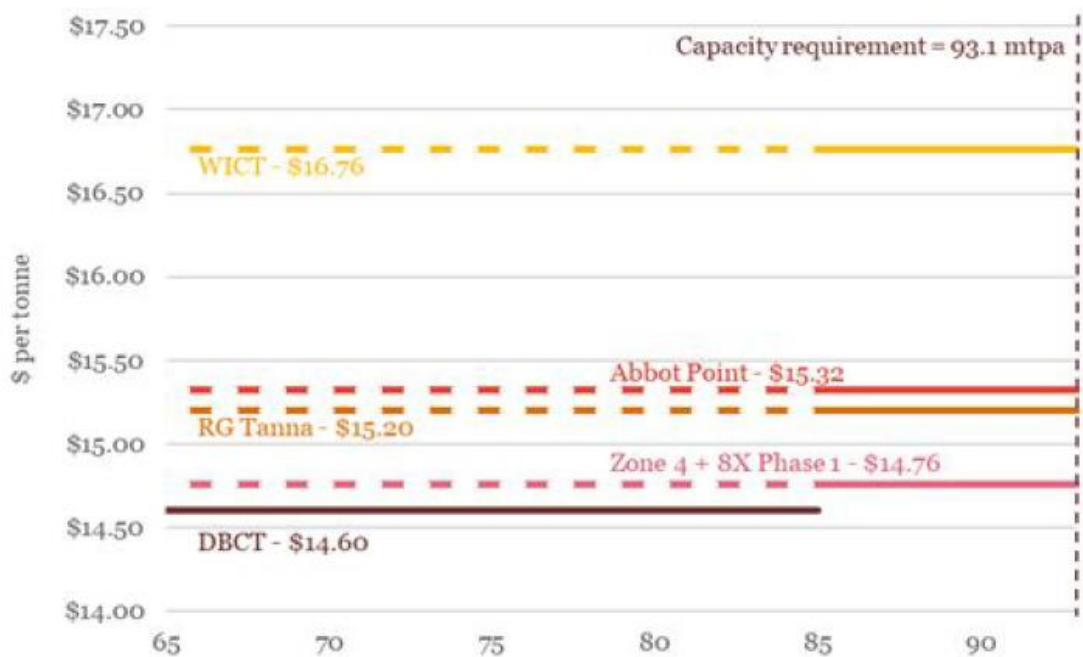
The DBCT User Group considers that it is clear based on ILCO's capacity estimate that that is actually the appropriate way of considering criterion (b).

However, for the avoidance of doubt PwC has gone on to model costs as if the terminal could only meet its nominal nameplate capacity of 85 mtpa (as discussed further below) – given that criterion (b) is also met on that very conservative approach.

(e) Calculation / modelling of the 'least cost' to meet foreseeable demand

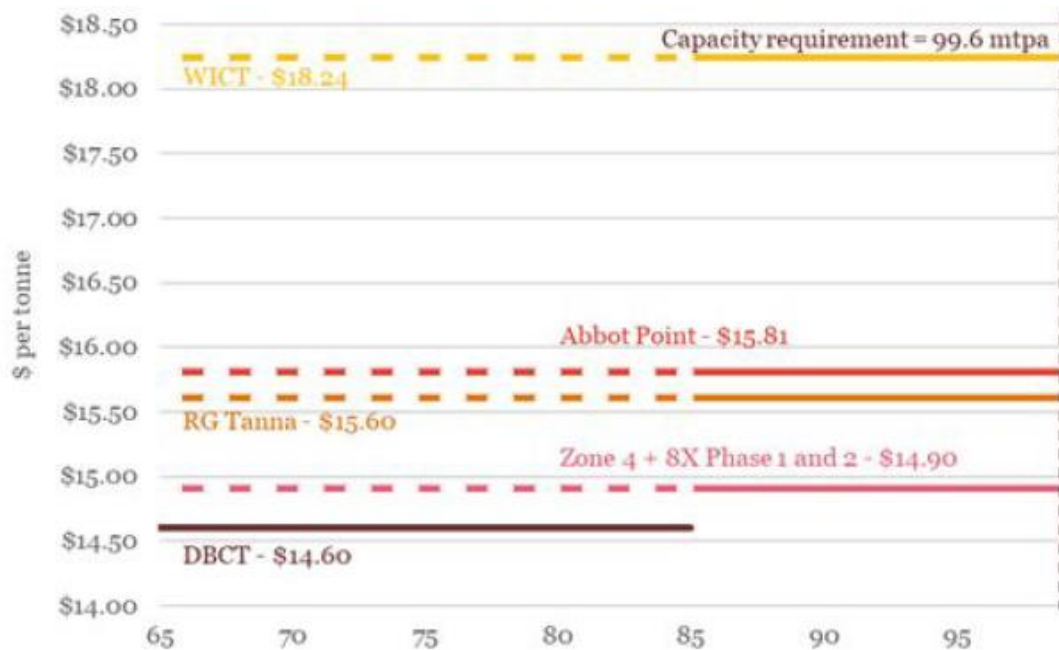
The outcomes of the PwC modelling, explained in further detailed in the PwC Report enclosed in Schedule 2, are shown below (using the alternative demand forecasts discussed above and the expansion costs the DBCT User Group consider are more accurate):

Figure 7: FY18 average cost per tonne of options to service total foreseeable demand (per updated Woodmac estimates), scaled to capacity requirement



Source: PwC modelling

Figure 9: FY18 average cost per tonne of options to service total foreseeable demand (per adjusted MMI high case), scaled to capacity requirement

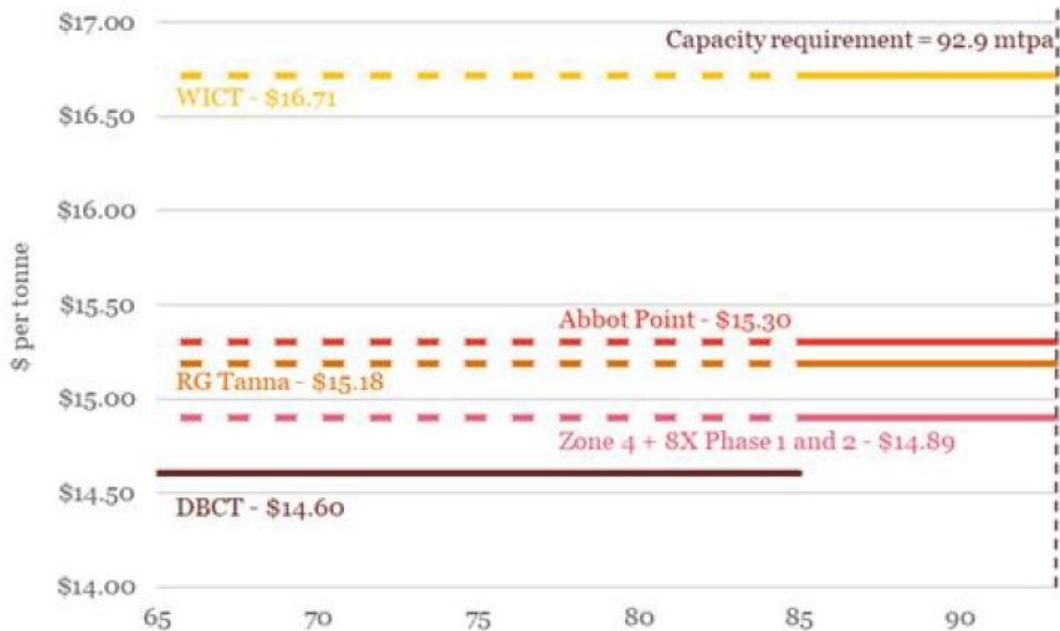


Source: PwC modelling

As is absolutely clear from those graphs (even ignoring the questions about whether utilising APCT or RGT is possible given lack of available capacity), both on the QCA's calculations and those of the DBCT User Group, foreseeable demand is met at the least cost by DBCT (with Zone 4 and 8X expansions).

Given the approach adopted by the QCA in relation to expansion costs, PwC went on to do further modelling to confirm that conclusion held true even if the higher capital costs proposed by DBCTM for future expansions of DBCT were utilised. The below graph shows the outcome of that further modelling:

Figure 10: FY18 average cost per tonne of options to service total foreseeable demand (per HoustonKemp capital cost estimates), scaled to capacity requirement



Source: PwC modelling

Again, while it increases the average cost of utilising DBCT slightly, it remains clear that, whatever volume estimates and costs estimates are adopted, foreseeable demand is still met at least cost by DBCT.

4.17 Conclusion

Accordingly, the DBCT User Group strongly supports the QCA's finding that DBCT can clearly meet foreseeable demand in the market at the least cost compared to two or more facilities, such that criterion (b) is satisfied (even on extremely favourable assumptions to DBCTM in respect of demand, costs and non-cost barriers).

5 Criterion (a) – promote a material increase in competition

5.1 Ability and incentive to exercise monopoly power in the absence of declaration

As discussed in section 3.3 of these submissions, the DBCT User Group agrees with the QCA's analysis that criterion (a) now involves:

- (a) assessing whether the service provider (DBCTM) would have an ability and incentive to exert market power such that it would adversely affect the environment for competition in a dependent market; and
- (b) if so, whether declaration would improve the environment for competition in the dependent market by constraining DBCTM's ability and incentive to exert market power such that opportunities or conditions for competition in the dependent market would be materially better with declaration than without declaration.

The first key step is identifying and appropriately defining the appropriate dependent markets.

5.2 Defining the relevant market – the Tenement Market

(a) QCA definitions of tenements markets

The DBCT User Group strongly supports the QCA's finding of the relevant dependent markets for assessing criterion (a),⁶⁰ including:

- (i) the coal exploration and development tenements market in the Hay Point catchment region; and
- (ii) the coal production tenements market in the Hay Point catchment region.

Given that criterion (a) requires that there is a promotion of competition in at least one market, and the QCA's finding that declaration is likely to promote competition in these Hay Point catchment coal tenement markets, the DBCT User Group's submissions on criterion (a) focus on those markets.

(b) Tenements markets are distinct from end product markets

As discussed in detail in the previous DBCT User Group submission, it is clear there are tenements markets that are functionally separate from the markets for the end products produced through development of those tenements.

While the QCA Draft Decision acknowledges it has not been a point of contention in the declaration review to date, for completeness the DBCT User Group notes that a finding of there being tenements markets that are separate to coal markets, is consistent with:

- (i) the market realities of there being:
 - (A) different market participants – with the Queensland government being a supplier in the tenements market, and buyers (and sellers) in the tenements market who are not current suppliers in coal markets;
 - (B) different competitive dynamics – due principally to the wider geographic scope of coal markets, relative to tenements markets;
- (ii) previous findings of the Australian Competition Tribunal (in respect of the Pilbara rail network proceedings) and the NCC (in respect of the Newcastle shipping channel proceedings);
- (iii) consistent with the submissions of all parties – with it being common ground that there are tenement markets; and

⁶⁰ Part C, [3.2.1], QCA Draft Decision.

- (iv) the independent advice received by the QCA from Balance Advisory.

The DBCT User Group also agrees with the QCA that coal tenements are clearly in a separate market to other mineral tenements, given that:

- (i) the values of tenements for coal and other minerals would be expected to be correlated to the value of the relevant mineral;
- (ii) as recognised by the NCC, coal and other minerals will not be substitutable and may require separate experience and equipment to explore and extract;⁶¹
- (iii) it is clear that the buyers and sellers of tenements for different minerals are largely different from those for coal;
- (iv) as DBCTM recognised in its previous submissions, firms wanting to acquire resource authorities are unlikely to substitute between resource authorities for different minerals.

Many of these factors are also recognised by the Palaris Report (in Schedule 3) which supports the same conclusion.

Consequently, the DBCT User Group's submissions below principally focus on how the exact dimensions of those coal tenements market should be defined.

(c) Different markets for exploration and production tenements

The DBCT User Group strongly agree with the QCA's conclusions⁶² that there are separate markets for coal exploration and development tenements and coal production tenements.

In particular, the DBCT User Group agrees that the Balance Advisory report reflects the market realities with which members of the DBCT User Group deal (as participants in these coal tenements markets).

In particular, as Balance Advisory notes:⁶³

- (i) there are distinct differences in the risks involved between projects at an exploration and development stage and a production stage;
- (ii) those different risks are relevant to, and are drivers for prospective buyers of tenements to consider in determining the economic value and demand of a coal tenement; and
- (iii) tenements in the exploration or development stage will have a significantly different value to those in the production stage (and given the different degrees of certainty involved are often valued using different valuation methodologies).

The Palaris Report similarly notes:

For the purposes of assessing competitive effects within coal tenements markets, it is important to differentiate between different types of tenements, which relate to two clear markets identified in the Balance Advisory report and the QCA draft decision. That is, coal tenements are divided into the markets for a) exploration or pre-development projects and b) operating assets.

This is a clear distinction that separate exploration and development projects with a lower level of certainty and higher risk profile, to that of operating mines where most risks are known, and production volumes and operating costs can be estimated within a much higher level of certainty.

⁶¹ NCC Statement at [6.147]

⁶² Part C, [3.2.1] QCA Draft Decision

⁶³ Balance Advisory report

This separation is important because in most cases, compares looking to acquire coal tenements will be aiming to acquire exploration or development assets or operating mines, but are highly unlikely to switch between the two in response to a changes in the price to acquire one such type of tenement. The reasons for this are numerous and include availability of capital and acquisition costs, location and synergy value for existing tenements, and risk appetite,

The DBCT User Group considers that logic set out in the Balance Advisory and Palaris reports is made abundantly clear when the values at which exploration and development tenements are acquired (whether by private transaction or through the State's exploration tenement release program) are compared to each other. Those stark differences in values, provide clear evidence to support an unsurprising conclusion, that a SSNIP in price of one of the types of coal tenements would not cause a potential purchaser to substitute to the other type of coal tenement.

Similar to the analysis of substitution potential between coal terminals in respect of criterion (b) earlier in these submissions, the fact that there may be some buyers who acquire both exploration and development tenements and production tenements, is not evidence of substitution. Rather in this case, these are complementary products which are both likely to be attractive to larger coal companies as part of maintaining a project pipeline or portfolio of coal projects at different stages of the mine life cycle.

(d) Geographic dimension of the tenements market – QCA and Balance Advisory analysis

The DBCT User Group strongly agree with the QCA's assessment⁶⁴ that there are separate geographic markets for coal tenements in the Hay Point catchment region, which are separate from coal tenements in other regions of Queensland.

The QCA is clearly correct that in identifying the geographic dimension of the market, it is relevant to consider the factors that would affect valuation of a tenement to prospective buyers. That follows logically from the approach to defining a market by testing substitution through application of the SSNIP test as discussed in section 3.2(a) of this submission.

Geographic dimensions are often effectively defined by differences in cost, as where cost changes with distance, there will come a 'tipping point' past which the distance, and therefore the cost difference, is too great such that a SSNIP in the more proximate hypothetical monopolist's good or service would no longer be likely to cause substitution.

As recognised in previous DBCT User Group submissions and the QCA Draft Decision, the fact that the precise boundaries of that geographic region are not perfectly ascertainable is typical of geographic market definition and not an indication that the boundary of the market has not been reached.

The evidence of market participants is important in assessing such market definition, and, as discussed in the Balance Advisory report, *'the valuation miners attached to coal tenements is affected by a number of factors, including infrastructure costs'*.⁶⁵

Having discussed the QCA's assessment of the differences in costs of the Goonyella system and other systems, Balance Advisory concludes:

*with regard to the significant infrastructure cost difference between the Goonyella System and other systems, we agree with both DUG and the QCA's staff analysis that the geographic dimension of the market is the "catchment area" of Hay Point.*⁶⁶

⁶⁴ Part C, [3.2.1], QCA Draft Decision.

⁶⁵ Balance Advisory at 12

⁶⁶ Balance Advisory at 4.

That supports the QCA's conclusions⁶⁷ that:

For a given price of coal in the coal export market, a material difference in infrastructure costs across different geographic regions would likely affect the expected return from mining operations across those regions, on the presumption that mine production costs across Queensland are not spread over a wide range.

Given significant differences in infrastructure costs between the Goonyella coal supply chain and other coal supply chains across below-rail, above-rail and port charges (in the order of 47 to 130 per cent), the valuation of coal tenements in the Goonyella system would likely be different from other regions. Therefore, coal tenements in the Hay Point catchment region are unlikely to be a close substitute for tenements in other parts of central Queensland.'

All of that analysis is based on differences in infrastructure costs alone (i.e. not considering other non-cost barriers to switching which exist). However, even keeping the analysis that simple, the DBCT User Group agrees that it is clear from the differences in infrastructure costs discussed in the analysis of criterion (b) above (estimated by the QCA as the cost to access other terminals being 47% to 130% more), that a SSNIP in the cost of a tenement in the Hay Point catchment would not be sufficient for a potential buyer of a Hay Point catchment coal tenement to substitute for a coal tenement elsewhere in Queensland.

For completeness the DBCT User Group notes that the analysis of the QCA and Balance Advisory is highly consistent with the economic analysis by Castalia contained in the 1st Castalia report submitted to the QCA in this process.

(e) Geographic dimension of the market – Palaris report

Given the importance of the tenements market definition to the finding in respect of criterion (a), the DBCT User Group has also engaged a further independent expert, Palaris, to provide a report on the coal tenements market (included in Schedule 3 of this submission).

Castalia's previous analysis was based on an economic analysis of the impact of cost differences on substitution possibilities.

Whereas, Palaris was engaged in the context of being able to analyse this in terms of the real market behaviours exhibited in respect of investments in the tenements markets, through its deep experience in assisting numerous coal companies (from independent juniors to major global miners) on Australian and international coal tenement acquisitions.

Consistent with the previous findings of Balance Advisory (engaged by the QCA) and Castalia (engaged by the DBCT User Group), Palaris has confirmed that in its experience:

- (i) coal tenements in the Hay Point catchment are not substitutable for coal tenements elsewhere – such that there are separate markets for coal tenements in the Hay Point catchment; and
- (ii) coal tenements for exploration or pre-development projects and coal tenements for operating assets are not substitutable for each other – such that there are separate markets for:
 - (A) coal exploration and pre-development project tenements in the Hay Point catchment; and
 - (B) coal tenements for operating projects in the Hay Point catchment.

The below diagram identifies the existing mining leases within the Hay Point catchment as identified by Palaris – demonstrating how clearly related to the Goonyella system rail line the market boundary is.

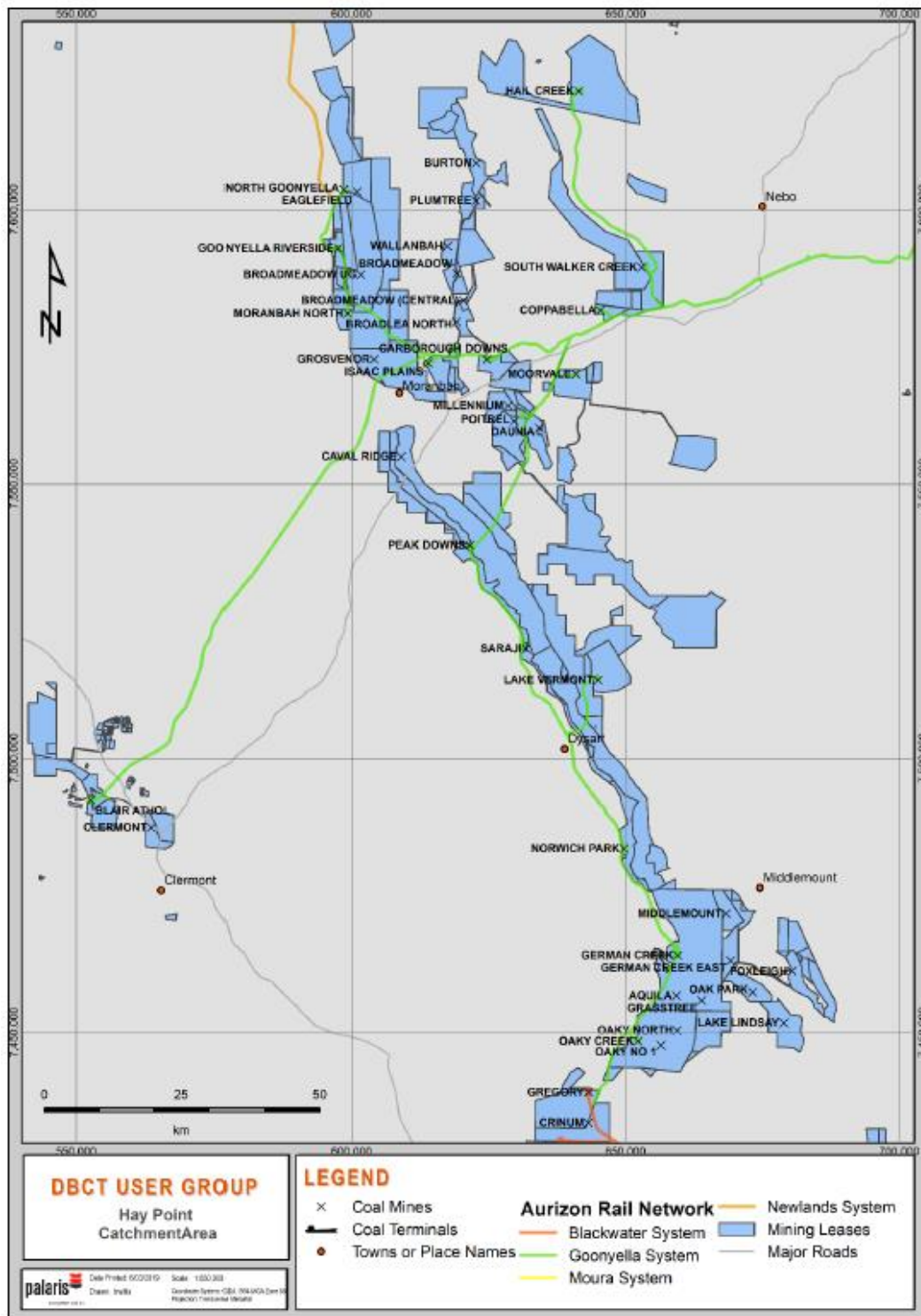


Figure 3.2 Existing mines within the Hay Point catchment

In respect of the Hay Point catchment geographic dimension of the market definition, Palaris noted that the coal tenements within the Hay Point catchment are able to be defined by a unique combination of factors that include:

- (i) lower infrastructure costs, with a well-established rail network and close proximity to export terminals;
- (ii) stable geological setting and favourable geotechnical conditions;
- (iii) distribution of world class coal bearing formations;
- (iv) outstanding coal quality attributes with a high proportion of premium metallurgical coal;
- (v) mines that are generally in the lower end of the cost curve; and
- (vi) favourable project development and approval conditions.

The Palaris Report discusses in detail how this combination of characteristics do not apply to other coal development regions, demonstrating the unique and non-substitutable nature of tenements in the Hay Point catchment. It particular covers coal quality differences that are an important factor in Hay Point catchment coal tenements being distinct from (and not close substitutes for) coal tenements in other coal regions.

Palaris also specifically notes the differences in infrastructure costs noted by the DBCT User Group, QCA, Balance Advisory and Castalia as follows:

One of the key benefits of the Hay Point catchment is the close proximity to the Hay Point coal terminals, with shorter raiing distances. In addition, the Hay Point catchment benefits from efficient coal terminal pricing at DBCT and larger train payloads on the Goonyella rail system. Specifically DBCT coal handling charges, although similar to average port costs at RGTCT (by the QCA's estimate), are materially lower than terminal costs at WICET and AAPT. Similarly, the Goonyella system benefits from a larger train payload that improves the above rail costs relative to the Blackwater and Newlands systems. This results in materially lower total supply chain costs for mines in the Hay Point catchment.

The distribution of the rail network and number of existing train load outs and rail spurs generally means shorter distances for new project developments in the Hay Point catchment, reducing capital intensity for new projects.

As Palaris goes on to note: '*Estimation of rail and port costs are some of the key costs that need to be calculated with a reasonable level of certainty when determining a mine's operating costs on free on board (FOB) basis which are relevant to a discounted cash flow valuation.*

Palaris' views are highly consistent with those discussed previously in this submission, that those differences in infrastructure costs are such that the resulting impact on valuation, relative to tenements in other coal regions, means that such tenements are not close substitutes.

However, what is evident particularly from the Palaris Report is that there are a number of other critically important characteristics (beyond infrastructure costs) which reinforce the distinctions between Hay Point catchment tenements and those in other jurisdictions.

Palaris also notes the strength of the Hay Point catchment market (and distinction from the tenements markets in other coal regions) is also reinforced by the observed number of tenement transactions in the recent past compared to other coal producing areas, with significant liquidity relative to trade in coal tenements in other regions. The fact that liquidity is not the same for tenements in other coal regions again suggests a lack of substitution.

(f) Geographic dimension of the market – other factors identified by the DBCT User Group

As discussed in previous submissions, the DBCT User Group considers it is clear that there are separate Hay Point catchment coal tenements market based on a number of factors including not just infrastructure cost differences but also other barriers to switching.

In particular DBCT User Group members have confirmed that:

- (i) there are geological differences between the various parts of the Bowen Basin – with the Hay Point catchment containing a higher proportion of metallurgical coals than other parts of the Bowen Basin, and higher grades of metallurgical coal (now discussed in detail in the Palaris Report);
- (ii) the greater co-shipping and blending opportunities that exist at DBCT can allow:
 - (A) greater sales opportunities for '2nd tier' metallurgical coal (which some steel mill customers will not buy without being able to also purchase as part of the same cargo a more premium grade metallurgical coal);
 - (B) higher sales revenues – where a blended product achieves a higher value by a lower grade metallurgical coal being able to be sold as a higher grade product through blending;
- (iii) where a user has existing mines in the Goonyella system, they have even stronger incentives to not switch to tenements in other regions including:
 - (A) being able to use existing port (and rail) capacity more flexibly (utilising additional capacity for one mine during operational shut downs at the other and vice versa);
 - (B) being able to defray port and rail take or pay capacity (either where surplus capacity is contracted or production or transport has ceased due to a mine incident, weather event, derailment or other issue);
 - (C) being able to make use of future renewal rails for port and rail capacity when the life of existing mining operations expire;
 - (D) achieving economies of scale (and more flexibility in terms of labour arrangements) where mining projects can be co-located; and
 - (E) where tenements can be acquired so as to be contiguous to an existing operation – it is possible to mine across both tenements as part of a single operation (which can be more efficient and prevent sterilisation of coal resources near tenement boundaries); and
- (iv) in respect of BHP, there is a strong incentive to secure tenements in the Hay Point catchment given they could utilise HPCT and BMA rail if such tenements were developed.

Some of those factors clearly produce additional value (through additional revenue or lower costs) that would be taken into account by potential acquirers of tenements in valuing tenements, and would be likely to increase the value difference between Hay Point catchment and other Bowen Basin tenements even further beyond that which would be expected due to differences in rail and port infrastructure costs alone.

Consequently, the DBCT User Group considers that they also provide additional support for the QCA's finding that there are separate markets for coal tenements in the Hay Point catchment.

5.3 Market Power and the Lack of Constraints

It is clear from the analysis in respect of criterion (b) above, that DBCT has market power. It occupies a bottleneck position in the coal supply chain for the Goonyella market and is therefore likely to be able to earn monopoly profits by denying access to the service and/or substantially increasing the cost to access the service.

As a commercial entity, DBCTM is also clearly incentivised to maximise profits.

The question therefore is whether any of the 'potentially constraining factors' noted by the QCA in fact provide any constraints on DBCTM's behaviour in the absence of declaration.

(a) Lack of any constraints from coal terminals

It follows from the detailed analysis of the QCA (in the QCA Draft Decision), Balance Advisory, the DBCT User Group (both in previous submissions and above in this submission), and PwC in relation to criterion (b) that other coal terminals are not close substitutes for the DBCT service, due to significant cost differences and non-cost factors, and do not provide a competitive constraint on DBCTM's conduct.

Without repeating the full detail of those submissions (as addressed in sections 4.4 to 4.5):

- (i) the cost difference for a Goonyella mine of utilising a non-Goonyella terminal (based on the QCA's estimates, 47 to 130% more expensive on average than utilising DBCT) is significant, such that DBCTM would be able to increase its price to the next lower cost alternative terminal which actually has existing and available capacity – which appears to be WICET, effectively permitting a price rise (by the QCA's calculation) of nearly \$15 per tonne;
- (ii) there are additional non-cost factors such as rail and port capacity constraints, rail network differences and blending/co-shipping opportunities which mean that there are other barriers to users switching away from the DBCT service which further weaken any constraint other coal terminals are alleged to provide; and
- (iii) HPCT is clearly not a substitute for the DBCT service or a competitive constraint on DBCTM's pricing or conduct, given that it is fully utilised, not available for third party usage and BMA is highly likely to continue to utilise all of its capacity for BMA (and marginal BMC) coal exports.

Consequently, the DBCT User Group strongly agrees with the QCA's conclusions⁶⁸ that other coal terminals would not act as an effective competitive constraint on DBCTM's behaviour for mines in the Goonyella system seeking terminal access.

(b) Lack of any countervailing power of users

As the QCA's Draft Decision recognises,⁶⁹ there is a difference in position between existing users (to the extent of their existing contracted capacity) and future users (including existing users to the extent they are seeking to increase their capacity).

Consistent with the DBCT User Group's previous submissions on this issue (and the legal advice from Allens included in the DBCT User Group's initial submission), the DBCT User Group agrees with the QCA that for existing users the combination of:

- (i) the 'evergreen' renewal rights allowing 5 year extensions (on the same access terms, and which are not mine-specific such that they can be used for a succession/portfolio of projects) by notice 12 months before expiry of the term of the user agreement; and
- (ii) the price review and arbitration provisions of those existing user agreements which are intended to produce an outcome similar to that which the QCA would have been expected to determine,

results in existing users having an ability to constrain DBCTM, but only in relation to their currently contracted capacity.

⁶⁸ Part C, [3.3.1] QCA Draft Decision.

⁶⁹ Part C, [3.3.2] QCA Draft Decision.

However, the issue of concern in respect of criterion (a), is the asymmetric impact of the conduct of DBCTM in respect of future users (including existing users beyond their current contracted capacity profile).

For those users to have countervailing power (as asserted by DBCTM), they need to have a credible threat of switching in response to increases in the price of the relevant service.

In its previous submissions, DBCTM sought to make much of the fact that a material proportion of its contracted capacity was expiring in 2024. However, it is clear from:

- (i) [REDACTED];
- (ii) the other demand projections developed by MMI, the QCA and Wood Mackenzie that to the extent any existing contracted capacity is not renewed, the capacity is likely to be contracted to new users;
- (iii) DBCTM's late submissions regarding the notifying access seeker process, that it has recently signed up new 10 year access agreement such that a larger proportion of the contract capacity is contracted for a period beyond 2024; and
- (iv) past variances in contracted capacity at the terminal – that while there are periods of higher and lower contracted capacity over time, there is no evidence of long term decline.

Consequently, if it ever was, it is certainly no longer credible to suggest that there is a material threat of switching in the near future.

In addition, as per the analysis in criterion (b) there is a substantial cost difference in coal supply chains which makes it completely uneconomic for a Goonyella system miner to switch to using another coal terminal. DBCTM is obviously aware of the vast difference in costs to a Goonyella system user, such that any theoretical threat to switch is not credible and (as recognised by the QCA)⁷⁰ no such constraints exist (and such users do not have countervailing power).

That is, DBCTM will have all the bargaining power in setting new access terms in negotiations with such users with the lack of close substitutes meaning that new entrants would have no effective countervailing power and DBCTM will retain the ability to set prices in a way that will adversely impact on competition in at least one dependent market.

That is consistent with the reasoning in the NCC Statement, that shipping channel users were not an effective constraint as they had no effective alternative to using the service.⁷¹

(c) Lack of any constraint imposed by DBCTM Access Framework

The DBCT User Group continues to hold all of the concerns that it has expressed in previous submissions about the lack of constraints which would be imposed by DBCTM's Access Framework in the absence of declaration.

Not an appropriate counterfactual

The DBCT User Group remains strongly of the view that Part 5 of the QCA Act was not intended to allow a declared service provider to simply assert that in a future without declaration it would provide access in a particular way.

This is entirely different to the situation where an existing service that is not declared is the subject of a declaration application, where the manner in which the service is currently being

⁷⁰ Part C, [3.3.2] QCA Draft Decision.

⁷¹ NCC Statement at 25.

provided is likely to provide useful evidence of how the service provider would continue to provide access in the future if the service remained undeclared.

It is not appropriate to simply assume that DBCTM will provide access in the long term on a set of terms they volunteer (without any actual commitment) in the context of the current regulatory scrutiny. That is entirely speculative and hypothetical and not consistent with:

- (i) the QCA's view that it is not required to determine the detailed terms that would apply in the absence of declaration; or
- (ii) the principle that criterion (a) involves a comparison of the likely (not speculative) state of markets with and without declaration.

As the QCA Draft Decision describes, what is relevant is DBCTM's ability and incentives in the absence of declaration to act in a way which harms competition in a dependent market.

DBCTM's ability should not be seen to be artificially constrained by a self-imposed constraint that is not in existence, the effect of which is entirely unproven and highly uncertain, the continuation of which is also entirely speculative (as set out below), particularly where it is proposed for the purposes of avoiding binding obligations through declaration.

This is clearly different to an undertaking given to the ACCC (which the DBCTM cross-submission tries to draw an analogy to) as, even if such an undertaking is given, the ACCC only accepts such undertakings where they are certain, executed and cannot be amended without a further ACCC approval.

For all of those reasons, the DBCTM Access Framework should not be considered to impose any constraint on DBCTM. The DBCT User Group strongly submits that no amount of revisions or amendments to the DBCTM Access Framework can resolve the issues arising from a lack of declaration).

The current terms of DBCTM's Access Framework does not provide a constraint in any case

Even if, contrary to the DBCT User Group's views, the QCA considers it is required to consider whether the DBCTM proposed Access Framework would provide a constraint on DBCTM's behaviour in the absence of declaration, the answer is clearly that it would not.

In particular, the DBCT User Group strongly supports the QCA's views⁷² that the proposed access framework:

- (i) will enable DBCTM to exercise discretion in setting access terms and conditions, including engaging in monopoly pricing by providing access to terminal capacity based on users' willingness to pay; and
- (ii) that discretion would have the effect that, in the absence of declaration, potential future DBCT Users would face the risk of paying a materially higher access charge reflecting the cost of accessing the next least costly alternative (currently assessed by the QCA and DBCT User Group as accessing WICET via the Blackwater system) as well as uncertainty as to whether and when they would obtain access to the terminal.

DBCTM's power to make amendments

In relation to the width of amendments DBCTM would have rights to make under its Access Framework, the DBCT User Group agree with the QCA's assessment⁷³ that:

⁷² Part C, [3.3.3] QCA Draft Decision.

⁷³ Part C, [3.3.3] QCA Draft Decision.

- (i) there are a wide range of outcomes which could be said to meet the threshold for amendments being permitted – i.e. to satisfy or promote the object of Part 5 (particularly keeping in mind the breadth and high level/imprecise nature of that object); and
- (ii) there is a material difference between the QCA determining the appropriate outcome from within that range (as it does through approving an undertaking where a service is declared) and DBCTM determining whether discretionary terms that it wishes to set to pursue its profit maximising incentive would fall somewhere within that range of outcomes.

As the QCA correctly notes, on any dispute, the court would not be able to determine the appropriate outcome in a quasi-regulatory 'QCA like' manner, but would be constrained to determining whether the amendments proposed would be within the range of outcomes that would be said to satisfy or promote the object of Part 5.

In addition, disputes take time and cost (and it should not be assumed new access seekers would be in a position to bring such disputes or even be incentivised to do so). In particular, rather than taking exposure to the risks of such future amendments and then spend time challenging that through subsequent disputes, a potential new user (and potential participant in the coal tenements market) is far more likely to simply not invest.

The DBCT User Group also agree with the QCA that the amendment powers create uncertainty as to the scope of the framework and the access terms which would apply. That is clearly counterproductive to conducting negotiations in a timely and cost effective manner (and as the QCA notes, completely removes the credible backstop provided by the standard access terms that exist with declaration).

Terminal capacity allocation issues

Even though the existing nameplate capacity of the terminal is now fully contracted (other than in the near term), the DBCT User Group agrees with the QCA that it is relevant to consider how capacity will be allocated with and without declaration – as:

- (i) the ILCO modelling suggests that there is additional terminal capacity which would be available to be allocated if system capacity constraints are resolved; and
- (ii) some of the demand forecasts indicate it is possible that expansion capacity may be allocated during the declaration period.

With declaration, it is highly likely capacity would continue to be allocated based on a queuing regime, with the notifying access seeker regime effectively providing for allocation to occur based on readiness to contract capacity. The price will be the same for all access seekers for any scarce capacity given the regulated reference tariffs which would apply.

The protections in the QCA Act identified by the QCA⁷⁴ would also prevent unfair differentiation which has a material adverse effect on the ability of users to compete with other users. As a matter of principle, the likely approach with declaration, results in allocative efficiency and no impact on competition between potential users in any dependent markets.

However, without declaration, the DBCT User Group agrees with the QCA that DBCTM would have the ability, and the incentive, to allocate access in a manner that will maximise its profits – effectively auctioning terminal capacity in a way that extracts maximum economic rents.

⁷⁴ Part C, [3.3.3] QCA Draft Decision.

That that is DBCTM's intention is clearly demonstrated by the Access Framework's pricing methodology which is, as the QCA notes, clearly based on a user's willingness to pay.

Castalia's report (scheduled to the DBCT User Group's initial submission) indicated that in the absence of declaration DBCTM would set access charges at the level that would reflect the Goonyella users' costs of accessing an alternative terminal.

The QCA is obviously correct to see merit in that analysis, as it logically follows from the economic incentives that face DBCTM and users – if the cost were any higher then users would be better off to contract a non-Goonyella terminal, and if the cost were any lower then DBCTM would have foregone revenue (i.e. inexplicably acting contrary to the profit maximising incentives it faces).

As discussed at length in respect of criterion (b), no other terminal is a close substitute, however there is some cost (well above a SSNIP relative to the current DBCT cost) at which access to an alternative terminal could theoretically be obtained. Based on the QCA's estimates (which are acknowledged to be extremely conservative) that would allow an increase of approximately \$15/tonne (and based on the DBCT User Group's estimates significantly more than that).

Such a drastic difference between the likely charges that new users would pay for capacity and that existing users would pay (by virtue of the price review mechanism enshrined in existing user agreements) is not a mere transfer of value from the user to the service provider. It is an outcome that discourages efficient new entry into the tenements market – because efficient future users face these increased charges and uncertainty when existing users do not.

As the QCA correctly notes:⁷⁵

in a future without declaration, access seekers would face the risk of negotiation access in an environment where DBCT Management would have the discretion to set access terms and conditions, the risk of paying a materially higher access charge reflecting the costs of accessing WICET as well as the uncertainty as to whether and when they would obtain access to the terminal. This risk would be unmanageable and fundamental, considering the essential nature of the DBCT service for mining operations in the Goonyella system and is over and above the normal uncertainties miners would face in conducting their operations...

...

given existing evergreen user agreements, DBCT Management's stated intent to provide access to terminal capacity to potential DBCT users based on their willingness to pay will result in a material asymmetry between existing DBCT users and potential DBCT users over the access terms and conditions that would apply in a future without declaration. In an environment where existing users would likely seek coal tenements to continue to benefit from the existing user rights, this asymmetry would have a material adverse effect on potential DBCT users' ability to compete with existing users in the coal tenements market, which would likely discourage efficient entry in the coal tenements market, and so competitive conditions in that market would be adversely affected in a material way.

(d) DBCTM lease arrangement with the state provides no constraint

The DBCT User Group strongly agree with the QCA's assessment⁷⁶ that the Port Service Agreement (**PSA**) does not provide a constraint on DBCTM's ability or incentive to exercise its market power / protection for access seekers (including rail haulage providers) in a future without declaration.

As the QCA has noted:

⁷⁵ Part C, [3.3.3] QCA Draft Decision.

⁷⁶ Part C, [3.3.4] QCA Draft Decision

- (i) despite the existence of the PSA, the State nevertheless clearly considered at the time of privatisation that declaration was appropriate;
- (ii) the PSA is not a public document and the users are not a party – such that they rely on a government owned corporation to monitor and enforce its terms in order to obtain any redress;
- (iii) the QCA does not have any power to compel a resubmission of a voluntary access undertaking under the QCA Act where it considers the initial submission inappropriate; and
- (iv) DBCTM itself has proposed an access framework (which presumably complies with whatever the PSA obligations are), which the QCA has concluded would not constrain DBCTM from exercising market power in the absence of declaration and having a material adverse effect on the environment for competition in coal tenements markets.

Leaving aside what the terms of the PSA actually are, it is clear from the four points above that the PSA cannot be an effective constraint, and was not regarded as being one by both the State (at the time of privatisation) and DBCTM (in offering the access framework in this declaration review).

The fact the PSA only provides rights to the government owned corporation counterparty and not to users makes any asserted constraints illusory, because:

- (i) a potential future investor in the coal tenements market has no way of knowing what the terms of the PSA and any alleged constraints on DBCTM actually are;
- (ii) there is clearly uncertainty about whether the government would take enforcement action even if it is assumed there are constraints and those are breached (given the significant time and cost commitment such enforcement would involve where the government itself is suffering no direct damage);
- (iii) the fact that any enforcement action would not be effective in preventing any adverse effects on competitive conditions in the coal tenements market that are likely to have occurred in the interim; and
- (iv) the potential that the State would allow an amendment to the PSA (which users would not even have to be notified of in advance) – which is a real and present danger given the DBCT User Group is aware of the State and DBCTM having discussed amendments to the PSA in the past.

That analysis is entirely consistent with the closely analogous circumstances considered in the NCC Statement where the NCC noted:⁷⁷

The Council acknowledges the submissions from PNO that the lease arrangements between the State of NSW and PNO include provisions designed to 'constrain' the behaviour of PNO. The Council considers that these are effectively private contractual arrangements between the two parties, and that any third party with concerns about PNO's behaviour would have to rely on the State of NSW taking action in order to obtain redress. The Council would expect that taking such steps would entail a significant time and cost commitment by the State. While the Council acknowledges that the lease arrangements may allow for some influence over PNO by the State, they are not a substitute for the access arrangements contemplated by the National Access Regime, and would not limit any effects on competition from PNO's actions.

⁷⁷ NCC Statement at [6.43]

(e) Vertical integration

Even if it is accepted that DBCTM is no longer vertically integrated following the cessation of its related body corporate's secondary trading activities - it does not follow that it therefore has no incentives to engage in conduct (without declaration) that may have an adverse impact on the environment and conditions for competition.

While a non-vertically integrated monopolist may not have the incentive to foreclose competitors in a dependent market, it still has incentives to engage in monopoly pricing.

The following statement from the NCC Statement equally applies to DBCT:⁷⁸

As a commercial entity, [PNO] has an incentive to maximise profits. The Council accepts that the Port occupies a bottleneck position ... and may therefore have both the ability and incentive to earn monopoly profits by denying access to the service, significantly increasing charges for the service or cross-subsidising in a way that materially affects competition in a dependent market.

The question therefore fundamentally remains what conduct would DBCTM have the ability and incentive to engage in in pursuing its profit maximising motive.

As discussed above and below, it is clear there are no other effective constraints on DBCTM's ability to increase prices – such that, as the QCA has concluded, DBCTM would have the ability to increase prices for new users to the point at which the resulting Goonyella system coal supply chain cost is comparable to the supply chain costs of accessing an alternative terminal (WICET), and would have the incentive to do so (which would have a material adverse effect on the environment for competition in the coal tenements markets).

(f) No credible threat of declaration or regulation

The DBCT User Group strongly supports the QCA's findings⁷⁹ that the threat of declaration after a period of no declaration is not a sufficient deterrent of the exercise of monopoly power, particularly in circumstances where:

- (i) declaration is a lengthy process (involving both QCA consideration and a subsequent Ministerial decision) and there would be even more delay before a new undertaking was then in place; and
- (ii) as the QCA notes, declaration does not apply retrospectively, such that re-declaration cannot remedy the adverse effect on competitive conditions in the coal tenements market that would have already occurred in the absence of declaration.

However, even more critically, the DBCT User Group considers that it is fundamentally flawed to assert that there is a remaining threat of declaration which applies to DBCTM in the future without declaration, given that in those circumstances the DBCT service must have first been held *not* to satisfy the access criteria in the current environment when it is clear that it has both the ability and incentive to increase prices to the point of the next alternative terminal. In that context, the DBCT User Group cannot comprehend how it could be said that DBCTM's behaviour would be constrained by the risk of future declaration. It is paradoxical to find that the *threat* of declaration forms a basis for deciding *not* to declare a service, as such a finding undermines the very effectiveness of the alleged *threat*.

As discussed in section 3.3(e), the DBCT User Group agrees with the QCA's conclusions that section 46 of the CCA is not an effective constraint on DBCTM's behaviour, given the lack of certainty as to whether it would even apply (and whether it would actually be enforced), that

⁷⁸ NCC Statement at [6.26]

⁷⁹ Part C, [3.3.6] QCA Draft Decision.

section 46 remains an enforcement tool requiring lengthy court processes to litigation (not a substitute for an effective access regime), and that section 46 CCA only applies to lessening of competition in markets in which DBCTM participates.

Consequently, the DBCT User Group considers that in a future without declaration, there is in fact no threat of declaration which could provide any constraint on DBCTM's behaviour.

5.4 Constraints that exist with declaration

(a) Constraints under the QCA Act and future approved access undertakings

By contrast, the DBCT User Group strongly support the QCA's conclusions⁸⁰ that, in a future with declaration, the QCA's third party access regime provides a credible and effective constraint on DBCTM's exercise of market power and enables a balanced access negotiation framework.

Previous DBCT User Group submissions have detailed all of the various ways in which declaration constrains DBCTM's exercise of market power or monopoly pricing including:

- (i) a statutory obligation on DBCTM to negotiate in good faith (s 99-100 QCA Act);
- (ii) a statutory prohibition on unfairly differentiating between access seekers in a way that has a material adverse effect on the ability of 1 or more of the access seekers to compete with other access seekers (s 100 QCA Act);
- (iii) a statutory obligation on DBCTM to provide information to an access seeker to inform access negotiations (s 101 QCA Act);
- (iv) a right to seek QCA arbitration where access negotiations fail;
- (v) standard access terms which provide reasonable terms and conditions;
- (vi) QCA approved reference tariffs which provide reasonable charges;
- (vii) a queuing process by which to obtain access to existing capacity;
- (viii) statutory prohibitions on preventing or hindering access under an access agreement or access determination (section 104 and 125 QCA Act);
- (ix) a statutory obligation on DBCTM to comply with the applicable approved access undertaking (s 150A QCA Act);
- (x) information gathering powers for the QCA to monitor compliance with the applicable approved access undertaking (s 150AA QCA Act);
- (xi) rights for a party to an access determination to obtain court orders to enforce access determinations (s 152 QCA Act); and
- (xii) rights for the QCA and other persons to obtain court orders to enforce access undertakings (s 158A QCA Act).

It is clear that in those settings, DBCTM is unable to unilaterally set the price or other terms of access in a way that will impact on competition in dependent markets.

While criterion (a) involves a forward looking test, the many years of DBCTM's conduct being effectively constrained by this regulatory framework is strong evidence it would continue to be so constrained in a future where declaration continues.

(b) Response to 1st DBCTM Late Submission on Criterion (a)

DBCTM also noted in its late submission of 29 June 2018 that it had amended its proposed access framework to include 'similar general obligations to those that apply under the QCA Act'.

⁸⁰ Part C, [3.3.7] QCA Draft Decision.

That obviously does not have the same effect as declaration as those general obligations do not, by themselves provide an effective constraint on DBCTM's monopoly pricing – particularly because of:

- (i) the difficulties, costs and delays involved in enforcing the access framework for individual users (particularly where an arbitrator or court would be being called on to determine concepts like 'good faith', 'unfair differentiation' and 'reasonable requirements');
- (ii) the lack of role for an independent regulator to monitor and enforce compliance; and
- (iii) the lack of remedies (particularly the lack of damages or compensation which can be provided for a breach, by contrast to the remedies available for breach of the QCA Act and approved undertakings).

The key issue is that it is the regulated pricing which exists and is highly likely to continue to exist with declaration that provides the key constraint on DBCTM's ability to engage in monopoly pricing conduct, such that declaration promotes a material increase in competition in the impacted coal tenements market (relative to the position that would exist where DBCTM was likely to engage in unconstrained monopoly pricing without declaration).

The general obligations assist in supplementing the constraints imposed by regulated pricing – but they do not provide an effective constraint on their own.

In addition, as discussed above:

- (i) the Access Framework does not provide an appropriate counterfactual;
- (ii) a consideration of the Access Framework in the manner suggested by DBCTM in this late submission is inconsistent with the QCA's correct view that criterion (a) is not intended to involve an analysis of the detailed terms of access that are likely to apply in the future without declaration; and
- (iii) DBCTM has an extensive ability to make amendments to its Access Framework, such that any theoretical protections can be easily removed in the future.

Consequently, the DBCT User Group strongly considers that these tokenistic changes do not in any way change the conclusions that declaration promotes a material increase in competition in the Hay Point catchment coal tenements markets.

(c) Response to DBCTM Late Submissions on Criterion (a)

DBCTM appears to suggest in its 2nd late submission of 7 November 2018 that because there is the potential for asymmetry between the price for expansion capacity under the existing access undertaking that the potential for asymmetry between existing and future users exists with and without declaration, such that it cannot have an impact on competition.

That analysis is extremely simplistic and flawed for a number of reasons, most obviously including:

- (i) DBCTM have previously indicated to the DBCT User Group members they believed both the Row 4 and 8X expansions (which are the only relevant expansions based on the credible demand forecasts for the proposed declaration period) would be socialised rather than differential pricing under the existing undertaking;
- (ii) even if that was not the case, any difference in terminal infrastructure charges with declaration would be based on differences in efficient costs – not the result of unconstrained monopoly pricing by DBCTM – such that it remains clear that

the likely price without declaration for future users is many orders of magnitude higher without declaration than it would be with declaration (as it is related to the substantial additional cost of obtaining access to an alternative terminal), such that it is unsurprising the absence of declaration would clearly cause an adverse impact on competition when differentiated pricing of an expansion as permitted by the undertaking would be unlikely to;

- (iii) by only focusing on expansion capacity, DBCTM completely ignore the potential for capacity which is currently contracted to cease to be contracted at the end of an existing user's mine life (which is obviously likely to occur over the 10 year declaration period being considered); and
- (iv) DBCTM's late submissions do not take into account the outcomes of ILCO's capacity estimates, which indicate that if system capacity is increased, there will clearly be additional terminal capacity that can be contracted without any expansion of DBCT.

Consequently, the DBCT User Group strongly considers that there is nothing in this 2nd late submission that changes the conclusions that declaration promotes a material increase in competition in the Hay Point catchment coal tenements markets.

5.5 Application to coal tenements markets

(a) Impact on competition in the tenements markets will be different to impact in coal markets

With all of the above analysis in mind, the question then becomes what is the difference in the environment and opportunities for competition in the Hay Point catchment coal tenements markets between the likely future with and without declaration, namely:

- (i) with declaration, where the QCA Act, undertaking and related reference tariffs and standard access terms clearly provide a constraint on DBCTM's exercise of its market power; and
- (ii) without declaration, where the QCA has found that there are no constraints on DBCTM's conduct.

First, the DBCT User Group considers it clearly does not follow automatically that if there is no adverse effect on competition in some primary market – there cannot be an adverse effect on competition in another dependent market that might be thought of as a derivative market (as DBCTM appears to assert).

In that regard, we agree with the QCA analysis⁸¹ that the Australian Competition Tribunal's reasoning in relation to not considering in separate detail the 'derivative markets' in Newcastle shipping channel proceedings, was based on the Tribunal not being taken to material concerning those derivative markets. That has now been clearly demonstrated by the fact that the tenements market was considered separately in detail in the NCC Statement where the NCC was taken specifically to concerns regarding the tenements market by stakeholder submissions.

Consequently, it does not add anything to the analysis to consider whether competition in a coal market that may well be global (and therefore involve more participants and wider substitution potential) is promoted by declaration. Criterion (a) requires there is a material promotion of competition in *any* dependent market – not just a market which might be regarded as the 'principal' or 'primary' market.

⁸¹ Part C, [3.4] QCA Draft Decision.
12.3.2019

Adopting DBCTM's approach of simply excluding the potential for there to be a material promotion of competition in other dependents markets on the basis it is allege there is not such a material promotion of competition in respect of coal markets, would be taking a restrictive reading of criterion (a) which has no basis in the language of the criterion or regulatory or judicial precedent.

(b) Asymmetric access terms and conditions – existing users vs future users

While the DBCT User Group would not necessarily go as far as to say that there is likely to be no material difference in access terms and conditions with and without declaration for existing users, that is likely to be true at least in respect of price – due to the constraints imposed by the price review mechanisms in the existing user agreements.

However, for new users without declaration (or existing users to the extent seeking capacity which is surplus to their existing contracted capacity), as the QCA concludes,⁸² the coal handling charge is likely to reflect the cost for accessing the next least cost alternative terminal. The DBCT User Group agrees with the QCA's assessment that that is likely to be WICET given the AAPT / GAPE capacity constraints, RGT being fully contracted and HPCT not being open access).

As described earlier in this submission, the cost to a coal producer of accessing the alternative terminal is not just the terminal cost. Rather, the DBCT User Group agrees with the QCA that it includes all of the additional below rail and above rail costs as well as the terminal costs – by QCA's estimate resulting in a total difference of at least \$15/tonne – as that is the aggregate cost a user would have to face to switch.

The QCA's estimate is (as the QCA admits and this submission notes) extremely conservative as, in particular, it does not include Goonyella system rail costs in the costs of a Goonyella mine accessing other terminals – such that the actual difference in costs is likely to be materially greater (as reflected in the DBCT User Group's cost estimates which are materially higher in respect of WICET).

However, even on the QCA's conservative estimates, that means the costs of access would be roughly 4 times the costs for existing users (and if DBCTM's estimate of existing charges being 2-3% of forecast metallurgical coal prices was assumed to be right, resulting in such costs being 8-12% of forecast metallurgical coal prices – and a significantly higher proportion of thermal coal prices.

As the QCA notes that means existing DBCT users would enjoy a considerable cost advantage over potential entrants in accessing the DBCT service in a future without declaration.

That magnitude of difference clearly creates a material cost advantage for existing users which impacts on competition in the coal tenements markets. Whereas, with declaration, all users would pay the QCA reference tariff, such that competition in the coal tenements market would not be impacted.

(c) Asymmetric pricing directly impacts on competition in the Hay Point catchment coal tenements markets

The DBCT User Group strongly agree with the QCA's assessment that:

- (i) many existing users have mines with a mine life that will expire during the declaration period, and are incentivised to make use of their DBCT service renewal rights, so are likely buyers in the Hay Point catchment tenements markets; and

⁸² Part C, [3.4] QCA Draft Decision.

- (ii) based on previous transactions, new entrants would also (but for the declaration potentially being removed) be likely participants in the tenements markets,

such that a price outlook that materially differs between them would be expected to result in a potential new entrant valuing such coal tenements significantly lower than existing users.

The difference in valuation for existing and future users, will clearly adversely impact on a new entrants ability to compete in the coal tenements market.

For example, an entity that values a tenement materially higher would be anticipated to:

- (i) be able to offer more to the Queensland government when tendering (whether in cash or in terms of exploration commitments); and
- (ii) offer a higher purchase price to a seller of a coal tenement (whether by way of cash or royalties on future production),

relative to an entity that values the tenement lower.

In other words, the valuation difference caused by the asymmetric pricing, will directly impact on future users ability to compete for the acquisition of tenements against existing users who value the tenement higher (due to the lower pricing they receive).

That makes it clear that the asymmetric pricing that will arise in the absence of declaration will adversely impact on the incentives and prospects for efficient new entry into the Hay Point coal tenements market

That is exactly the finding that was made by Castalia in its original report.

It is also the finding that is made by Palaris in its report which states that:

The two-tiered pricing would suggest that Existing Users with established mine/s and tenements (especially those with a portfolio effect) would be clearly incentivised to expand and develop tenements to make use of the more favourable pricing structure.

The more favourable and certain pricing and terms of access that Existing Users have under their existing User Agreements means that Existing Users will place a higher value on tenements within the Hay Point catchment, making them more effective competitors for acquisition of tenements (either exploration and pre-development projects or operating mines) and more likely to result in them becoming the principal acquirers.

Conversely, it is argued that Potential DBCT Users will have far less incentive to invest in acquisition or development of coal tenements, as they will be unable to reliably estimate returns that it can be derived, and the increased uncertainty involved due to the nature of the proposed Access Framework.

Ultimately Palaris concludes that in the absence of declaration:

The coal tenements markets in the Hay Point catchment would become distorted due to:

- *increase[d] uncertainty in operating cost assumptions to support bankable investment decisions and increased project risk;*
- *creating a clear disadvantage to potential users without existing access agreements, as the two tiered pricing would result in:*
 - *Existing users being incentivised to acquire and develop tenements to make use of the more favourable pricing structure*
 - *Potential users having little incentive to acquire or develop additional tenements.*

A consequent reduction in investment in exploration and project development would be expected

In relation to the exploration and development coal tenements market, Palaris specifically notes that:

Competition in the market for exploration and pre-development tenements is even more likely to be distorted due to non-declaration at DBCT that competition in the market for [tenements for] operating mines. Exploration projects have a much higher risk profile compared to operating mines. It may be determined that exploration projects are not bankable given the long term and high sunk cost nature of investment in mines.

The DBCT User Group consider that analysis is clearly correct, and demonstrates that declaration (which prevents that two-tiered pricing regime arising) promotes a material increase in competition in coal tenements markets.

(d) The impact of uncertainty of terms without declaration on competition in the Hay Point catchment coal tenements markets

In addition to the disadvantage future users face through higher pricing, they also face a further disadvantage in the uncertainty of the pricing they face over the life of proposed future mining projects.

That uncertainty principally arises from DBCTM's discretion under the Access Framework to set price at 5 yearly intervals.

The DBCT User Group strongly agrees with the QCA's assessment that, in a future without declaration, potential DBCT Users would be exposed to DBCTM seeking to expropriate the value of users' sunk investment through the 5 yearly price review mechanism, given that in the absence of declaration, DBCTM would be operating in an environment where it would have the ability and incentive to exercise market power without fear of losing customers.⁸³

As Palaris notes:

with non-declaration, Potential DBCT Users will have far less incentive to invest in acquisition or development of coal tenements. They will be unable to reliably estimate returns that it can be derived from an investment, due to the increased uncertainty involved with pricing and the nature of the proposed Access Framework.

As the 2nd Castalia report states "this distortion of investment decisions in the coal tenement market lead(ing) to inefficient development of mines results directly from the material impact on competition that will occur without declaration".

Price certainty in all aspects of the coal chain is critical. Not only does this uncertainty on pricing increase investment uncertainty, it is highly likely to make it more difficult to obtain financing for new investment in the Hay Point catchment.

As the QCA notes, DBCTM's pricing methodology where pricing is based on a potential user's willingness to pay also creates the potential that if a potential user's coal price expectations (which will have informed the user's willingness to pay) are not met, it will become uneconomic for the user to continue using its contracted entitlements – making its project unviable.

The risk of expropriation at the next pricing review or a change in willingness to pay occurring after pricing is set that moves the project from being viable to uneconomic is clearly a massive disincentive for new entrants to invest.

As the QCA notes:⁸⁴

By contrast, in a future with declaration, potential entrants' access to DBCT capacity would be governed by the QCA Act. The risk and uncertainty that would likely arise in a future without

⁸³ Part C, [3.4] QCA Draft Decision.

⁸⁴ Part C, [3.4] QCA Draft Decision.

declaration would not arise under declaration, as the QCA Act and any related access undertaking would provide a framework such that the capacity allocation mechanism would be predictable and transparent and the access charge would be cost reflective.

All of that analysis, leads the DBCT User Group to strongly agree with the QCA's analysis⁸⁵ that in the absence of declaration, potential new entrants would face:

- (i) a materially uneven playing field which was material enough to likely deter more efficient entrants that have higher valuation than incumbents, but that is unlikely to be sufficient high to overcome the materially favourable access terms and conditions that incumbents would enjoy; and
- (ii) risks that were unmanageable and fundamental.

such that the environment for competition in the coal tenements market in the Hay Point catchment region would be materially adversely affected in a future without declaration.

5.6 Application to other markets

The DBCT User Group continues to consider that declaration promotes a material increase in competition in other dependent markets as well.

However, given that criterion (a) requires that the QCA be satisfied that access on reasonable terms and conditions as a result of declaration promotes a material competition in *one or more* markets, and that that criterion is clearly satisfied by reference to the Hay Point catchment coal tenements markets, the DBCT User Group has not made further submissions in relation to other markets at this point.

5.7 Conclusion

The DBCT User Group consider that it is absolutely clear that declaration will promote a material increase in competition in at least the Hay Point catchment coal exploration and development tenements market, such that criterion (a) is satisfied.

That conclusion is clear as:

- (a) in the absence of declaration, DBCTM faces no effective constraints and have an incentive to maximise its monopoly profits, such that it would charge new users a price based on their alternative of accessing a non-Goonyella terminal;
- (b) existing users would retain the protections provided by the pricing review and arbitration provisions which will produce a result similar to that provided by regulation; and
- (c) the difference between existing users in terms of both pricing and extent uncertainty (who would be incentivised to exercise their renewal rights and invest in new tenements to make use of that capacity) and new users (who would value tenements in the Goonyella much less due to the significantly higher infrastructure costs they would face and the likelihood of future expropriation of anticipated returns), would provide existing users with a significant competitive advantage and clearly deter efficient new entry.

⁸⁵ Part C [3.4] and [3.3.3] QCA Draft Decision.

6 Criterion (c) – State Significance

The DBCT User Group appreciates that there is no real contention about whether criterion (c) is satisfied – noting that DBCTM has in fact made no submissions suggesting it is not satisfied.

Accordingly, the DBCT User Group has principally focused on other criteria in this submission, but for completeness notes that it strongly agrees with the QCA's findings that criterion (c) is satisfied.

As the QCA recognised:⁸⁶

DBCT is of state significance based on its physical size and capacity.

...

DBCT makes a substantial contribution to the Queensland economy in facilitating coal exports.

...

As Queensland's largest multi-user coal export terminal, DBCT is a critical component in the Goonyella coal chain, and an integral part of the economy in the greater Mackay region.

The coal industry is a major contributor to the Queensland economy. Given the substantial volumes and values of coal exports handled by DBCT annually, the QCA considers that DBCT is significant, having regard to its importance to the Queensland economy.

Those findings are unsurprising given how clear it is that the terminal is significant having regard to:

- (a) its size (in terms of physical size, capacity of 85 mtpa and throughput); and
- (b) its impact on the State economy (in terms of contributions to Queensland exports, related coal royalties, employment, the economic growth it creates and its critical nature as part of the Goonyella coal supply chain).

In that regard, the DBCT User Group wholly supports and agrees with the analysis in the QCA Draft Decision of criterion (c),⁸⁷ which is consistent with the previous DBCT User Group submissions on this topic, and as discussed in section 3.4 of these submissions supports the QCA's interpretation of all aspects of what criterion (c) requires.

⁸⁶ Part C, [4.3.2] QCA Draft Decision.

⁸⁷ Part C, [4.3.2] QCA Draft Decision.

7 Criterion (d) – promote the public interest

The DBCT User Group supports the findings that declaration produces overall gains in the public interest, such that criterion (d) is satisfied.

As discussed in section 3.5 of this submission, criterion (d), takes the outcome of criterion (a) to (c) into account in assessing whether declaration will provide overall gains in the public interest. Consequently, in the context of it having been concluded that criterion (a) has been satisfied (i.e. that there is a promotion of competition in a dependent market), with the facility being significant and a natural monopoly (criterion (b) and (c)) there would need to be very significant public detriments arising from declaration before it could reasonably be concluded that criterion (d) was not also satisfied. No such significant detriments arising from declaration exist.

7.1 Effect of declaration on investment in facilities

As discussed in section 3.5 of this submission the DBCT User Group supports the QCA's interpretation that section 76(5)(b)(i) requires the QCA to have regard to investment in all facilities – not just DBCT itself.

In this context, that means that investment in other parts of the coal supply chain (most obviously below rail facilities, facilities supporting above rail operations and mine site infrastructure) are also required to be had regard to.

(a) Investment in DBCT

In relation to investment in DBCT itself, the DBCT User Group strongly support the QCA's findings⁸⁸ that:

- (i) the risk of asset stranding in relation to DBCT is extremely low;
- (ii) declaration would promote efficient investment in mining operations and therefore, increase demand for capacity for coal export, thereby producing positive incentives to invest in DBCT; and
- (iii) there is no available evidence to support the argument that declaration will reduce DBCTM's incentives to invest in the future (rather it has facilitated multiple expansions since regulation of the terminal).

As discussed in detail in the DBCT User Group's previous submissions, since the declaration of the terminal there has been numerous expansions of DBCT.

DBCTM has presented no evidence of how the terminal would likely have been developed in the absence of declaration and no recognition of how declaration has actually been an important part of driving the demand that makes the expansions possible.

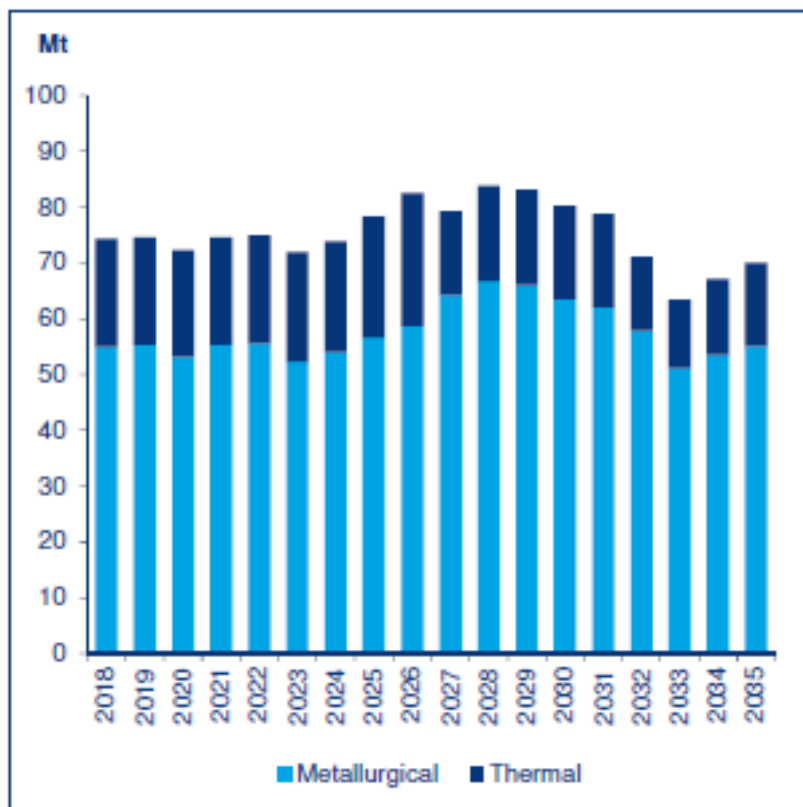
No realistic risk of asset stranding

In relation to asset stranding, the DBCT User Group notes that the QCA has previously determined in the context of the current access undertaking that the useful life of the terminal extended well beyond the declaration period now being considered. The Goonyella system is characterised by significant metallurgical coal resources which are competitively placed on the global cost curve. Mining operations are long life assets involving significant capital and sunk costs, such that they will seek to extend their economic life for as long as viable to recover and earn a return on that capital. To the extent that there is any decline in thermal coal demand over time as a result of changing environmental regulations or the increasing penetration of alternative sources of power that will not leave DBCT stranded given its exposure to metallurgical coal (for which there is no known alternative). To demonstrate that is the case, the below graphs shows

⁸⁸ Part C, [5.2.2] QCA Draft Decision.

the proportions of Wood Mackenzie's base case demand projections made up of metallurgical and thermal coal.

Figure 3 Base case throughput at DBCT by coal type



Source: Wood Mackenzie

The theoretical risk of regulatory error does not disincentive investment

In relation to DBCTM's assertions of regulatory error, the DBCT User Group strongly believes that:

- (i) to the extent there is any regulatory error, there is as much potential for any such error to favour the regulated entity as there is for it to disadvantage the regulated entity – there is no systematic basis such that for an entity providing services utilising long life infrastructure that remains regulated over a long period of time it would be expected that this would 'even out';
- (ii) there are significant protections included in the QCA Act which serve to mitigate the potential for regulatory error (including the requirements the QCA Draft Decision notes for consultation, matters to be had regard to and of course the requirement to provide natural justice) and to correct unanticipated outcomes (through the provider of a declared service having an unqualified right to submit amendments); and
- (iii) there are significant protections provided by the QCA's current practices which serve to further mitigate the potential for regulatory error and the magnitude of any error made – engaging independent expert advice, providing draft decisions that clearly explain its reasoning, taking an approach that favours regulatory certainty, and approving undertaking terms of 5 years or less such that there is periodic opportunity for review.

Frankly the problems which have clearly become apparent in investments in infrastructure assets that do not involve such regulatory determinations and periodic reviews (think WICET, GAPE, WIRP), demonstrate that information asymmetry and commercial negotiations would not instantly remove any alleged imprecision or uncertainty that it is asserted by DBCTM that regulatory decisions bring.

As discussed in detail in relation to criterion (a) above, declaration clearly promotes investment in tenements (and ultimately mining projects) in the Goonyella region, which (as recognised by the QCA) creates demand for rail infrastructure network capacity and stimulates demand for DBCT capacity.

No delays in investments

The DBCT User Group strongly agree with the QCA's conclusions that there is no guarantee that expansions would be completed more quickly if the service was not declared, as the risk of disputes and delays will remain.

As the QCA Draft Decision notes:

- (i) there were numerous issues which gave rise to the delays in the previous expansion at DBCT referenced in the earlier DBCTM submissions;
- (ii) DBCTM has made previous submissions to the QCA confirming that the regulatory expansion process has not delayed expansions (which clearly calls into question DBCTM's claims in submissions in this process that that is not the case); and
- (iii) with or without declaration, it is demand that drives expansion requirements – such that more than whether there is a regulatory process or not, the speed with which an expansion can be developed is a product of there being sufficient demand to justify such a development (and as both the QCA and DBCT User Group have concluded in respect of criterion (a), declaration promotes investment in the Goonyella coal tenements market and industry, which will generate demand).

In addition, it appears that DBCTM's issues lay with the wording of the existing access undertaking in relation to the expansion process. Those terms are not an automatic feature arising from declaration, but something that it remains clearly open for DBCTM to seek to amend in the future in the next draft access undertaking.

DBCTM's arguments also run contrary to the QCA's interpretation that the references to 'access on reasonable terms and conditions as a result of declaration' (in criterion (a) and (d)) does not involve determining the specific and detailed likely future terms that will apply.

No impact on inter-terminal competition

As discussed in significant detail in respect of criterion (b), and noted in the QCA Draft Decision, DBCTM is not exposed to a competitive constraint from other terminals.

The substantial cost differences between Goonyella mines accessing the non-Goonyella terminals (and vice versa) mean that other terminals do not provide such a competitive constraint.

There is no evidence of terminals 'competing' for customers.

No impact on investment

As the QCA Draft Decision notes the QCA Act provides for the QCA to have regard to DBCTM's interests in recovering its efficient costs and receiving an appropriate return on its investments.

Declaration also provides DBCTM with a significantly lower risk profile that they would have otherwise. The most obvious example is the socialisation across all users provided for by the QCA approved terminal infrastructure charge which allows DBCTM to continue to earn its full annual revenue requirement across years of lower demand and where a user was to become insolvent. These protections do not exist in the same manner for unregulated terminals and the circumstances which exist in relation to WICET demonstrate why declaration is likely to be positive for investment.

Finally, as noted above, in respect of criterion (a), declaration promotes investment in Goonyella system coal projects, which generates the very demand the continued investment in the terminal is justified by.

7.2 Investment in markets that depend on access to the service

The DBCT User Group supports the QCA's findings⁸⁹ that:

- (a) as discussed in detail above in respect of criterion (a), declaration of the service would promote a material increase in competition in the market for coal tenements and therefore, promote investment in at least one dependent market; and
- (b) declaration of the service is likely to have a positive impact on rail network and rail haulage infrastructure investment, as a promotion of coal development in the Goonyella system will promote demand in those markets.

As is clear from the discussion in respect of existing system and rail infrastructure capacity constraints in relation to criterion (b), any expansion of DBCT would need to be aligned with further investment in other (rail) system infrastructure.

As the QCA Draft Decision notes:⁹⁰ *'demand for terminal capacity for coal export will determine terminal expansion requirements. In turn, demand for terminal capacity will also lead to an increase in the demand for rail capacity. To the extent efficient mine investment is promoted by declaration, which then drives demand for increased terminal capacity, it follows that there will be corresponding investment in above- and below-rail haulage infrastructure.'*

The DBCT User Group dispute DBCTM's assertion that no member of the User Group has publicly indicated declaration is relevant to their supply chain certainty and requirements. The DBCT User Group submissions publicly made to the QCA make that position abundantly clear.

Without restating the submissions made in respect of criterion (a), the DBCT User Group strongly agrees with the QCA's assessment that the risks and uncertainty imposed on non-incumbent users would create a major barrier to efficient entry into the Goonyella coal tenements market, which in turn would have a material and adverse impact on efficient investment in that market.

While it is true that the exact size of the market may be difficult to determine (as is often the case for markets), there are very significant coal reserves remaining in the Hay Point catchment. The QCA's assumption that tenders for exploration rights are likely to continue over the proposed declaration period is clearly justified – noting that as at the date of this submission there has been another release of coal exploration tenements (a number of which are near Clermont and therefore likely to utilise the Goonyella system) and a further scheduled release of another 5 coal areas in 2019 alone.⁹¹

⁸⁹ Part C, [5.2.2] QCA Draft Decision.

⁹⁰ Part C, [5.2.2] QCA Draft Decision.

⁹¹ Queensland exploration program for 2019, accessible here: <https://www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-program>

Given that context, as the QCA has found,⁹² the Hay Point catchment markets for coal tenements is likely to be of sufficient size to support the conclusion that incentivising efficient investment in this market would promote the public interest (and satisfy criterion (d)) as deterring efficient investment in this market results in:

- (a) foregone revenue opportunities
- (b) foregone wider economic benefits of maximising the value of the State's coal resources, including increased coal royalties, employment and associated regional development.

7.3 Administrative/compliance and other costs incurred by the provider of the service

Administration/compliance costs

The DBCT User Group also support the QCA's finding,⁹³ consistent with the previous DBCT User Group submissions, that the administrative and compliance costs incurred by DBCTM as a result of declaration are not sufficiently material to have an impact on the public interest.

Most importantly, a recognised by the QCA (and discussed in section 3.5(c) of these submissions), costs to a service provider that can be compensated for through access charges (as is the case in respect of DBCTM) are unlikely to be relevant to the assessment of the public interest.

That is the case for both the QCA levy (for funding the QCA's costs) and the regulatory allowance provided to DBCTM (for funding the costs incurred by DBCTM).

The DBCT User Group are willing to bear those costs through access charges (and their own costs of participating in the regulatory process) as they consider they are outweighed by the clear benefits of declaration.

In addition, again as the QCA notes, it is open to DBCTM to submit revisions to its undertaking which seek to reduce its administration and compliance costs.

For completeness the DBCT User Group notes that, even in circumstances where DBCTM attempted to produce a breakdown of the costs it alleges it has incurred during the current period of declaration of the service, the DBCT User Group considers such an estimate would be inflated from what its reasonable costs would be in the future with declaration continuing given the flurry of draft amending access undertakings lodged in recent times which were effectively attempts to retry the same issues with the hope of a more favourable outcome. DBCTM should not be able to influence the finding on criterion (d) by conducting itself in a manner which exacerbates regulatory costs.

Finally, the QCA is obviously correct in that it is not these costs alone that is relevant in any case, but how they compare to the administrative and compliance costs that would be incurred in the absence declaration. In that regard, it is obviously impossible to be certain – but the following factors indicate those costs would be substantial and likely to be greater than costs of this type arising from declaration:

- (a) the heavy reliance on vague principles which are impossible to prove in order to set pricing (i.e. a hypothetical price which the QCA would have set and the price at which volume would hypothetically remain the same); and
- (b) the heavy reliance on formal dispute processes to resolve any disputes.

Coordination costs of dealing with multiple users

⁹² Part C, [5.3.2] QCA Draft Decision.

⁹³ Part C, [5.4.2] QCA Draft Decision.

The DBCT User Group notes the QCA's conclusion that there are unlikely to be material differences in coordination costs with and without declaration given the long-standing multi-user name of the terminal.

In that regard, the DBCT User Group notes that while most of the coordination costs will be incurred either way, the declaration has produced additional process and protocols in relation to coordination that the users consider operate to reduce the costs such as queuing and access negotiation processes and expansion study and planning processes.

7.4 Other relevant matters

The DBCT User Group agrees with the QCA that the relevant issue in assessing whether declaration will promote the public interest is not redistribution of economic rents, but instead, the material and adverse impact that not declaring the service could have on investment in the coal tenements market.

However, as found by the QCA, the question of declaration of the DBCT service is not one where the transfer of economic rent is neutral in respect of the public interest. The unequal application to different users in the future will clearly create barriers to entry, distort investment decisions and defer or prevent efficient entry to the tenements market.

As discussed earlier in this submission, that in turn adversely impacts on coal royalties (which ultimately adversely impacts on the public interest by lessening the income the State has to fund public services) and wider economic activity.

For completeness the DBCT User Group does continue to note its surprise that the QCA does not consider that the fact that some provisions of the Abbot Point Coal Terminal user agreements may become unworkable (due to reliance on determinations by the QCA in respect of the DBCT access undertaking) to be a matter of public interest – given the serious potential disruption to the Newlands/Abbot Point coal supply chain.

7.5 Costs incurred by access seekers and holders

The DBCT User Group agree with the QCA's conclusions that:

- (a) the costs incurred by users with and without declaration is clearly a relevant matter that is to be considered under section 76(5)(d) as relating to administration and compliance costs arising from declaration; and
- (b) declaration is likely to reduce compliance costs for access seekers and holders given the existence of reference tariffs and standard access agreements under declaration could facilitate negotiations and minimise the scope for disputes.

However, the DBCT User Group do not agree that there is insufficient evidence to support a conclusion that any reduction in compliance costs borne by access seekers and holders as a result of declaration would be material enough to promote the public interest.

The recently completed notifying access seeker process demonstrates clearly how quickly it was possible for users to negotiate an access agreement with DBCTM - because the undertaking effectively guarantees users the standard access terms at a reference tariff price unless the parties wish to agree otherwise. The DBCT User Group notes that negotiations in the absence of those regulated terms would clearly be more costly and time consuming.

Similarly, it is clear that the costs of commercial disputes in the absence of declaration are very significant for a range of reasons, including:

- (a) the lesser transparency of costs that exist;

- (b) the vague nature of the test which DBCTM is proposing is used to set pricing – which will be far from evident;
- (c) the more costly and formal nature of the proceedings required to bring disputes (relative to the costs of seeking QCA dispute resolution as the undertaking allows).

Numerous DBCT User Groups members have confirmed to Allens (as their legal adviser in this process) that the expenditure on DBCT regulatory matters is significantly less than has occurred in respect of Abbot Point price reviews since privatisation of that terminal.

7.6 Environmental benefits

The DBCT User Group do not agree with that there are no environmental benefits arising from the declaration.

However, given that it is clear that criterion (d) is satisfied even if the QCA's draft position on this issue is maintained, the DBCT User Agreement simply notes that:

- (a) declaration has resulted in the direct funding through access charges of future rehabilitation (which DBCTM has recently utilised to increase the funding), which reduces the risk to the State of the rehabilitation being underfunded from the position of DBCTM having a rehabilitation obligation without specified funding; and
- (b) rail haulage over longer distances (i.e. from Goonyella mines to other terminals), which seems to be DBCTM's assertion of how the industry meets their demand projections at lower cost than an expanded DBCT would operate in the absence of declaration, involves a loss of efficiency and additional environmental impact.

7.7 Other benefits

Finally, the DBCT User Group supports the QCA's logical findings⁹⁴ that because the declaration would promote a material increase in competition in the market for coal tenements, it would logically promote the public interest because of the wider economic benefits of promoting competition in that market, and thereby promoting efficient investment in acquisition and development of coal exploration tenements (such as higher coal royalties and investment in infrastructure in dependent markets such as above rail and below rail markets).

In relation to the QCA's findings regarding regulatory certainty and windfall gains, the DBCT User Group acknowledges that criterion (d) is forward looking, and simply notes that it follows from the conclusions that have been reached in respect of criterion (a) that the windfall gains which DBCTM will make in the absence of declaration come at the cost of the public interest.

7.8 Conclusion

The DBCT User Group supports the QCA's finding that:

- (a) DBCTM's stated intention, ability (unconstrained by competition) and incentives to charge non-incumbent users monopoly prices in the absence of declaration would create a barrier to entry to efficient potential new future users in the market for coal tenements in the Hay Point catchment region, which would have a material and adverse impact on investment in that market;
- (b) the promotion of efficient investment which arises from declaration will directly translate to public interest benefits through:
 - (i) greater allocative efficiency, higher coal export revenues and wider economic benefits to the State and regional economies; and

⁹⁴ Part C, [5.5.4] QCA Draft Decision.

- (ii) a positive impact on the incentives to invest in DBCT itself as well as facilities in the dependent below rail and above rail markets.

the administrative and compliance costs are not excessive relative to those that may be incurred in the absence of declaration in any case, such as to have any likely impact on the public interest; and

- (c) consequently criterion (d) is clearly satisfied.

8 Overall Conclusion

As discussed in detail in these submissions, the DBCT User Group considers that the QCA Draft Decision to recommend declaration and conclusion that each of the access criteria are satisfied is correct and appropriate.

In particular:

- (a) even with updated demand forecasts and a very conservative approach to estimating costs, it is clear that DBCT can meet the foreseeable demand in the DBCT coal handling services market at least cost (such that criterion (b) is satisfied);
- (b) it is clear that as a result of preventing a clear asymmetry in terms of pricing and uncertainty between existing and future potential users, declaration makes efficient entry far more likely and promotes a material increase in competition in the Hay Point catchment coal tenements markets (such that criterion (a) is satisfied);
- (c) it is clear that DBCT is significant having regard to both its size (physical size, capacity and throughput) and significance to the Queensland economy (critical nature of its role in the supply chain and contribution to exports, royalties, employment and economic activity) (such that criterion (c) is satisfied); and
- (d) taking into account the outcomes of the other criteria, and having regard to the promotion of investment in facilities and investment in dependent markets (and limited, if any, additional administrative and compliance costs incurred by DBCTM), it is clear that declaration promotes overall public interest gains (such that criterion (d) is satisfied).

It is also clear that the criteria are satisfied even if the QCA was to maintain its draft position on a number of issues that were determined contrary to the DBCT User Group's position (such as assessing multiple declaration periods and interpreting foreseeable demand as contracted capacity).

Accordingly, on any reasonable and credible view, each of the access criteria are satisfied, and the QCA and the continued declaration of the coal handling service at DBCT should be continued.

Schedule 1 – 2nd Wood Mackenzie Report

Independent review – DBCT throughput forecast

11 March 2019

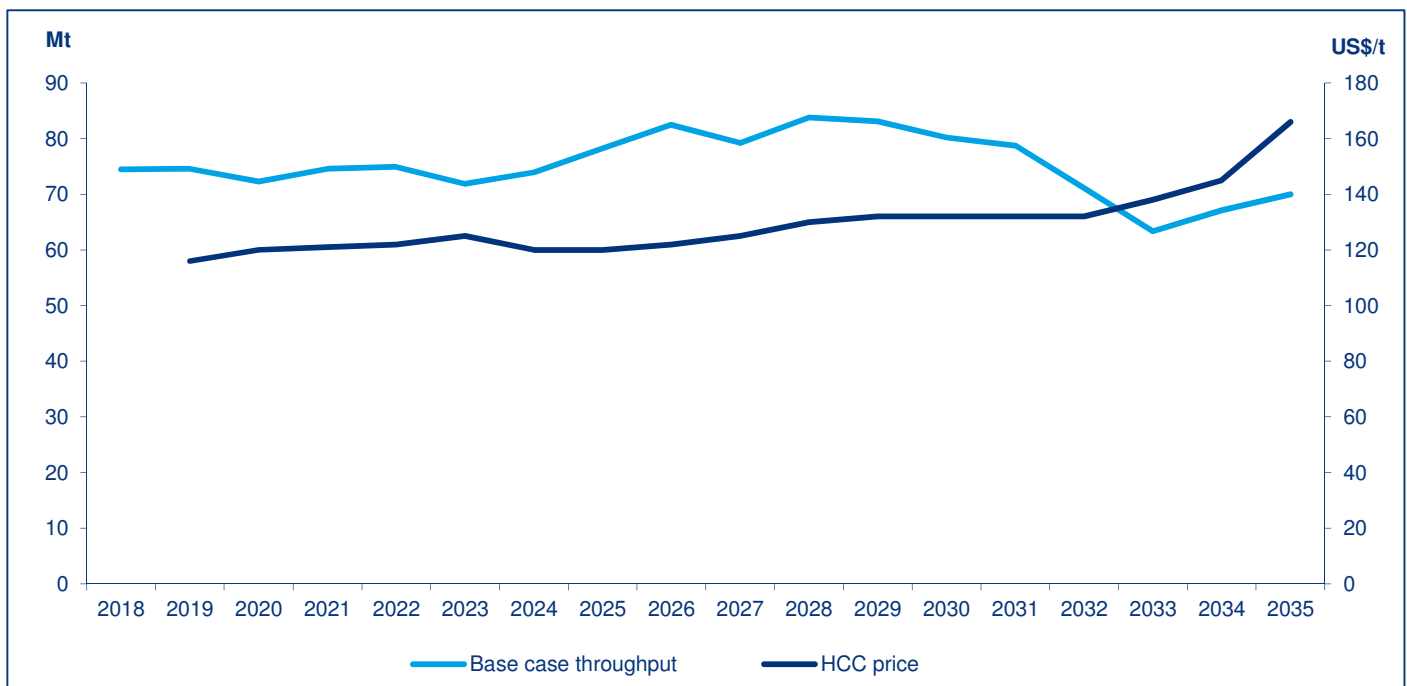
Executive summary

Wood Mackenzie has developed this report to review forecast throughput through DBCT from 2018 to 2035. Wood Mackenzie forecast average DBCT throughput of 77 Mtpa between 2018 and 2031, based on individual mine throughput estimates. After 2031, throughput derived from identified mines and projects falls, however Wood Mackenzie still expect DBCT throughput to average above 65 Mtpa between 2031 and 2035.

Wood Mackenzie's base throughput forecast considers a range of factors, including seaborne demand, likely allocation decisions during the forecast period, and expected capacity. Wood Mackenzie has identified a range of risks to the base case throughput forecast.

The DBCT throughput forecast is summarised in the figure below.

Figure 1 Throughput at DBCT and seaborne price forecast



Source: Wood Mackenzie



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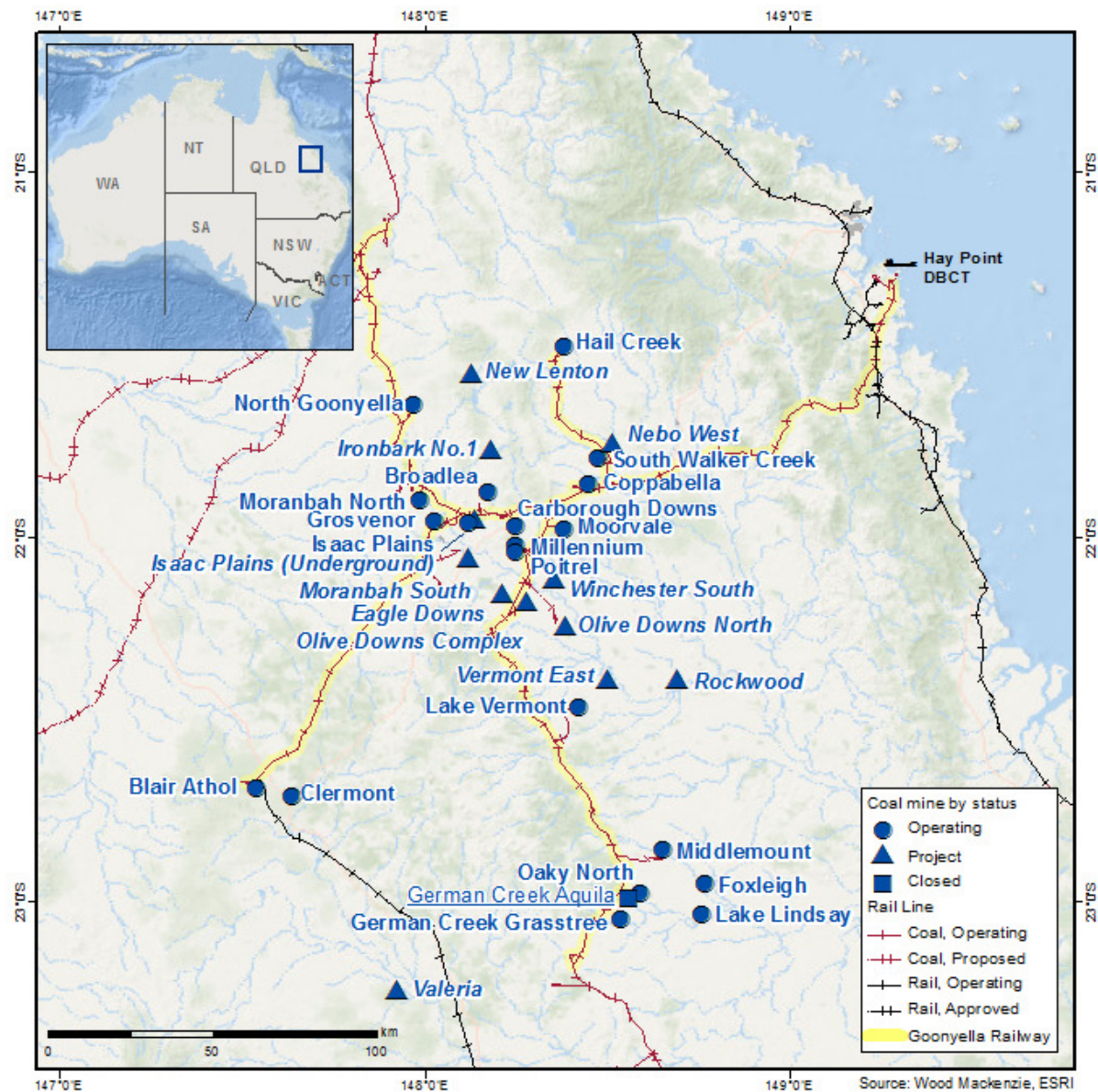
Context

Dalrymple Bay Coal Terminal (DBCT) is a multi-user coal port in Queensland. It services coal exporters in the catchment area serviced by the Goonyella rail system. An estimated 19 operational mines currently utilise DBCT to export coal to seaborne markets.

Assessing future throughput through DBCT and demand for DBCT capacity requires an assessment of current operations, future projects, and commitments to export through other ports.

DBCT and the mines and projects in its catchment, serviced by the Goonyella rail system, are shown in Figure 2.

Figure 2 Map of DBCT & mines serviced by Goonyella Rail system



Source: Wood Mackenzie

Other mines in this catchment area (not shown) include the BHP Mitsubishi Alliance (BMA) mines which predominantly export through the Hay Point Coal Terminal (HPCT).

Coal from mines in the region pictured in Figure 2 is predominantly exported through DBCT, which is the closest export port, however coal from this area is also exported from other ports. Tonnage originating from the DBCT catchment area includes 13-14 Mtpa exported through Abbot Point Coal Terminal (APCT) and approximately 5 Mtpa through the Port of Gladstone.

The Kestrel mine, which predominantly exports through Gladstone, has previously (while owned by Rio Tinto) exported small tonnages through DBCT. Similarly mines that predominantly export via HPCT also export through DBCT, exporting approximately 11 Mt in 2016 and 6 Mt in 2017.



Base case DBCT forecast

Table 1 shows Wood Mackenzie's base case assessment of mine-specific expected tonnage through DBCT between 2018 and 2035.

Table 1 Forecast mine shipments through DBCT (Mt)

Mine Name	Current Status	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Blair Athol	Operating	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	-	-	-	-	-	-	-	-	-
Broadlea	Operating	0.5	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carborough Downs	Operating	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.0	2.0	1.7	-	-	-	-	-	-	-
Clermont	Operating	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	1.5	-	-	-	-	-	-	-	-
Coppabella	Operating	3.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0	2.0	-	-	-
Foxleigh	Operating	2.8	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
German Creek Grasstree	Operating	5.8	5.7	5.5	5.5	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Grosvenor	Operating	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Hail Creek	Operating	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	2.0	-	-	-
Isaac Plains	Operating	1.7	1.5	1.4	1.3	1.2	1.0	-	-	-	-	-	-	-	-	-	-	-	-
Lake Lindsay	Operating	3.2	3.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-	-	-	-	-	-
Middlemount	Operating	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Millennium	Operating	1.7	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moorvale	Operating	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-	-	-	-	-	-	-	-	-	-
Moranbah North	Operating	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	5.5	5.5	5.5	5.5
North Goonyella	Operating	1.6	2.0	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Oaky North	Operating	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.5	-	-	-
Poitrel	Operating	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
South Walker Creek	Operating	5.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total operating		74.4	73.8	70.8	70.8	70.2	65.0	64.0	63.8	61.3	50.3	50.0	48.3	44.3	42.1	33.1	26.6	26.6	26.6
Burton	Suspended	-	0.8	1.5	1.5	1.0	0.2	-	-	-	-	-	-	-	-	-	-	-	-



Eagle Downs	Probable ¹	-	-	-	-	-	-	-	0.4	1.2	3.7	3.8	3.8	3.9	3.9	3.9	4.0	4.0	4.1
German Creek Aquila	Suspended	-	-	-	-	0.3	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-
Ironbark No 1	Probable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isaac Plains (Underground)	Probable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moorvale South	Possible ²	-	-	-	1.0	1.0	1.0	1.0	2.0	3.0	3.0	3.0	2.0	1.0	-	-	-	-	-
Moranbah South	Possible	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5
Nebo West	Possible	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	2.7
New Lenton	Probable	-	-	-	0.5	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	-	-	-
Olive Downs Complex	Probable	-	-	-	0.7	1.5	2.2	2.9	3.7	4.2	4.2	4.2	4.2	4.2	5.0	6.8	9.5	11.3	12.8
Olive Downs North	Possible	-	-	-	-	-	-	-	-	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Rockwood	Possible	-	-	-	-	-	-	-	-	-	-	1.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Valeria	Probable	-	-	-	-	-	-	-	1.0	3.3	6.7	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Vermont East	Possible	-	-	-	-	-	-	-	-	-	-	-	1.0	2.0	3.0	3.0	3.0	3.0	3.0
Winchester South	Probable	-	-	-	-	-	-	1.5	3.0	4.5	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Total projects		-	0.8	1.5	3.7	4.8	6.9	9.9	14.5	21.2	28.9	33.8	34.8	35.9	36.7	38.0	36.7	40.5	43.4
Total		74.4	74.5	72.3	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2	78.8	71.1	63.3	67.1	70.0

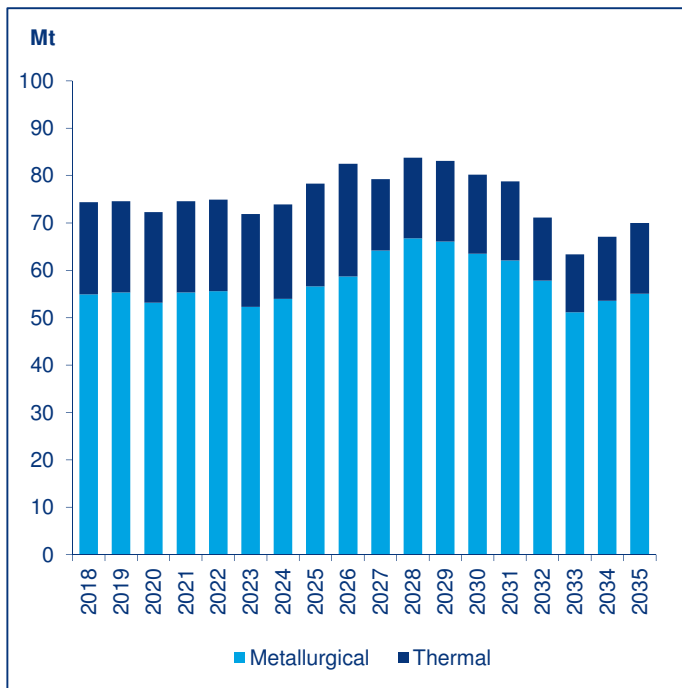
Source: Wood Mackenzie

¹ Probable project – Project which is likely to enter commercial production in the future, but is subject to a significant degree of uncertainty, particularly with regard to timing, economic or technical matters.

² Possible project – Project which has a high degree of uncertainty and is usually at a very early stage of development.



Figure 3 Base case throughput at DBCT by coal type



Source: Wood Mackenzie

This outlook is Wood Mackenzie's base view of expected DBCT throughput based on a range of factors such as:

- Forecast future production rates from existing mines;
- The cessation of production at operational mines;
- The development of other mines in terms of timing and scale;
- Available DBCT capacity during the forecast window;
- A view on individual mine export allocations between ports;
- A view on rail system capability; and,
- An assumption on demand levels and resultant seaborne prices and mine-specific margins.

It can be observed that DBCT throughput is expected to average 75 Mtpa between 2018 and 2035. After 2026, throughput from operating projects starts declining more significantly, however this will be gradually replaced by identified project supply through to 2031. Beyond this, supply from identified projects will be insufficient to replace declining operating supply and throughput will fall from 79 Mtpa in 2031 to 70 Mtpa in 2035 without the addition of as yet unidentified projects. Throughput peaks in 2028 at 84 Mt.

Average DBCT throughput (77 Mtpa) between 2018 and 2035 exceeds maximum observed DBCT throughput, which was 69.6 Mt, achieved in 2015, however will remain below the maximum assumed nominal capacity of DBCT of 85 Mtpa.

Wood Mackenzie has assumed that the nominal capacity of DBCT of 85 Mtpa is achievable.

Expected DBCT throughput suggests that expansions of DBCT capacity are unlikely to be required. Any tonnages over capacity are small and there is uncertainty as to whether an expansion would be developed and contracted by users on a longer term basis given the transitory nature of peak demand. DBCT will be required to operate at high utilisation levels between 2025 and 2031.

Key assumptions and risks to the Wood Mackenzie DBCT forecast

Wood Mackenzie's base view assumes certain tonnage allocations to DBCT and to various other ports. Several mines with that export through DBCT, also currently allocate a smaller tonnage to other ports, specifically APCT and RG Tanna Coal Terminal at Gladstone port. Changes to these assumptions have the potential to impact on DBCT throughput and hence demand for DBCT capacity.

It also can be observed that a significant proportion of future DBCT throughput is expect to come from coal mines that are not currently operational (projects). Projects have a greater degree of uncertainty in terms of production start, ramp-up rate, typical production rates, and export port allocation. Changes to Wood Mackenzie's view on projects will affect DBCT throughput and capacity demand profile over time.

Table 2 Seaborne coal prices (US\$/t)

Case	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Met ³	116	120	121	122	125	120	120	122	125	130	132	132	132	132	138	145	166
Thermal ⁴	70	64	64	68	69	70	70	73	71	71	71	75	77	79	80	81	89

Source: Wood Mackenzie

Coal does move from DBCT/HPCT catchment mines to other ports. The ability to continue to rail and export a certain tonnage through APCT has been demonstrated up to 14 Mtpa. The systems' ability to move tonnage from DBCT catchment mines to APCT above this level, without negative impacts on Goonyella/DBCT/HPCT throughput has not been demonstrated. The nominal capacity of this rail link is 31 Mtpa.

³ FOB Queensland HCC Benchmark price

⁴ FOB Newcastle @ 6,000 NAR



Similarly only limited tonnages (~ 5Mtpa) move from DBCT/HPCT catchment mines to Gladstone coal terminals. The ability to move significantly larger amounts of coal have not been demonstrated. Given the longer transportation distances from mines in the catchment to Gladstone, relative to the distances to DBCT/HPCT, mines are not incentivised to direct coal to Gladstone port. This is considered to continue to be the situation for the base case.

The allocation of Lake Vermont and Middlemount production have a significant effect on forecast throughput at DBCT. Production from Lake Vermont is currently exported through APCT and Gladstone, however these contracts expire in 2028 and 2022, respectively. After 2022 Lake Vermont could elect to move part of its allocation to DBCT, which is significantly closer to the mine than APCT, however this is not assumed in the base case. An upside risk to the forecast is the reallocation of Lake Vermont supply to DBCT. Wood Mackenzie has no indication from Jellinbah regarding future throughput plans.

Middlemount production currently ships 3 Mtpa through APCT, with the remaining 1 Mtpa directed through DBCT. The allocation at APCT is understood to expire in mid 2027, and following this Middlemount is assumed to direct all production through DBCT, as DBCT is significantly closer than APCT to Middlemount operations. There is a risk that this reallocation would not take place, reducing throughput at DBCT later in the forecast.

Other key APCT allocations expire between 2026 and 2027. In some cases this may prompt a readjustment of throughput, based on available capacity closer to that time, representing an upside risk to throughput at DBCT.

If throughput through Gladstone coal terminals approaches capacity limitations, this could cause incremental tonnage to revert to DBCT. Approximately 3 Mtpa of coal could re-directed from Gladstone back toward DBCT, if and when Gladstone capacity is fully utilised. Throughput at other ports, while not the focus of this report, has the ability to impact DBCT throughput.

Mines owned by BMA predominantly export through HPCT. However these mines also exported through DBCT and APCT in 2016 and 2017. Depending on the future performance of HPCT, there remains the potential for additional tonnage to be redirected to DBCT. Wood Mackenzie's forecast of DBCT throughput assumes no tonnage from BMA mines; any tonnage from BMA mines would represent additional throughput upside for DBCT. However HPCT mines, specifically Goonyella Riverside, have also demonstrated the ability to export through APCT, utilising the 4 Mtpa contract allocation there. After expiry in 2026 this tonnage may revert to HBCT or DBCT.

There is also the potential for some projects to increase production through productivity based improvements rather than expansions. An example of this is the proposed Grosvenor project to increase production, based on productivity improvements demonstrated at other mines, which could add an additional DBCT throughput.

Changes in the global seaborne market will also affect future throughput at DBCT. The base case reflects what Wood Mackenzie sees as being the most likely scenario for development of the seaborne market, a scenario similar to the IEA New Policies Scenario (NPS). The NPS assumes that policy ambitions, including any announced to August 2018 and INDCs under the Paris Agreement, are met. This scenario results in flat seaborne demand for thermal coal, and moderate growth for metallurgical coal.

However, there are upside and downside risks to this assumption. The IEA Current Policies Scenario (CPS) is an upside view of how the international coal markets could develop. The CPS is based on existing laws and regulations at mid-2018, excluding general announced ambitions and more vague targets that do not have a legislated basis. This case results in coal demand that is higher than the base case NPS, as there are much less stringent constraints around carbon emissions. Both the metallurgical and thermal coal markets grow significantly under these assumptions.

The IEA Sustainable Development Scenario (SDS) is a low case view of international coal markets. The SDS is based on a range of targeted key outcomes. The three primary outcomes of the SDS are:

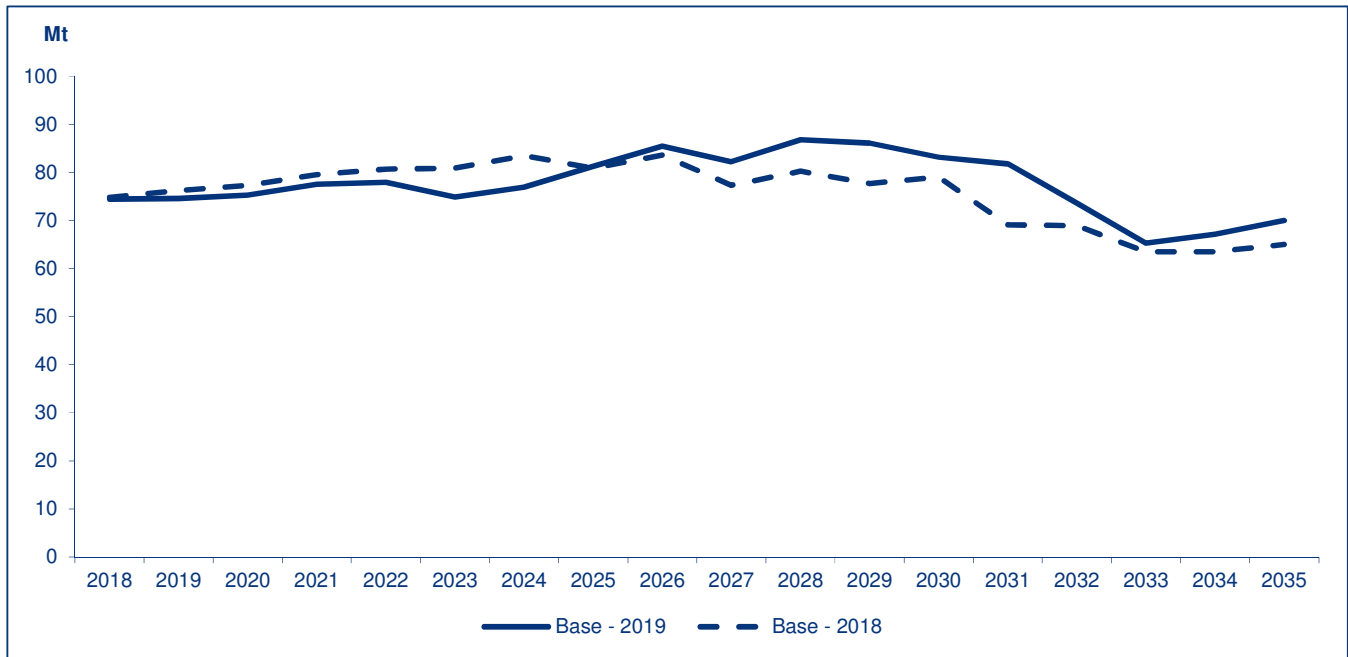
- Delivery of the Paris agreement and holding the increase in global average temperatures to well below 2°C
- Achieving universal access to modern energy by 2030
- Reducing drastically premature deaths due to energy-related air pollution

To achieve these goals, the generation of power from fossil fuel sources, particularly coal would have to be drastically reduced over the next three decades. In addition, emissions from industry would be significantly reduced. Within the steel industry, this could be achieved by either the use of carbon capture and storage, or the transition to hydrogen-based steel production replacing BOF. To achieve this, the global coal markets for both metallurgical and thermal coal would decline significantly by 2035.



Variance to 2018 report

Figure 4 Comparison of 2018 and 2019 throughput forecasts



Source: Wood Mackenzie

Total base case throughput at DBCT between 2018 and 2035 is 1,363 Mt in the 2019 case, compared to 1,361 Mt in the 2018 case. In the 2019 case throughput is around 3-5 Mtpa lower through the short term than the 2018 case, due to some slightly lower production forecasts and the assumed closure of Foxleigh due to low margins. There is an uptick in throughput in the second half of the 2019 forecast compared to the 2018 numbers due to slightly higher production outlooks for some operating mines, and the addition of Moorvale South, Nebo West and Moranbah South to the forecast.

Other potential considerations

Wood Mackenzie have included a list of projects that are expected to utilise DBCT in Table 3. This is not a comprehensive list of all potential projects. There are additional projects in the DBCT catchment area, that, if developed would potentially seek to export through DBCT. These additional projects are shown in Table 3.

If developed these projects represent further upside to throughput at DBCT.

Wilpeena is a relatively early stage exploration project. Wood Mackenzie assume that it is unlikely to become operational before 2035.

Table 3 Indicative mine projects

Project	WM Start Year
Wilpeena	2038
Wards Well	2031
Harrybrandt	2038
Hillalong	-
Teresa	-
Grosvenor West	-

Wards Well has not been included, as Wood Mackenzie assume tonnage from this operation will be shipped via APCT.

Harrybrandt is a relatively early stage exploration project. Wood Mackenzie expect that, if developed, production would begin after 2035.

Wood Mackenzie are in the process of developing an updated view on the Hillalong project, owned by Shandong Energy Australia. Previously this project was considered highly unlikely.

Wood Mackenzie currently doesn't consider the Teresa project to be actively progressing, with no viable timeline for its development. The project is also more likely to use Gladstone Port via the Blackwater rail network due to its location

Source: Wood Mackenzie

The Grosvenor West project is also not actively progressing, and there is currently no viable timeline for its development.



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Schedule 2 – 3rd PwC Report

DBCT User Group

2020 Access Declaration Review

11 March 2019



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Executive summary

The DBCT User Group engaged PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC) to provide economic advice in relation to the Queensland Competition Authority's (QCA) draft recommendation¹ in regards to the ongoing declaration of the Dalrymple Bay Coal Terminal (DBCT).

We prepared reports which were provided with the DBCT User Group's initial submission in May 2018² and supplementary submission in July 2018.³ Our reports found that DBCT satisfied the criteria outlined in the Act,⁴ highlighting that DBCT is capable of meeting foreseeable market demand at least cost as single facility, that the facility is of significance, and that continued declaration would promote the public interest.

In December 2018, the QCA issued a draft recommendation that the coal handling services at DBCT be declared for a further 10 year period from September 2020. In delivering this draft recommendation, the QCA considered submissions from a range of stakeholders and engaged consulting firms MMI Advisory (MMI) and Balance Advisory (Balance) to support its analysis.

The QCA's analysis found that DBCT was able to meet foreseeable demand at least cost, even when considering highly conservative cost estimates and understating the cost of accessing alternative terminals. The estimates of DBCT expansion costs used in the QCA's analysis exceed those previously published by DBCTM, while the approach to estimating rail costs assumed an expansion to the Goonyella rail network with increased below-rail costs for DBCT users. Similarly, the QCA adopted cost estimates for Goonyella system users seeking to access alternative terminals which do not capture the cost of switching rail systems. As acknowledged by the QCA, these assumptions mean that its estimates of supply chain cost difference are likely to be understated.

This supplementary report provides updated modelling and scenario analysis to support the QCA's further and final consideration of whether DBCT satisfies the relevant access declaration criteria. It includes additional analysis which aligns our least cost analysis methodology to that used by the QCA to support its draft recommendation.

We have modelled various scenarios applying the QCA's average cost methodology, using more recent projections of foreseeable demand provided by resources industry analyst Woodmac as well as more aggressive demand scenarios (adopting the QCA's approach to measuring foreseeable market demand from capacity entitlement rather

¹ QCA (2018), *Draft Recommendation - DBCT declaration review*, available at: <http://www.qca.org.au/getattachment/f381d591-bfc6-4974-9d58-a5f47e32d0e3/Part-C-Draft-recommendation-%E2%80%93-the-DBCT-service.aspx>

² PwC (2018), *DBCT User Group Submission - PwC 2018 Access Declaration Review*, available at: <http://www.qca.org.au/getattachment/768da7a3-038c-4e13-97fd-337fdf3ce2bc/3-DBCT-User-Group-Submission.aspx>

³ PwC (2018), *DBCT User Group - Cross Submission - PwC Supplementary Report*, available at:

<http://www.qca.org.au/getattachment/743414ca-0670-496d-9ed6-8063b9a96fe7/DBCT-User-Group-Cross-Submission.aspx>

⁴ Queensland Competition Authority Act 1997, available at: <https://www.legislation.qld.gov.au/view/pdf/inforce/2018-03-29/act-1997-025>

than forecast throughput), and finally adopting the expansion cost estimates used by HoustonKemp.

We note that recent modelling by the Integrated Logistics Company (ILC) suggests that the capacity of the existing terminal exceeds 90 million tonnes per annum (mtpa). There is therefore an argument that, if terminal capacity entitlement is applied as the basis for estimating demand, this should be measured against terminal capacity (not some lower measure of constrained system capacity). To be consistent with the QCA's approach, and as a conservative assumption, we have retained in our modelling 85 mtpa as the baseline capacity estimate for the current terminal (though examined through scenario analysis the impact of a higher baseline capacity for the existing terminal).

Our analysis demonstrates that even in aggressive, 'high case' demand scenarios, a single facility (being an expanded DBCT) can service that demand at least cost. We have modelling both updated forecasts from Woodmac, prepared in March 2019, which reflect demand reaching 93.1 mtpa on a capacity entitlement basis, and an adjusted MMI high case demand. This adjusted MMI high case scenario uses information from the User Group to adjust forecasts for coal mining projects/proposals where these are manifestly overstated, producing a capacity entitlement estimate of approximately 100 mtpa, down from the 121 mtpa in MMI's original report. In both of these scenarios, an expanded DBCT, integrating the Zone 4 and 8X Phase 1 and 2 expansions, satisfies foreseeable demand at least cost.

Further modelling using the expansion cost estimates from HoustonKemp's report, and as adopted by the QCA, shows a single, expanded DBCT remains the least cost option.

On the basis of the analysis presented in this supplementary report, we continue to hold the view that access declaration criterion (b) is satisfied for DBCT.

We also continue to hold the view that the significant public interest benefits stemming from investment certainty demonstrate that access declaration criterion (d) is also satisfied for DBCT. Continued declaration will support future investment in coal exploration and ultimately resource development, supporting the royalties and jobs that the industry generates.

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1. Introduction

1.1 Background

In December 2018, the Queensland Competition Authority (QCA) issued its draft recommendation that the services at the Dalrymple Bay Coal Terminal (DBCT) be declared for a period of 10 years from 2020.⁵ The reports that we prepared for the DBCT User Group's initial⁶ and supplementary submissions⁷ similarly concluded that DBCT satisfied the relevant access declaration criteria, though used in part some differing methodologies, assumptions and forecasts.

The DBCT User Group has requested that PwC prepare this supplementary report, considering and responding to the QCA's draft recommendation and two late submissions made by the DBCT Management (DBCTM).

As a supplementary report, we have not restated in full the background and context to the QCA's current access declaration review. Nor have we provided commentary on criterion (c) on the basis that the QCA and key stakeholders are satisfied of the significance of the coal handling services offered at DBCT.

The report is structured as follows:

- in section two, we recap on our earlier findings, and provide further evidence and information to the support the QCA's view that DBCT is able to service total foreseeable demand at least cost, and thus satisfies access declaration criterion (b).

In this, we have considered the QCA's conclusions on the appropriate approach to market definition, and adopted the QCA's methodology for undertaking 'least-cost' analysis

- in section three, we expand upon the public interest benefits of continued declaration.
- appendixes to this supplementary report provide detailed mine-by-mine production and contract data, as is used in our least-cost modelling.

⁵ QCA (2018), *Draft Recommendation - DBCT declaration review*

⁶ PwC (2018), *Dalrymple Bay Coal Terminal User Group – 2018 Access Declaration Review*

⁷ PwC (2018), *Dalrymple Bay Coal Terminal User Group - Declaration review regarding Dalrymple Bay Coal Terminal*

2. Criterion (b)

2.1 Context to the QCA's draft report recommendation

2.1.1 PwC's initial report

Our initial⁸ and supplementary reports⁹ found that a single terminal is the least cost means of satisfying foreseeable demand in the relevant market, over the proposed declaration period.

The market definition we adopted acknowledged that the various central Queensland coal supply chains are physically interconnected, but that there are material commercial, logistical and economic factors which support a view that the appropriate and relevant definition of a market is narrower than simply the consolidation of all current and future Bowen Basin mines whom share a physical connection to the DBCT.

We found that the ability of Bowen Basin mine users to substitute between DBCT and alternative terminals at Abbot Point, RG Tanna and WICT is constrained by a number of cost and non-cost factors, including:

- rail haulage distances which result in greater rail access charges for more distant terminal facilities, creating a catchment of mines for which export through DBCT is the strongly preferred commercial pathway
- for (most) other export terminals, the materially higher cost of coal handling services relative to DBCT
- capacity constraints prevailing at alternative terminals and connecting rail networks, which create limitations on the extent to which other export pathways are practicably possible
- the physical limitations of existing rail and mine infrastructure, including the non-electrified nature of the Newlands rail system
- the underlying contractual arrangements that underpin rail and port access, and in particular the existence and extent of long-term, take-or-pay agreements for access to both below-rail networks and terminal capacity, which create significant impediments to capacity shifting.

Our previous submissions further argued that Hay Point Coal Terminal (HPCT) operates within a separate market to DBCT, despite its geographic proximity and otherwise similar coal handling services. Access to HPCT has not previously been provided to non-BMA/BMC mines, and no incentive exists for BHP to provide access to users of third party mines in the future. We highlighted that throughput at HPCT has remained unresponsive to changes in the TIC at DBCT. Were the terminals to be

⁸ PwC (2018), *DBCT User Group Submission - PwC 2018 Access Declaration Review*

⁹ PwC (2018), *DBCT User Group - Cross Submission - PwC Supplementary Report*

substitutes, it would be expected that users would switch as a result of significant increases in real terminal charges.

Our initial reports recognised that defining precise geographic boundaries for the relevant market was difficult, as there inevitable grey areas in understanding how both the supply and demand components of the market might act. Partly for that reason, forming a view on a definitive forecast of demand in that market also was uncertain. Accordingly, we sought to examine a range of different forecasts, from a range of different industry sources (which implicitly were framed by an understanding of the geographic area from which demand for relevant coal handling services would be drawn), to develop scenarios to test the appropriate combination of current and future capacity options to meet foreseeable demand in those scenarios.

In one scenario, using forecasts and data provided to us by Wood Mackenzie and members of the User Group, throughput was indicated as likely to stay below the capacity of the existing DBCT facility. As such, the existing facility at DBCT would remain the least cost method of meeting that demand. In other scenarios where forecast demand was in excess of DBCT's current existing capacity, we found that a single (expanded) facility could still satisfy foreseeable demand at least cost.

PwC's initial reports were provided to the QCA as part of a broader User Group submission, which also addressed the interpretation and application of criterion (b). The User Group's submission provided additional analysis and commentary on other access declaration criteria, arguing that:

- continued declaration would promote competition in a number of other markets, including the market for coal exploration and development tenements (access declaration criterion (a))
- DBCT is clearly a State-significant facility, mirroring the findings of PwC's analysis, and therefore satisfied the requirements of access declaration criterion (c)
- declaration would promote the public interest, including through its effect on the incentives for efficient investment in other markets (access declaration criterion (d), which again broadly mirrored the findings of the analysis in PwC's earlier reports.

2.1.2 QCA's draft position on access criterion (b)

In its draft report the QCA defined the market¹⁰ as the 'market for DBCT's coal handling services in the Goonyella system'. The QCA indicated in its draft report that its approach to market definition differed from that suggested by the User Group and in PwC's initial report, though practically those differences were slight.

Using this market definition, the QCA found that DBCT is able to meet total foreseeable demand at least cost over the proposed declaration period, compared to any two or more facilities.

Table 1 summarises some of the key factors considered by the QCA.

¹⁰ QCA (2018), *Draft Recommendation - DBCT declaration review*, page 11

Table 1: Summary of factors considered by the QCA

Factor	Notes
Existing rail infrastructure¹¹	The inability of the Newlands system to support electric trains was outlined by the QCA as a potential barrier to substitution between Abbot Point and DBCT.
Terminal and rail capacity¹²	The QCA's draft decision points to the availability of capacity at alternative terminals as a significant component of substitutability. It was noted that the QCA had not received compelling evidence of capacity being available to access seekers at either at Abbot Point or RG Tanna.
Metallurgical coal shipping and blending¹³	The QCA considers the co-shipment opportunities offered at DBCT to be a material factor in deciding where to contract capacity. The QCA noted that they had not received detailed submissions proving blending to be a material factor, though.
Cost factors¹⁴	<p>In Appendix A of its draft report, the QCA developed its own estimates for the cost of alternative export pathways. This including estimating below rail, above rail, coal handling and other port and shipping costs.</p> <p>The QCA produced two different estimates of below rail costs. Irrespective of which below rail cost estimates are used, the average supply chain costs calculated by the QCA suggest that exporting through RG Tanna is at least 47 per cent more expensive than DBCT, Abbot Point 93 per cent more expensive and WICT is 130 per cent more expensive.</p>
Take or pay contracts¹⁵	Where port and rail contract expiry dates are not aligned, the QCA has considered the cost of exiting a contract early to be a material factor in contracting decisions. In instances where port and rail contract expiries are aligned, the QCA stated switching costs would not be an impediment to substitution.
Mine infrastructure investment¹⁶	The requirement to invest in mine infrastructure was highlighted by the QCA as a potential impediment to substitution.
Hay Point¹⁷	<p>The QCA's analysis of (b) also considered the extent to which the services offered at Hay Point are substitutable for the services offered at DBCT.</p> <p>The QCA highlighted the historic unavailability of the terminal to non-BMA/BMC users and the lack of incentives to allow common-user access in future as a key reason for concluding that HPCT does not operate in the same market as DBCT.</p>
Use of Abbot Point, HPCT and RG Tanna by DBCT customers¹⁸	While a number of DBCT users export coal through other terminals, the QCA has, for a number of reasons, decided that these terminals are not direct substitutes to DBCT, including:

¹¹ *ibid*, pages 16-17

¹² *ibid*, pages 17-18

¹³ *ibid*, pages 19-20

¹⁴ *ibid*, pages 15-16

¹⁵ *ibid*, page 20-21

¹⁶ *ibid*, pages 21-22

¹⁷ *ibid*, pages 22-26

¹⁸ *ibid*, pages 27-30

- that many users utilising multiple terminals would have preferred sole access to DBCT
- the limited capacity available at DBCT when customers contracted elsewhere (eg during the mining boom)
- the employment of 'uneconomic decisions' to protect against natural disasters or other system disruptions (eg Anglo American)
- the materially larger cost of accessing services at other terminals
- the low level of substitution that has occurred.

Were another terminal to be considered a substitute, some evidence should exist of switching at levels consistent with that.

Supply chain costs

The QCA's estimates for the average costs associated with exporting coal for mines in the Goonyella system are reproduced in Table 2. The QCA adopted the lower bound of below rail cost estimates for Abbot Point, RG Tanna and Wiggins Island Coal Terminal (WICT).

Table 2: QCA - average supply cost to Goonyella system users of accessing alternative coal terminals (\$ per tonne)

Cost component	DBCT	Abbot Point	RG Tanna	WICT
Below-rail cost (3 year average data), lower bound estimate for accessing other terminals	\$2.62	\$9.23	\$6.33	\$6.33
Above-rail cost, lower bound estimate for accessing other terminals	\$3.70	\$5.73	\$5.17	\$5.17
Coal handling cost	\$5.05	\$7.01	\$5.18	\$14.67
Other port and shipping costs	\$0.05	\$0.05	\$0.05	\$0.05
QCA's supply chain cost estimate	\$11.42	at least \$22.02	at least \$16.73	at least \$26.22
Cost difference relative to accessing DBCT (post Goonyella and DBCT expansions)	-	at least \$10.60 (+93%)	at least \$5.32 (+47%)	at least \$14.81 (+130%)

Source: QCA supply chain cost estimate per Draft Recommendation, Page 16, Table 5

The QCA noted that these represented the lower bound of supply chain cost estimates for Abbot Point, RG Tanna and WICT, such that the difference in cost for accessing another port over DBCT is likely to be understated.¹⁹ For instance, as noted in Appendix A of the QCA's draft decision, the lower bound estimates assume that mines on the Goonyella system do not incur costs for traversing the Goonyella system on the

¹⁹ *ibid*, page 135

way to their alternative end destination, hence are likely to understate rail costs for non-DBCT terminals, potentially materially.²⁰

Table 3 compares the supply chain cost estimates from PwC’s initial analysis to the average costs reported in the QCA’s draft report. PwC’s estimates are based upon data provided by individual members of the DBCT User Group (averages are shown, rather than confidential mine-level cost data), and thus represent sample rather than a definitive estimate for the entire basin. Notwithstanding, in order of magnitude terms, the PwC and QCA estimates are quite similar; they indicate that the RG Tanna export pathway would be the next most cost-efficient to DBCT, yet is still nearly 50 per cent more costly than exporting through the common-ser DBCT facility at the Port of Hay Point.

Differences otherwise between the supply chain cost estimates stem largely from rail costs (for connection through to the Blackwater system), which is to be expected given the conservative assumptions made in the QCA’s estimates and acknowledged by the QCA in its draft report.

Table 3: Average supply chain costs, PwC compared to QCA

Cost component	DBCT	Abbot Point	RG Tanna	WICT
PwC rail cost estimates	\$9.56	\$16.05	\$17.43	\$17.43
PwC port cost estimates	\$5.05	\$6.77	\$4.00	\$22.00
PwC supply chain estimate	\$14.61	\$22.82	\$21.43	\$39.43
PwC difference to DBCT	-	\$8.21 (+56%)	\$6.82 (+47%)	\$24.82 (+170%)
QCA rail cost estimates	\$6.32	\$14.96	\$11.50	\$11.50
QCA port cost estimates	\$5.10	\$7.06	\$5.23	\$14.72
QCA supply chain cost estimate	\$11.42	at least \$22.02	at least \$16.73	at least \$26.22
QCA difference to DBCT	-	at least \$10.60 (+93%)	at least \$5.32 (+46%)	at least \$14.81 (+130%)

Source: PwC modelling, QCA supply chain cost estimate per Draft Recommendation, Page 16, Table 5

²⁰ ibid, page 129

Market demand

The QCA engaged MMI Advisory to reconcile the various demand forecasts provided by stakeholders,²¹ with this reconciliation done on a mine by mine basis. Table 4 outlines the methodology used by MMI in its demand reconciliation.

Table 4: Summary of MMI methodology

Factor	Notes
Mine location	MMI first included projects which were located on the Goonyella rail system. MMI then assessed the likelihood of mines outside the system which were included in HoustonKemp's forecast accessing DBCT.
Use of HPCT	Mines primarily using HPCT were judged to be operating in a separate market. Production from those mines were excluded from MMI's reconciliation.
Contracting of capacity at other terminals	Similar to the above, mines contracting at terminals other than DBCT were considered to be within a separate market. MMI have assumed that Lake Vermont and Middlemount will be recontracting at DBCT at the expiration of their Abbot Point contracts in 2028 and 2027, respectively.
Project status	MMI reviewed publicly available information to determine project status, the likelihood of project commencement and project timing.

As part of MMI's sensitivity analysis (the 'high case'), MMI made an assumption that projects unlikely to be developed over the forecast period in their 'base case' would be commissioned midway through the period. MMI's reconciliation of market demand is reproduced in Table 5.

Table 5: MMI reconciliation of throughput estimates (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Base case	83.7	80.2	80.2	76.2	77.5	72.2	59.2	64.7	70.0	70.7
High case	83.7	80.2	80.2	76.2	78.4	82.5	82.6	96.3	107.7	109.4

Source: MMI Advisory per Demand Forecast Reconciliation, Page 9

Least cost analysis

The market demand forecast employed the QCA would see demand peak at 93 mtpa,²² necessitating an expansion of the DBCT facility and the Goonyella rail system. The QCA's approach to assessing the least cost way in which this foreseeable demand could be met considers both incremental and sunk costs to be relevant.²³ The QCA's interpretation of least cost involves comparing average costs for total demand, rather than incremental costs for the required expansion capacity. In effect the QCA has

²¹ MMI Advisory (2018), *Reconciliation of DBCT Demand Forecasts Submitted by Stakeholders*, available at: [http://www.qca.org.au/getattachment/8ab5bef9-d22b-4665-876d-8de3ed777582/MMI-Advisory-report-DBCT-criterion-\(b\).aspx](http://www.qca.org.au/getattachment/8ab5bef9-d22b-4665-876d-8de3ed777582/MMI-Advisory-report-DBCT-criterion-(b).aspx)

²² QCA (2018), *Draft Recommendation - DBCT declaration review*, page 45. table 8

²³ *ibid*, pages 47-49

adopted average cost per unit as the relevant metric for comparison between an expanded DBCT and DBCT and another facility.²⁴

In its estimation of the costs of the Zone 4 and 8X expansions, the QCA adopted what it acknowledged to be most conservative figures available.²⁵ The QCA's estimation of the cost of an expansion to the Goonyella rail network also was conservative, in that it overstated the below-rail cost of accessing an expanded DBCT, which had the effect of biasing the comparison of supply chain costs towards either Abbot Point or RG Tanna pathways.²⁶

The supply chain costs used in the QCA's comparison of the cost of servicing demand at an expanded DBCT facility and DBCT and another facility are outlined in Table 6.

Table 6: QCA - average supply cost to Goonyella system users of accessing alternative coal terminals with Goonyella and DBCT expansions (\$ per tonne)

Cost Component	DBCT	Abbot Point	RG Tanna	WICT
Below-rail cost (2016-17 data), lower bound estimate for accessing other terminals	\$3.61	\$10.69	\$7.25	\$7.25
Above-rail cost, lower bound estimate for accessing other terminals	\$3.25	\$5.03	\$4.54	\$4.54
Coal handling cost	\$5.14	\$7.01	\$5.18	\$14.67
Other port and shipping costs	\$0.05	\$0.05	\$0.05	\$0.05
QCA's supply chain cost estimate	\$12.05	at least \$22.79	at least \$17.02	at least \$26.51
Cost difference relative to accessing DBCT (post Goonyella and DBCT expansions)	-	at least \$10.73 (+89%)	at least \$4.97 (+41%)	at least \$14.46 (+120%)

Source: QCA supply chain cost estimate per Draft Recommendation, Page 51, Table 9

Based on this analysis, the QCA concluded that an expanded DBCT facility is the least cost method of servicing market demand, with an expanded DBCT at least 41 per cent cheaper than the next best alternative (being RG Tanna, and where the QCA acknowledged further that it was uncertain whether there was any available spare capacity at that terminal, over the relevant timeframe²⁷).

2.1.3 DBCT Management's cross submission

DBCT Management's cross-submission²⁸ includes various statements and assertions which sought to challenge the market definition adopted in PwC's initial reports, and which present a case for a different, and far broader, market definition.

²⁴ *ibid*, page 50

²⁵ *ibid*, pages 135-137

²⁶ *ibid*, pages 137-138

²⁷ *ibid*, pages 17-18

²⁸ DBCT Management (2018), *DBCT Management - Cross Submission*, available at: <http://www.qca.org.au/getattachment/e1cbf6de-8598-41bc-b149-da6fb400499b/DBCT-Management-Cross-Submission.aspx>

Many of these statements misrepresent and misinterpret the market definition applied in our initial report. For instance:

- *‘... fail to form a view about the region from which potential customers of coal handling services at Hay Point would be drawn.’²⁹*

Whilst we did not seek to establish a definitive geographic boundary for the relevant market, the premise we established was of a catchment of potential mines, which formed the relevant market, and which was defined broadly by the economics of the relevant supply chains (and in particular the effect of both below- and above-rail charges increasing with distance).

- *‘... total foreseeable demand is constrained to be no more than the capacity of DBCT, ...’³⁰*

We used various forecasts of demand, including where that demand exceeded the capacity of the existing terminal and necessitated consideration of various expansion or other terminal options. Our demand forecast was not constrained to be no more than the capacity of DBCT.

- *‘... PwC are not transparent in their discussion or derivation of demand forecasts.’³¹*

The sources and adjustments to the demand scenarios included in our reports were clearly described. We have included in this supplementary report additional and more granular detail regarding updated demand forecasts, and reconciled these to forecasts developed independently by the QCA and adopted in its draft report.

- *‘PwC’s assessment of the costs of meeting foreseeable demand using available capacity at existing terminals is based on data sourced from users rather than an independent body.’³²*

We used a range of data sources to develop our supply chain cost estimates, including information provided to us on a confidential basis by users. We note that the supply chain costs we developed are broadly comparable to those developed independently by the QCA, as reported in Table 3.

Rather than respond comprehensively to each of these (and other) claims set out in the DBCT Management cross-submission (and accompanying report from HoustonKemp), for the purposes of this supplementary report we have adopted the QCA’s approach to market definition, and focused on providing additional and updated analysis to inform the QCA’s further assessment of access declaration criterion (b).

²⁹ *ibid*, page 4

³⁰ *ibid*, page 4

³¹ *ibid*, page 9

³² *ibid*, page 9

2.2 Updated modelling scenarios

In the following sections we present the results from modelling various foreseeable demand and expansion cost scenarios, adopting the analytical framework as used by the QCA in its draft report. This analysis adopts the QCA's approach to modelling supply chain and expansion costs, and also adopts contracted capacity as the measure of demand.

The scenarios variously:

- apply the **QCA's forecast of foreseeable demand** with PwC's estimates of coal supply chain and expansion costs, per our initial report (Scenario 1)
- assess the effect of **different updated and aggressive demand forecasts**, based on more recent forecasts provided by Wood Mackenzie (Woodmac), and adjustments to the MMI forecasts based on information from the User Group (Scenario 2)
- adopt the **higher HoustonKemp cost estimates** for DBCT expansion options, compared to PwC's costs for other supply chains (Scenario 3).

Table 7 provides a summary of the QCA's forecast of throughput and compares this to the forecast developed - using different assumptions and methods - by the User Group. Although developed using different approaches, the two forecasts were similar in that both indicated maximum throughput would be in the order of 83 mtpa (though peaking at different times over the declaration period).

Table 7: Estimates of throughput - QCA and DBCT User Group (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
QCA	83.7	80.2	80.2	76.2	78.4	82.5	82.5	82.5	82.5	82.5
DBCT User Group	79.5	80.7	80.9	83.5	80.9	83.6	77.3	80.2	77.2	79.0

Source: DBCT User Group throughput estimates per Draft Recommendation, Page 39, Table 6; QCA throughput estimates per Draft Recommendation, Page 45, Table 8

The QCA's draft report, however, proposed that *capacity entitlement* is the appropriate measure of foreseeable demand, reflecting the expected level of contracted capacity at the terminal. This appears to be based on an assumption that users would, on average, seek to contract for capacity in excess of the level of throughput. The QCA estimated this by applying a linear escalation factor to each years' throughput (the inverse of the assumption that throughput would in each year be 90 per cent of contracted capacity).

For consistency with the QCA's approach, we have adopted capacity entitlement as the basis for forecasting foreseeable demand in each of the scenarios modelled in this supplementary report. We have also retained 85 mtpa as the baseline capacity estimate for the current terminal, but reserve our position on this noting ILC's technical advice suggests a significantly higher terminal capacity estimate (see further discussion below).

Table 8: QCA estimate of capacity entitlement (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
QCA	93.0	89.1	89.1	84.7	87.1	91.7	91.7	91.7	91.7	91.7

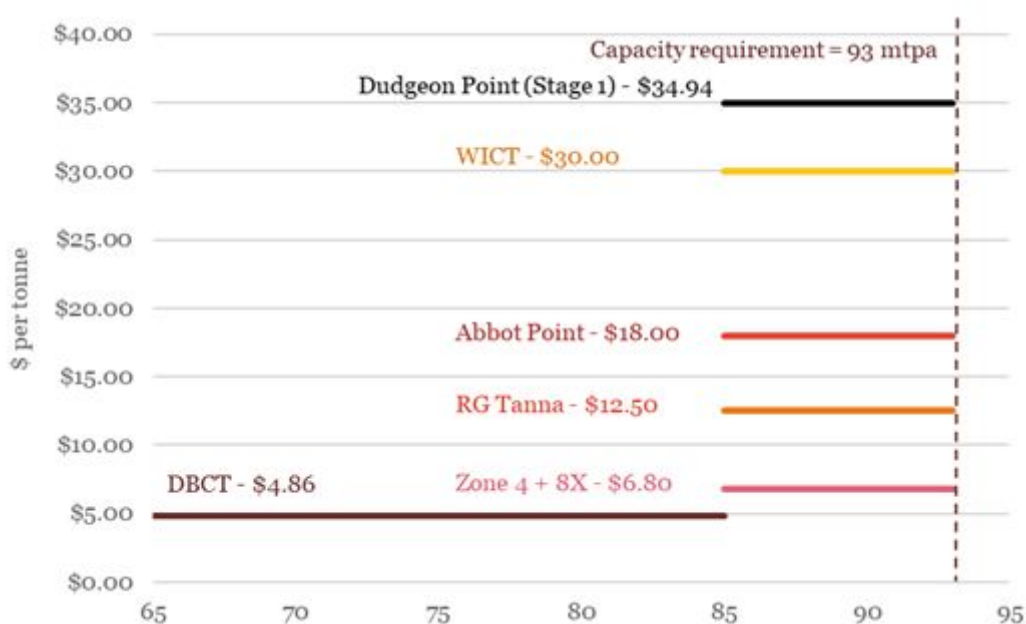
Source: QCA capacity entitlement estimates per Draft Recommendation, Page 45, Table 8

The QCA’s preferred demand projection suggests a maximum foreseeable demand (capacity entitlement) of 93 mtpa in 2021 (Table 8), implying a need for additional capacity to support the existing DBCT facility.

Although arrived at using a different approach, our supplementary report also adopted a maximum foreseeable demand forecast of 93 mtpa, and we used this reference point to test whether or not a single facility could meet that demand at least cost, as shown in Figure 1, which is reproduced from our initial analysis provided to the QCA.

The modelling in our initial analysis looked at the incremental cost of each capacity expansion/alternative export pathway. For the required capacity increment above the existing DBCT capacity of 85 mtpa, we developed an estimate of the levelised cost of both port and incremental rail³³ services, to test whether the least cost combination of capacity options was an expanded DBCT facility or some other combination of two or more facilities.

Figure 1: FY18 cost per tonne of options to service total foreseeable demand, scaled to capacity requirement



Source: PwC (2018), DBCT User Group - Cross Submission - PwC Supplementary Report, Page 21, Figure 8

³³ Our approach assumed that all demand would incur an average cost for below- and above-rail services to ship through DBCT, and included only the *incremental* below- and above-rail costs for either the Abbot Point or Gladstone terminals.

2.2.1 Scenario 1 - Updated least cost methodology

The QCA proposed in its draft report a different basis for least cost analysis. This essentially constructs an average cost estimate for servicing existing plus future demand, under various augmentation scenarios.³⁴

Adopting the QCA's approach, but using supply chain and expansion cost estimates from our initial report, we have reproduced in Figure 2 the average cost of meeting a maximum foreseeable demand of 92.9 mtpa. Compared to our incremental cost approach, differences between options are narrowed in magnitude, but the order of preference remains unchanged; an expanded single DBCT facility remains the least-cost means of meeting foreseeable demand.

Figure 2: FY18 average cost per tonne of options to service total foreseeable demand, scaled to capacity requirement



Source: PwC modelling

We note that adopting PwC's estimates of expansion and supply chain costs gives broadly similar order of magnitude estimates of DBCT's cost advantage over Abbot Point (relative to the QCA), though we have estimated higher cost-differentials for both RG Tanna and Wiggins Island. For RG Tanna, this is largely a factor of our rail cost assumption (per Table 3, above).

Although the QCA has estimated a narrower cost advantage over Gladstone Ports Corporation's RG Tanna terminal, we note that the QCA has both acknowledged that its supply chain estimates are likely to understate below-rail costs (and therefore understate the apparent cost-differential)³⁵ and that it remains unclear whether there is any capacity available at RG Tanna over the relevant declaration period.³⁶ To the extent that there is no capacity available at RG Tanna, then we would challenge the efficacy of including this export pathway in this type of comparative analysis.

³⁴ *ibid*, pages 135-139

³⁵ *ibid*, pages 15, 84, 85, 135 & 139

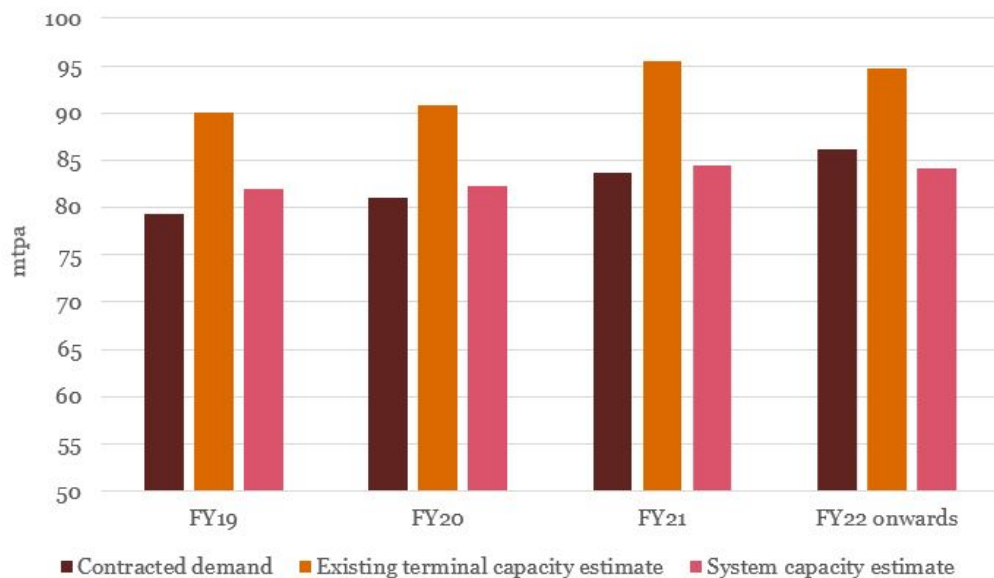
³⁶ *ibid*, pages 10, 17, 18 & 84

Impact of a higher existing terminal capacity

Independent modelling by the Integrated Logistics Company (ILC) published in October 2018 examined the standalone capacity of the DBCT terminal, as distinct from the capacity of the upstream and integrated coal supply chain.

The ILC's modelling (Figure 3) implies that terminal capacity is *higher* than the nominally accepted 85 mtpa, being around 90 mtpa in FY19 and increasing to around 94 mtpa from FY22 onwards. This suggests that foreseeable demand should be assessed against a baseline of terminal capacity in excess of 90 mtpa at the existing facility - recognising that the service as defined by s. 250(1)(c) of the QCA Act³⁷ is 'the handling of coal³⁸ at Dalrymple Bay Coal Terminal by the terminal operator.'

Figure 3: ILC modelling - DBCT capacity



Source: DBCT capacity estimates per ILC (2018), unpublished

Assumptions regarding the baseline capacity of the current terminal have a significant impact on the level(s) of foreseeable demand for which a single (expanded) DBCT facility is the least cost alternative.

Our earlier reports and analysis adopted as a default assumption that the existing terminal has a capacity of 85 mtpa, and that expansions are needed only to the extent that foreseeable demand exceeds that amount. Figure 2 illustrates the cost of each expansion/alternative terminal pathway, using the QCA's least cost analysis methodology, and where those expansion projects are initiated only to cater for demand above 85 mtpa.

Figure 4 displays the relative cost advantage or disadvantage of an existing/expanded DBCT facility, relative to the modelled next-least cost option. Where demand can be met by the existing Terminal facility, then the cost advantage of DBCT over the next least-cost supply chain is around 47%. This cost advantage narrows - but remains material - for each of the expansion phases up to the 9X project. The differences in

³⁷ Queensland Competition Authority Act 1997

³⁸ Where the handling of coal includes unloading, storing, reclaiming and loading.

modelled incremental costs at each capacity increment reflects the fixed cost of that augmentation being recovered from a variable tonnage projection.

This analysis also shows how the QCA's least-cost methodology essentially socialises higher incremental costs for additional capacity over *total* volume - the effect of which can be seen in that the percentage variance between the options show in Figure 2 are narrower than the differences looking at incremental costs alone, per Figure 4, below.

Figure 4: Incremental cost per tonne to service total foreseeable demand - DBCT (85 mtpa terminal capacity) versus cheapest alternative



Source: PwC modelling

Intuitively, assuming there is sufficient capacity available at the (next least cost) Port of Gladstone's RG Tanna coal terminal, there is a point at which an expanded DBCT might be higher cost than a combined existing DBCT/RG Tanna supply configuration. The 'tipping point' in this analysis is defined by the point at which the incremental cost of a DBCT expansion exceeds the modelled cost of capacity at RG Tanna (in both cases including associated below- and above-rail costs).

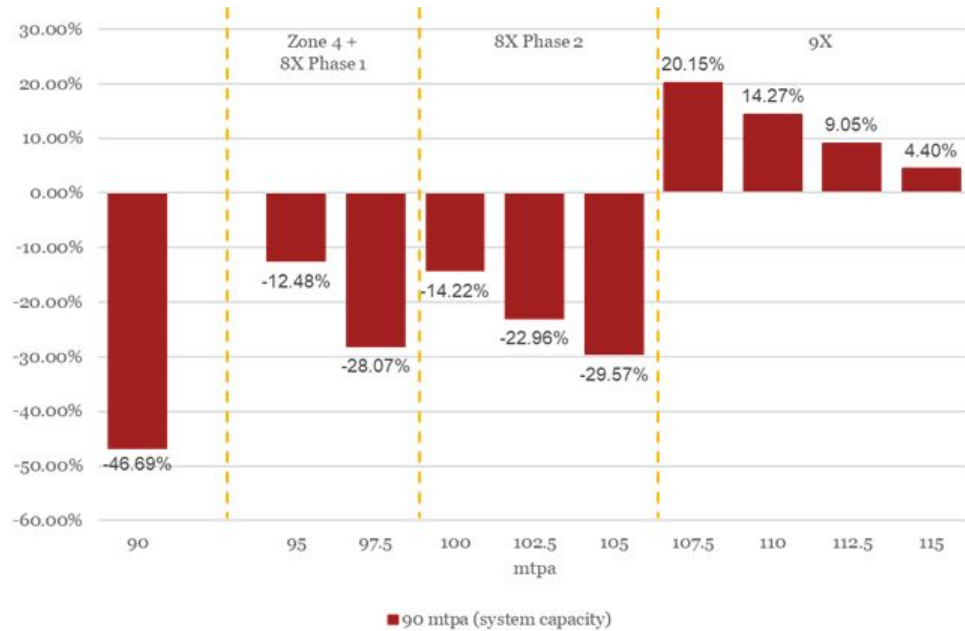
Up to a foreseeable demand of 102 mtpa, the least cost option is a single DBCT facility. Once the 9X expansion is triggered, the incremental cost of additional capacity at DBCT rises sharply, reflecting the significantly higher cost of that capacity project, and the need to amortise that cost over a tonnage basis which is less than full capacity increment it delivers. Indeed, if foreseeable demand was assumed to be such that the 9X expansion would be at least around half-contracted, then our modelling implies that an expanded DBCT would revert to being the least-cost approach.

Assuming a higher terminal capacity of 90 mtpa would mean that expansions would be triggered at higher levels of demand, changing the range of foreseeable demand for which DBCT can satisfy as a single facility at least cost.

Figure 5 shows the same analysis as above, but adjusted for an assumption that the existing terminal capacity is 90 mtpa, as modelled by the ILC. Capacity expansions are

required only to the extent that foreseeable demand exceeds that amount, and the figure again shows the incremental cost of meeting that demand.

Figure 5: Incremental cost per tonne to service total foreseeable demand - DBCT (90 mtpa system capacity) versus cheapest alternative



Source: PwC modelling

Using a higher existing terminal capacity baseline essentially pushes out the point at which an alternative terminal would be economic, based on the comparative incremental costs of either expanding DBCT or utilising capacity at another terminal.

2.2.2 Scenario 2 - Assessing the impact of higher demand forecasts

Table 9 outlines updated estimates of throughput at DBCT by resources industry analyst Woodmac, compiled as at 8 March 2019.³⁹

Table 9: Woodmac estimate of throughput (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Woodmac	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2

Source: Woodmac March 2019

Table 10 reflects estimates of capacity entitlement, calculated using the linear extrapolation method outlined by the QCA.

Table 10: Woodmac (adjusted) estimate of capacity entitlement (mtpa)

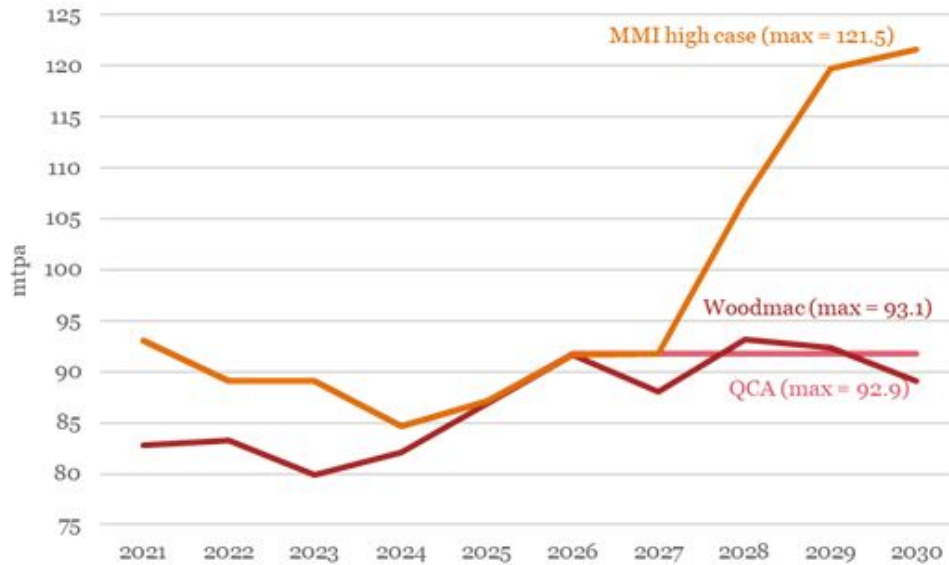
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Woodmac	82.8	83.2	79.9	82.1	86.9	91.7	88.0	93.1	92.3	89.1

Source: Woodmac March 2019 (adjusted to capacity entitlement equivalent)

³⁹ Wood Mackenzie (2019), *Independent Review - DBCT Throughput Forecast, 8 March 2019*

Figure 6 shows the capacity entitlement estimates of the QCA,⁴⁰ MMI 'high case' and Woodmac across the proposed declaration period. MMI's 'high case' forecasts diverge dramatically beyond 2026. This is largely the result of MMI's 'high case' assumption that many projects not 'likely' to be commissioned over the declaration period are to instead be commissioned midway through the period.⁴¹

Figure 6: Contract entitlement estimates (mtpa) - QCA, MMI and Woodmac



Source: MMI⁴², QCA, Woodmac (adjusted to capacity entitlement equivalent)

Woodmac estimates

Woodmac's estimates show foreseeable demand,⁴³ as measured by capacity entitlement, peaking at 93.1 mtpa in 2028. Using the updated forecasts from Woodmac, we have modelled the cost of meeting this foreseeable demand with the results of this analysis summarised in Figure 7.

Based on this analysis, using a maximum foreseeable demand equivalent to a capacity requirement of 93.1 mtpa, an expanded DBCT facility remains the lost-cost means of servicing demand. We note the similarity between the contract entitlement estimates of the QCA and Woodmac (albeit prepared at different times), with the peaks differing by just 0.2 per cent. As such there is little difference between the relativities in cost shown in Figures 2 and 7.

This analysis uses supply chain and terminal expansion cost assumptions consistent with our earlier reports, whilst adopting the QCA's approach to assessing the least-cost supply configuration.

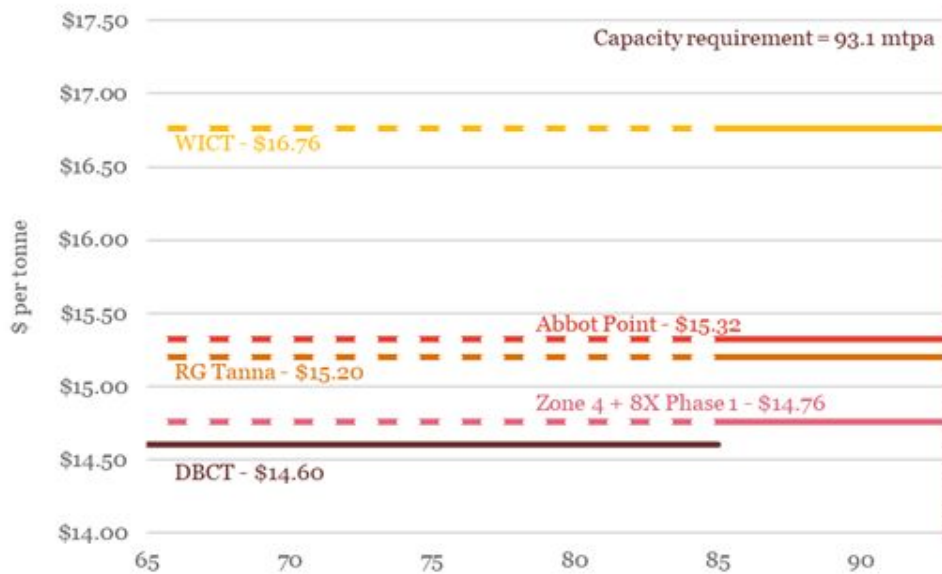
⁴⁰ In settling on a market demand forecast, the QCA has held MMI's 'high case' constant from 2026 until the end of the declaration period.

⁴¹ MMI Advisory (2018), *Reconciliation of DBCT Demand Forecasts Submitted by Stakeholders*, page 3

⁴² We have calculated contact entitlement using the QCA's method, as we have done for the Woodmac figures in Table 10

⁴³ See Appendix A for a full schedule.

Figure 7: FY18 average cost per tonne of options to service total foreseeable demand (per updated Woodmac estimates), scaled to capacity requirement

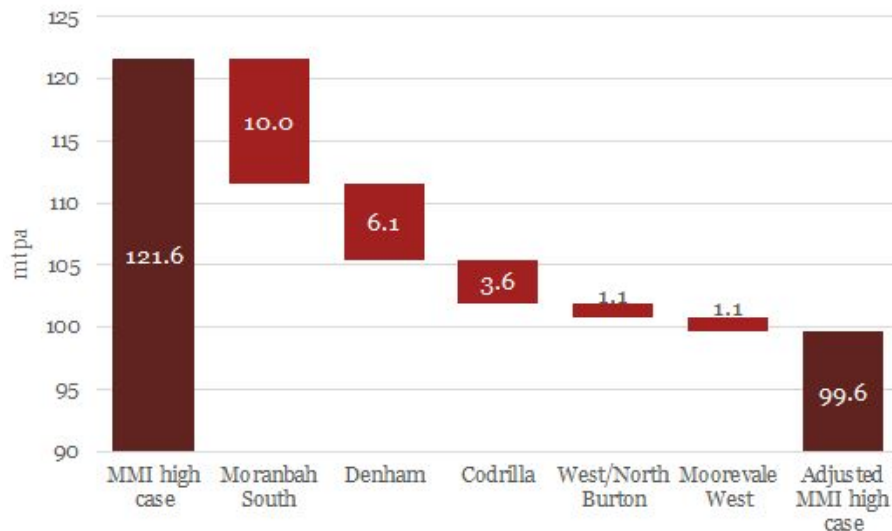


Source: PwC modelling

Adjusted MMI high case

Figure 8 highlights projects included as part of MMI’s ‘high case’ scenario in 2030 which, according to information provided by the User Group, are no longer proceeding, not proceeding within the declaration period, or are expected to proceed but at a different start point.

Figure 8: Adjusted MMI high case⁴⁴



Source: MMI, PwC analysis

Woodmac data shows Moranbah South commencing in 2034, outside of the declaration period, and at a lower volume than the figures published by MMI. MMI’s ‘high case’ forecast has Moranbah South commencing in 2026, and increasing to a

⁴⁴ Note that these figures have been scaled to reflect capacity entitlement

production volume of 14 mtpa by 2030. Our consultations with users indicates that Moranbah South is unlikely to begin operations before 2029, rather than 2026 as assumed in MMI’s reconciliation. Accordingly, we have moved back the commencement date in our adjustment, but otherwise retained the ramp-up profile per MMI.

Table 11: Adjusted Moranbah South throughput (mtpa)

	2026	2027	2028	2029	2030
MMI high case	1.0	5.0	9.0	14.0	14.0
Adjusted MMI high case	-	-	-	1.0	5.0

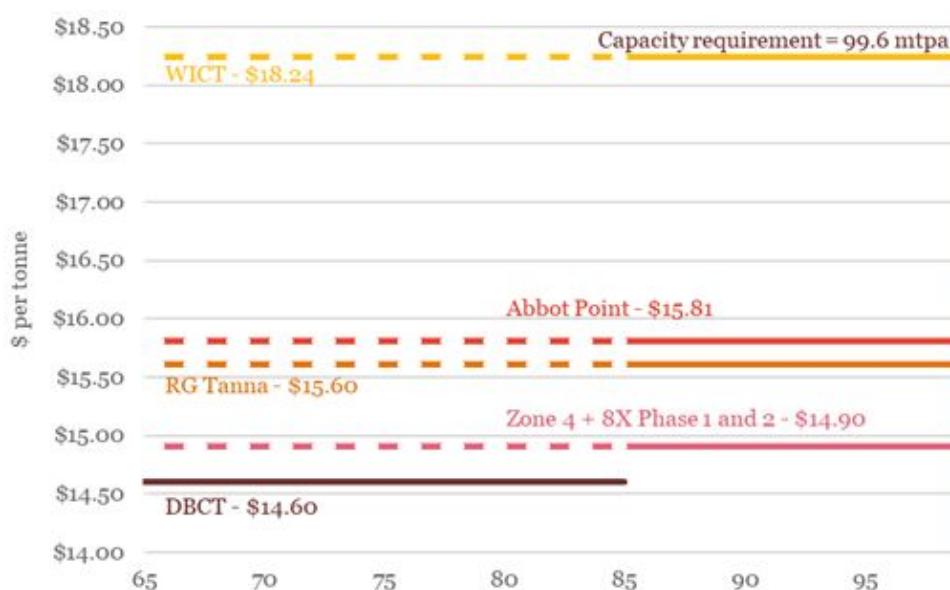
Source: MMI, PwC analysis

Other advice that we have received from individual user companies indicates that Denham, Codrilla, Moorevale West and West/North Burton, among others, are either very unlikely to proceed or are not proceeding at all. As such, we have adjusted the MMI ‘high case’ scenario to exclude these projects, as shown above. For a full schedule, see Appendix B.

MMI has included Lake Vermont in its forecast for the period following the expiration of that company’s Abbot Point user agreement, and we have maintained this assumption in the scenario analysis below.

In Figure 9, we have modelled the cost of meeting the adjusted MMI ‘high case’ capacity entitlement figure of 99.6 mtpa. Again, an expanded DBCT facility remains the least-cost means of satisfying foreseeable demand.

Figure 9: FY18 average cost per tonne of options to service total foreseeable demand (per adjusted MMI high case), scaled to capacity requirement



Source: PwC modelling

2.2.3 Scenario 3 - Higher expansion costs at DBCT

PwC's initial analysis⁴⁵ relied on expansion costs estimates from DBCT Management's 2017 Incremental Expansion Study,⁴⁶ which at that time was the most recent information available. In our supplementary report,⁴⁷ our modelling used the estimates published in DBCT Management's 2018 Master Plan⁴⁸ and included as Appendix 19 of DBCT Management's submission to the QCA.⁴⁹ Using either forecast we found that DBCT satisfied foreseeable demand at least cost.

Table 12 shows the unadjusted cost estimates as outlined in the 2017 Incremental Expansion Study and the 2018 Master Plan.

Table 12: Capital cost estimates for expansion projects (\$m)⁵⁰

Expansion project	2017 Incremental Expansion Study	2018 Master Plan
Zone 4	356	356.1
8X Phase 1		185.6
8X Phase 2	491	473
9X	2,844	-

Source: 2017 cost estimates per the 2017 Incremental Expansion Study, Page 6, Table 1; 2018 cost estimates per DBCT Management Master Plan⁵¹

DBCTM's cross-submission⁵² notes that the difference in cost estimates between the 2017 Incremental Expansion Study and 2018 Master Plan is due to the 8X expansion being separated into two phases, 'to provide additional flexibility in responding to user requirements'. We note the practical effect of this change is that the 8X expansion moved from an incremental 11 mtpa to 13 mtpa, with that additional 2 mtpa in capacity increasing the project cost by around \$170m.

HoustonKemp's modelling, prepared for DBCT Management, indicates that it has used the 2018 Master Plan.⁵³ However, as shown in Table 13, the cost estimates adopted by HoustonKemp appear to be an order of magnitude higher - the cost estimate for the 9X expansion is more than 60 per cent higher (relative to the estimates published by Aurecon⁵⁴), while for Phase 2 of the 8X expansion the difference is around 45 per cent. This is despite no obvious, material changes to the engineering construction market and the scope of the projects appearing to remain largely unchanged.

⁴⁵ PwC (2018), *DBCT User Group Submission - PwC 2018 Access Declaration Review*

⁴⁶ DBCT Management (2017), *DBCT Incremental Expansion Study*, available at: <http://www.qca.org.au/getattachment/f1ab7119-6909-4260-b150-f181be4a87b3/DBCTM%E2%80%94Expansion-Study-DAAU-submission.aspx>

⁴⁷ PwC (2018), *DBCT User Group - Cross Submission - PwC Supplementary Report*

⁴⁸ DBCT Management (2018), *Master Plan 2018*, available at: http://www.dbctm.com.au/_files/Documents/MP2018.pdf

⁴⁹ DBCT Management (2018), *DBCT Management Submission* (Appendix 19), available at: <http://www.qca.org.au/getattachment/468d7edc-4137-4ab1-bfee-f65d78126d2e/1-DBCT-Management-Submission.aspx>

⁵⁰ DBCTM's least cost analysis states that the cost estimates in the 2017 Incremental Expansion Study are in 2015 dollars. The estimates in the 2018 Master Plan are also in 2015 dollars.

⁵¹ Estimates for Zone 4 are detailed on Page 53, Table 5; 8X Phase 1 on Page 54, Table 6; 8X Phase 2 on Page 55, Table 7.

⁵² DBCT Management (2018), *DBCT Management - Cross Submission*, Page 13

⁵³ The 2018 Master Plan does not detail a cost estimate for 9X, references to project costs come from a concept study conducted by Aurecon in 2015. In 2015 dollars, the total cost estimate for 9X was \$2,839m.

⁵⁴ These cost estimates are outlined in Appendix 11, Table 2 of DBCTM's initial submission.

We note that this difference operates to significantly increase the apparent cost of expanding DBCT, over plausible demand ranges, at exactly the point in time where the regulator is making an assessment of this as part of its access declaration review.

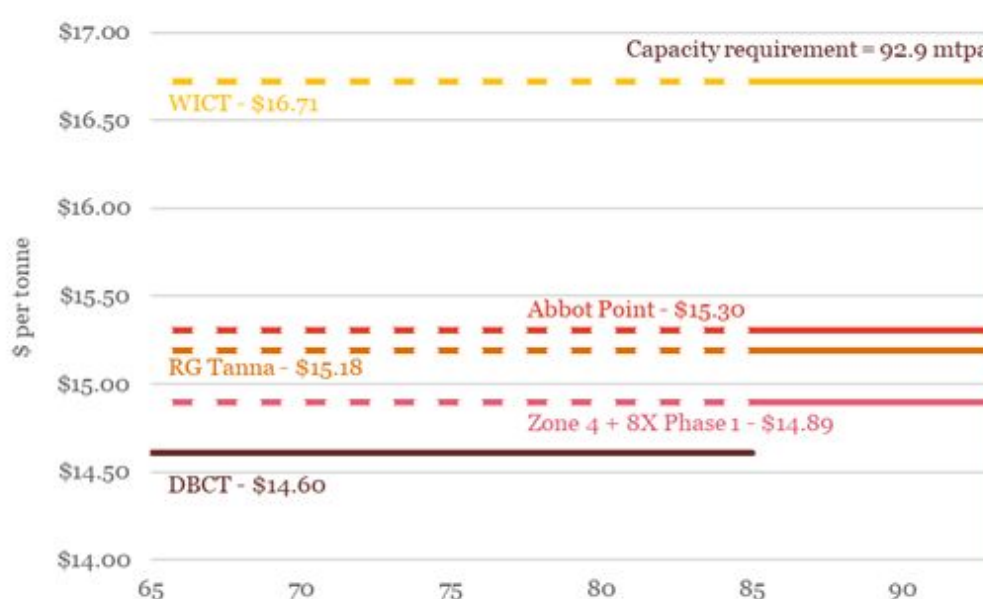
Table 13: Capital cost estimates for expansion projects (\$m, June 2018 dollars)

Expansion project	2017 Incremental Expansion Study	2018 Master Plan	HoustonKemp ⁵⁵
Zone 4	374.3	374.3	497.5
8X Phase 1	516.1	168.5 ⁵⁶	234.9
8X Phase 2		497.2	727.5
9X	2,989.5	-	4,800.0

Source: 2017 cost estimates per the 2017 Incremental Expansion Study, Page 6, Table 1; 2018 cost estimates per DBCT Management Master Plan⁵⁷

The capital costs used in each of Scenarios 1 and 2, above, are unchanged from our supplementary report. If we were to adopt terminal expansion capital costs from HoustonKemp's analysis, as the QCA has done, then the implied 'average' cost for the expanded DBCT facility increases to \$14.89 per tonne (for an assumed demand of 92.9 mtpa), which remains below the comparable benchmark for RG Tanna.⁵⁸

Figure 10: FY18 average cost per tonne of options to service total foreseeable demand (per HoustonKemp capital cost estimates), scaled to capacity requirement



Source: PwC modelling

⁵⁵ The HoustonKemp cost estimates appear to be in 2021 dollars. We have accepted the QCA's methodology for de-escalating these estimates.

⁵⁶ This figure is exclusive of the \$25.3m allowance for replacing ST1. As noted the DBCTM submission, this is expected to be completed as part of the NECAP program. Without the allowance, the cost estimate would be \$195.1m.

⁵⁷ Estimates for Zone 4 are detailed on Page 53, Table 5; 8X Phase 1 on Page 54, Table 6; 8X Phase 2 on Page 55, Table 7.

⁵⁸ We note that there remains uncertainty as to whether capacity is available at the Gladstone Ports Corporation's RG Tanna terminal. To our knowledge there is no publicly-reported estimate of spare capacity at RG Tanna, and therefore doubt as to whether this facility would present as a feasible alternative.

The analysis summarised in Figure 10 shows that even applying HoustonKemp's higher terminal expansion cost estimates (but retaining PwC's estimates for other supply chain costs), an expanded DBCT (configured as Zone 4 plus 8X Phase 1) remains the least cost option. We reiterate again that the feasibility of the RG Tanna as an alternative export terminal, particularly for a significant increment in capacity which might require substantial below-rail network augmentation, is very uncertain.

3. Criterion (d)

3.1 Context to the QCA's draft report recommendation

3.1.1 PwC's initial report

In our initial report⁵⁹ we argued that declaration would support the public interest with reference to economic, administrative and broader social considerations. We found that declaration of the services at DBCT would deliver a range of benefits to the public, including:

- enhanced incentives for investment in the coal mining sector, particularly for new market participants
- a transparent, understandable and established framework for terminal access
- the continuation of existing, and successful, access arrangements
- a framework that supports prudent and efficient terminal capacity expansions
- important commercial protections to DBCTM (such as insulation from revenue risk relating to export volumes).

3.1.2 QCA's draft position on access criterion (d)

The QCA's draft recommendation concluded that declaration of the services at DBCT would result in the promotion of the public interest. Further, the QCA's draft findings in relation to public interest considerations for Queensland Rail⁶⁰ and Aurizon⁶¹ are broadly consistent with those published in the DBCT draft recommendation.

Table 14 summarises some of the key factors considered by the QCA.

⁵⁹ PwC (2018), *DBCT User Group Submission - PwC 2018 Access Declaration Review*

⁶⁰ QCA (2018), *Draft Recommendation - Queensland rail declaration review*, available at: <http://www.qca.org.au/getattachment/c6063f58-6831-4862-a583-4de900849259/Part-B-Draft-recommendation-%E2%80%93-the-Queensland-Rail.aspx>

⁶¹ QCA (2018), *Draft Recommendation - Aurizon Network declaration review*, available at: <http://www.qca.org.au/getattachment/5c52b65c-076a-4e22-81de-75b37dead1ed/Part-A-Draft-recommendation-%E2%80%93-the-Aurizon-Network.aspx>

Table 14: Summary of factors considered by the QCA

Factor	Notes
Impact on investment in facilities and dependant markets⁶²	The QCA concluded that declaration is likely to have a positive impact upon investment in facilities and dependant markets. As set out in the QCA's evaluation of access criterion (a), the absence of declaration would have a negative impact on investment in the coal tenement market.
Administrative and compliance costs⁶³	The administrative and compliance costs associated with declaration were not considered by the QCA to be material to the extent that they would harm the public interest.
Public interest and other considerations⁶⁴	<p>The QCA considered wider economic benefits resulting from declaration, such as greater coal royalties, would likely promote the public interest.</p> <p>The following issues were rejected or considered not material by the QCA in assessing the public interest:</p> <ul style="list-style-type: none"> • changes in access charges and the redistribution of economic rents • costs incurred by access seekers and holders • purported environmental benefits

In response to the National Competition Council's (NCC) draft recommendation regarding the possible recommendation to revoke declaration of service at the Port of Newcastle,⁶⁵ a number of submissions have highlighted the QCA's draft decision in the DBCT regarding the public interest benefit of greater investment in the coal tenement market, giving further weight to Authority's findings.

3.2 Public interest benefits of greater investment in coal exploration

Continued, strong coal exploration is a key component of the sector's future performance and continued viability. For instance, a report⁶⁶ for the Queensland Resources Council (QRC) highlighted mining exploration as the top industry for 'value-add' and third in regards to 'employment generation'.

As noted in our earlier submissions, the coal industry is a significant contributor to the Queensland economy. Approximately 41 per cent of Queensland's total exports (by value) are accounted for by coal,⁶⁷ with the Hay Point catchment region accounting for a large portion of this. Our estimates suggest that in 2016/17, DBCT alone accounted

⁶² *ibid*, pages 109-117

⁶³ *ibid*, pages 117-119

⁶⁴ *ibid*, pages 119-126

⁶⁵ NCC (2019), *Consideration of possible recommendation to revoke declaration of service at the Port of Newcastle (Submissions on Council's preliminary views)*, available at:

<http://ncc.gov.au/application/consideration-of-possible-recommendation-to-revoke-declaration-of-service-a/4>

⁶⁶ Queensland Resources Council (2009), Release of report: Costs and benefits of flow through shares for Australian junior exploration companies, available at: http://economic-contribution.qrc.org.au/_dbase_upl/FINAL%20FTS%20COMMUNIQUE%207%20MAY%202009.pdf

⁶⁷ Queensland Resources Council (2017) *Economic Impact of the Minerals and Energy Sector on the Queensland Economy 2016/17*, available at: https://www.qrc.org.au/wp-content/uploads/2016/10/Economic-Impact-of-Resources-Sector-on-Qld-Economy_2016-17-Final-Report.pdf

for 31 per cent of Queensland coal exports, facilitating approximately \$1.2 billion in coal royalty payments.⁶⁸

Continuation of the declaration for access purposes of DBCT impacts mining activity in a number of ways:

- as with any industry, uncertainty is detrimental to investment. Uncertainty regarding the terms of access, in the event that access declaration was removed, could compound the already negative perception that exists around policy uncertainty amongst Queensland resources companies.⁶⁹
- without the current investment certainty provided by declaration, there is a risk that as current mines reach the end of their lives they will not be replaced by new projects (whether by existing or new market participants). This would result in lower levels of coal production and exports, threatening the royalties and jobs currently supported by the coal industry. This favourable investment effect is particularly important for new market participants for whom an independent economic regulator provides important assurance.

Accordingly, there is a strong argument that retaining the access declaration for DBCT would promote the public interest via the conduit of its favourable impact on incentives for exploration, development and production in the resources sector.

⁶⁸ PwC (2018), *DBCT User Group Submission - PwC 2018 Access Declaration Review*

⁶⁹ Queensland Exploration Council, *Queensland Exploration Scorecard - 2018* (2018) available at: <https://queenslandexploration.com.au/wp-content/uploads/2018/12/QEC-Exploration-Scorecard-2018.pdf>

Appendix A Woodmac estimates

Table 15 outlines data provided by Woodmac 8 March 2019.

Table 15: Woodmac estimates - mine-by-mine throughput (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Blair Athol	1.7	1.7	1.7	1.7	1.7	1.5	-	-	-	-
Carborough Downs	2.5	2.5	2.5	2.5	2.3	2.0	2.0	1.7	-	-
Clermont	12.5	12.5	12.5	12.5	12.5	12.5	1.5	-	-	-
Coppabella	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
German Grass Creek	5.5	5.0	-	-	-	-	-	-	-	-
Grosvenor	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Hail Creek	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Isaac Plains	1.3	1.2	1.0	-	-	-	-	-	-	-
Lake Lindsay	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-
Middlemount	1.0	1.0	1.0	1.0	1.0	1.0	2.5	4.0	4.0	4.0
Moorvale	2.0	2.0	2.0	2.0	2.0	-	-	-	-	-
Moranbah North	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
North Goonyella	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Oaky North	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Poitrel	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
South Walker Creek	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Operating mines	70.8	70.2	65.0	64.0	63.8	61.3	50.3	50.0	48.3	44.3
Burton	1.5	1.0	0.2	-	-	-	-	-	-	-
Eagle Downs	-	-	-	-	0.4	1.2	3.7	3.8	3.8	3.9
German Creek Aquila	-	0.3	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Moorevale South	1.0	1.0	1.0	1.0	2.0	3.0	3.0	3.0	2.0	1.0

New Lenton	0.5	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Olive Downs Complex	0.7	1.5	2.2	2.9	3.7	4.2	4.2	4.2	4.2	4.2
Olive Downs North	-	-	-	-	-	0.4	0.8	0.8	0.8	0.8
Rockwood	-	-	-	-	-	-	-	1.0	2.0	3.0
Valeria	-	-	-	-	1.0	3.3	6.7	10.0	10.0	10.0
Vermont East	-	-	-	-	-	-	-	-	1.0	2.0
Winchester South	-	-	-	1.5	3.0	4.5	6.0	6.5	6.5	6.5
Projects	3.7	4.8	6.9	9.9	14.5	21.2	28.9	33.8	34.8	35.9
Total throughput	74.5	74.9	71.9	73.9	78.2	82.5	79.2	83.8	83.1	80.2
Total contract entitlement	82.8	83.2	79.9	82.1	86.9	91.7	88.0	93.1	92.3	89.1

Appendix B Adjusted MMI high case

Table 16 outlines data published by MMI in its reconciliation of demand forecasts. The mines that have been highlighted are mines for which we have received advice from the User Group are not proceeding during the declaration period or at all. For the purposes of our adjustment, we have excluded throughput from these mines. In the case of Moranbah South we have assumed a 2029 start date for operations, deferred from 2026 in the MMI high case projection.⁷⁰

Table 16: MMI adjusted high case - mine-by-mine throughput (mtpa)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Blair Athol	2.0	2.0	2.0	2.0	2.0	-	-	-	-	-
Capcoal	7.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Clermont	13.0	13.0	13.0	13.0	13.0	13.0	-	-	-	-
Coppabella	4.0	4.0	4.0	-	-	-	-	-	-	-
Foxleigh	3.3	3.3	3.3	3.3	3.3	-	-	-	-	-
Grosvenor	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Hail Creek	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Isaac Plains	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-	-
Kestral	-	-	-	-	-	-	-	-	-	-
Lake Vermont	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	9.3	9.3
Middlemount	0.8	0.8	0.8	0.8	0.8	0.8	0.8	3.8	3.8	3.8
Moorvale	1.5	-	-	-	-	-	-	-	-	-
Moranbah North	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
North Goonyella	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Oaky Creek	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Poitrel	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
South Walker Creek	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Operating mines	73.5	69.0	69.0	65.0	65.0	59.7	46.7	49.7	54.5	54.5

⁷⁰ See table 11 above for this adjustment.

Godrilla	-	-	-	-	0.9	1.8	3.2	3.2	3.2	3.2
Denham	-	-	-	-	-	0.7	2.9	3.5	4.5	5.5
Eagle Downs	3.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Grosvenor West	-	-	-	-	-	1.5	2.6	3.8	3.8	3.8
Harrybrandt	-	-	-	-	-	1.0	2.5	2.5	2.5	2.5
Hillalong	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5
Ironbark No 1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Moorevale West	-	-	-	-	-	0.4	1.0	1.0	1.0	1.0
Moranbah South	-	-	-	-	-	-	-	-	1.8	5.0
New Lenton	-	-	-	-	1.3	1.3	1.3	3.2	3.2	3.2
Olive Downs North	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Talwood	-	-	-	-	-	0.9	1.6	3.6	3.6	3.6
Teresa	-	-	-	-	-	-	-	-	-	-
Vermont East / Willunga	-	-	-	-	-	-	-	0.6	1.3	2.0
West / North Burton	-	-	-	-	-	0.4	1.0	1.0	1.0	1.0
Winchester South	-	-	-	-	-	1.8	3.6	4.0	4.0	4.0
Projects	10.0	11.2	11.2	11.2	13.4	22.9	35.9	46.6	53.2	54.9
Projects (adjusted)	10.0	11.2	11.2	11.2	12.5	17.8	22.8	28.9	31.3	35.2
Total throughput	83.7	80.2	80.2	76.2	78.4	82.5	82.6	96.3	107.7	109.4
Total throughput (adjusted)	83.7	80.2	80.2	76.2	77.5	77.4	69.5	78.6	85.8	89.7
Total contract entitlement	93.0	89.1	89.1	84.7	86.1	91.7	91.8	107.0	119.6	121.5
Total contract entitlement (adjusted)	93.0	89.1	89.1	84.7	85.1	86.0	77.2	87.3	95.3	99.6



Schedule 3 – Palaris Report

Report

Independent Market Report

Client	Dalrymple Bay Coal Terminal User Group
Site	Dalrymple Bay Coal Terminal
Date	11 March 2019
Doc No.	DBUG5033

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EXECUTIVE SUMMARY

Dalrymple Bay Coal Terminal (DBCT) is declared for third party access under the Queensland Competition Authority (QCA) Act with terms and conditions of access regulated by a QCA approved access undertaking. The current declaration expires in 2020 and its further declaration is in the later stages of review.

An independent market analysis has been conducted by Palaris with focus on the coal tenement markets within the catchment of DBCT (Hay Point catchment) and the effect non-declaration of DBCT may have on those markets.

The analysis found that clearly defined Hay Point catchment coal tenements markets exist - as distinct from the markets for coal tenements in other geographic regions.

The coal tenements within the Hay Point catchment are able to be defined by a unique combination of factors that include:

- Lower infrastructure costs, with a well-established rail network and close proximity to export terminals
- Stable geological setting and favourable geotechnical conditions
- Distribution of world class coal bearing formations
- Outstanding coal quality attributes with high proportion of premium metallurgical coal
- Mines that are generally in the lower end of the cost curve
- Favourable project development and approval conditions

The existing infrastructure and support services is a testament to the size and quality of the coal tenements in the Hay Point catchment.

The defining factors result in markets which:

- i. are clearly defined from other coal markets
- ii. contain tenements which are not substitutable for tenements in other coal producing areas

The strength of the Hay Point catchment markets, as described above, is reinforced by the number of tenement transactions in the recent past compared to other coal producing areas. It is expected that, without declaration at DBCT, a two-tiered pricing system would result, separating existing and potential users.

The coal tenements markets in the Hay Point catchment would become distorted due to:

- increase uncertainty in operating cost assumptions to support bankable investment decisions and increased project risk
- creating a clear disadvantage to potential users without existing access agreements, as the two tiered pricing would result in:
 - Existing users being incentivised to acquire and development tenements to make use of the more favourable pricing structure
 - Potential users having little incentive to acquire or develop additional tenements

A consequent reduction in investment in exploration and project development would be expected.

1 BACKGROUND

Dalrymple Bay Coal Terminal (DBCT) is located 38 km south of Mackay at the Port of Hay Point. The coal terminal services the central Bowen Basin through the Goonyella rail corridor and has a nameplate capacity of 85 Mtpa.

DBCT is owned and managed by DBCT Management Pty Ltd (a subsidiary of Brookfield Infrastructure Partners) under a long term lease arrangement. Hay Point Coal Terminal (HPCT) is owned and operated by BHP for their own use with a nameplate capacity of approximately 55 Mtpa.

DBCT is declared for third party access under the Queensland Competition Authority (QCA) Act with terms and conditions of access regulated by a QCA approved access undertaking. The current declaration expires in 2020 and its further declaration is in the later stages or review.

Users of DBCT for export of coal are members of a group termed the Dalrymple Bay Coal Terminal User Group. This group consists of 12 existing and potential future users of the terminal. The group have been consulted and support submissions to the Queensland Competition Authority regarding declaration of the handling of coal at DBCT by the terminal operator.

DBCT has a current nameplate capacity of approximately 85 Mtpa and operates as a cargo assembly terminal, where individual cargoes are assembled in a 'just in time' manner. Pricing and access to DBCT is currently regulated by the Queensland Competition Authority. An Access Undertaking is currently in place regulating the pricing and access conditions to DBCT, which expires on the earlier of 1 July 2021 and the date that the terminal ceases to be a 'declared service' under the QCA Act. This declaration expires in 2020 and renewal of this declaration is currently being considered by the Queensland Competition Authority.

2 PALARIS' MARKET EXPERTISE

Palaris' ability to provide 'financial expression to technical deliberations' has resulted in the company becoming a trusted and highly sought after Adviser to the resource industry, as detailed in Section 2.1. Specifically, Palaris' experience as an adviser to the Australian coal market is second to none, this is demonstrated via the list of recent coal financial assignments completed by Palaris is shown in the table below.

Recent coal related financial projects completed by Palaris

Completed	Role	Client	Location	Mandate
2018	Independent Technical Specialist	Stanmore Coal	QLD	Valuation of client's assets in accordance with VALMIN Code, JORC Code 2012 and ASIC RG 111 to be included in client's Target Statement in response to a takeover bid
2018	Independent Technical Specialist	Confidential	QLD	Technical due diligence to identify and quantify risks and opportunities before the a joint venture was finalised for the development of an OC coking coal project in the Southern Bowen Basin
2018	Due Diligence	EMR Capital	QLD	Buy-side due diligence of the Kestrel mine in Australia on behalf of EMR, resulted in a US\$2.25B acquisition for a 80% stake in the coking coal asset
2018	Due Diligence	South32	QLD	Buy side due diligence Eagle Downs UG coking coal mine project resulted in acquisition of a 50% stake in the \$200M asset
2017	Due Diligence	Confidential	QLD	Buy side due diligence - OC coking coal mine and UG project
2016	Due Diligence	Confidential	QLD	Buy-side due diligence of OC and UG coking coal asset in Central Queensland
2016	Due Diligence	Confidential ASX listed miner	NSW	Buy-side due diligence of OC and UG thermal/coking coal asset in Hunter Valley on behalf of an junior ASX listed miner
2016	Due Diligence	Australian Mid-tier metals/coal producer	Australia	Buy-side due diligence of one thermal coal asset in Australia on behalf of a mid-tier metals and coal producer
2016	Due Diligence	Confidential Global Investment Bank	New Zealand	Sell-side due diligence of 21 coal mines and projects in New Zealand

Completed	Role	Client	Location	Mandate
2016	Due Diligence	New Hope	NSW	Buy-side due diligence of the Bengalla mine in Australia on behalf of New Hope, resulted in a US\$0.6B acquisition for a 40% stake in the high-quality thermal coal mine.
2016	Due Diligence	Australian Mid-tier metals/coal producer	Australia	Buy-side due diligence of two PCI coal assets in Australia on behalf of a mid-tier metals and coal producer
2015	Due Diligence	Confidential Consortium of International Banks	Mozambique	The due diligence project was undertaken for a group of banking clients on an asset in Mozambique and Palaris' role was to act as Lenders Mine Technical Advisor.
2015	Due Diligence	Confidential	NSW	Due diligence of a sale by one of the 'top 3' Australian coal producers for an Australian listed company
2015	Optimisation	Macquarie Bank	Australia	Palaris was commissioned to optimise and due diligence review of a suite of three open cut and underground coal assets at feasibility study stage as part of a sell-side engagement.
2015	Due Diligence	Mid-Tier Miner	NSW	Technical due diligence of a Hunter Valley underground mine

2.1 Palaris' Breadth of Experience

Business Improvement

With our deep understanding of Resource Industry Business and Financial performance – our trained Business Improvement and Technical Specialists consistently deliver more value for our clients in complex and challenging environments.



1

Financial Evaluation

Palaris's deep Resource Industry experience and capability is leveraged for our clients into accurate and valuable Due Diligence, Independent Technical Engineer (Debt) and Valuation services.



2

Specialist Project Delivery

On time and on budget Project Delivery of critical infrastructure can add significant value to a Resource Asset. Palaris's experience and skills have delivered 50+ critical infrastructure projects for our clients.

3

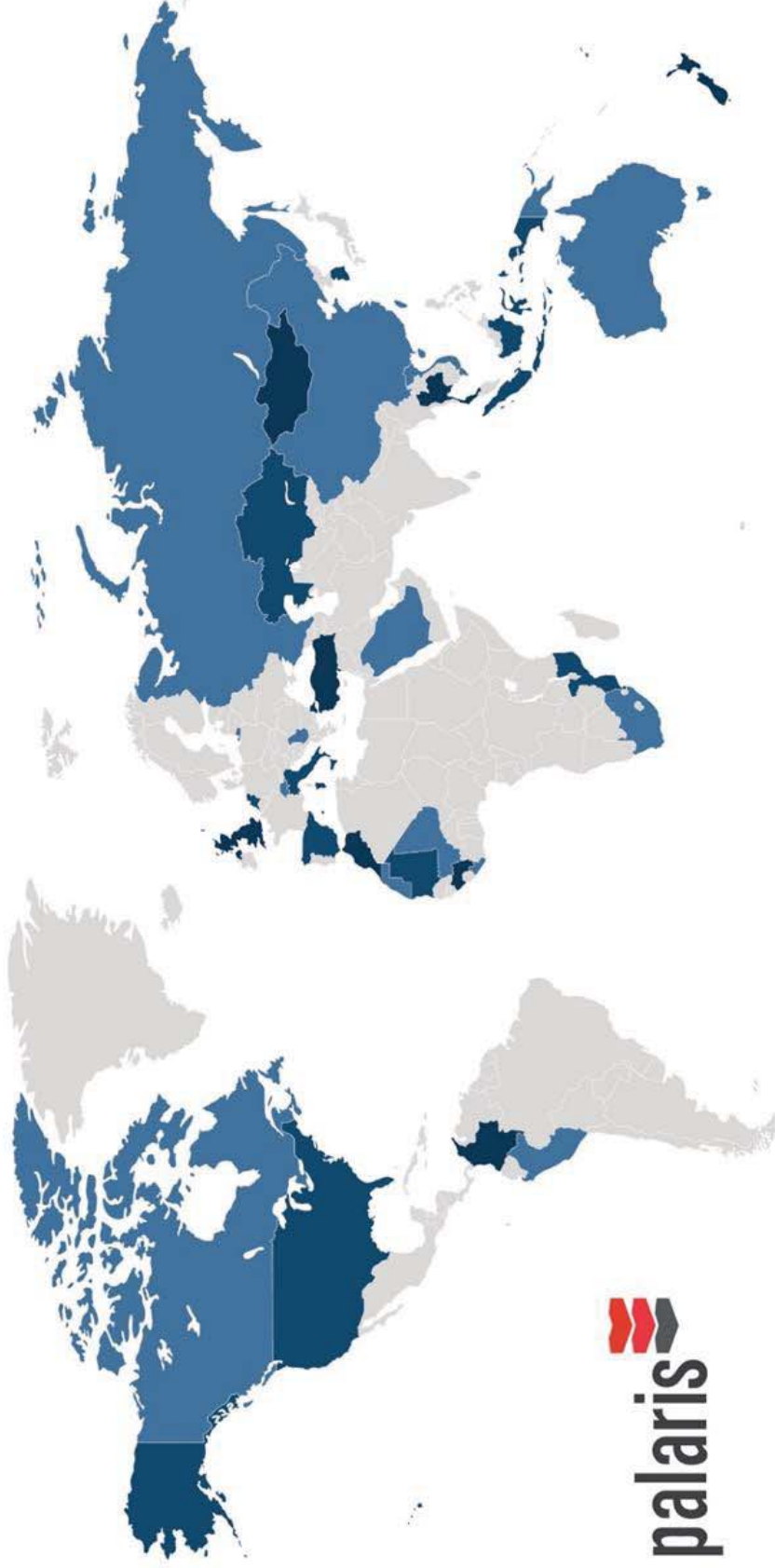


4



Engineering and Risk

Our clients understand that extra resource value is unlocked by seamless operational performance. Our Safety and Risk Specialists deliver value from integrated Enterprise Risk and Business Interruption Strategy through to highly technical Engineering Risk Analysis



Australia • Canada • China • Columbia • Fiji • Guinea • Indonesia
Italy • Kazakhstan • Liberia • Mali • Mauritania • Mongolia
Morocco • Mozambique • New Zealand • Papua New Guinea
Peru • Russia • Saudi Arabia • Serbia • South Africa • Spain
South Korea • Switzerland • Thailand • The Netherlands • Turkey
United Kingdom • United States • Vietnam

150+ DUE DILIGENCE /ITE/STUDIES	30+ DIFFERENT COUNTRIES	15+ MINERAL TYPES
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3 HAY POINT MARKET CATCHMENT

3.1 Definition of the Hay Point Catchment

A clearly defined Hay Point catchment coal tenements markets exist - as distinct from the market for coal tenements in other geographic regions. The Hay Point catchment is defined as the geographical area of coal tenements that export from, or may export from either the Dalrymple Bay Coal Terminal (DBCT) or the Hay Point Coal Terminal (HPCT), both located at Hay Point in Central Queensland.

The tenements within the Hay Point catchment are centred on the township of Moranbah in Central Queensland and existing mines utilise the Goonyella rail system to reach DBCT and HPCT. It is considered appropriate that these tenements would utilise the Hay Point coal terminals, primarily based on their proximity (railing distances) relative to other coal terminals. There are other reasons that Hay Point may be used preferentially, including co-shipping (several metallurgical coal products on the one vessel).

Geographically, the Hay Point catchment is broadly defined by the Goonyella rail system and extends from North Goonyella in the north, to Blair Athol/ Clermont in the western Bowen Basin, and south to Gregory Crinum.

On the southern boundary of the Hay Point catchment, it is acknowledged there are a small number of mines that have used terminals outside of the Port of Hay Point. However, of the two Hay Point catchment mines closest to the southern bounds of the Hay Point catchment - Oak Creek principally uses DBCT and Gregory Crinum (current on care and maintenance) historically used DBCT.

By contrast the closest mine in that region which is just outside of the catchment, Kestrel, almost exclusively uses RGTCT. There are some other mines in the southern arm of the Hay Point catchment (which is typically the furthest from DBCT) that use other terminals. Those contracting decisions are attributable to operational flexibility measures to provide risk mitigation against supply chain disruption, taking advantage of blending / co-shipping strategies or lack of availability of DBCT capacity at the time of the relevant project development - rather than a preference for using a terminal outside the Hay Point catchment.

Hay Point Coal Terminal

HPCT is owned and operated by the BHP Mitsubishi Alliance (BMA), it is used to export BMA's coals from the region. BMA operates Peak Downs, Caval Ridge, Saraji, Goonyella Riverside and Broadmeadow mines within the Catchment. HPCT's nominal throughput capacity was expanded from 44Mt to 55Mt in 2015.

Third party coals haven't historically been shipped from HPCT and it is unlikely that this would occur in the future. BMA's mines (excluding Blackwater) which do use HPCT are defined as collectively belonging to the Hay Point catchment. Coal from BHP Mitsui Coal (BMC) mines including South Walker Creek and Poitrel are shipped from DBCT.

The location of Queensland's rail network and coal terminals is shown in Figure 3.1 below.



Source: <https://www.statedevelopment.qld.gov.au/resources/map/cg/coal-transport-system-map.pdf>

Figure 3.1 Queensland rail systems and coal terminals

3.2 Hay Point Catchment Tenements

3.2.1 Operating Mines

There is a significant cluster of mines which utilise the coal terminals at Hay Point. Mines which are located within the Hay Point catchment are listed in Table 3.1 below along with the primary mining type and coal product. The list of operating mines includes those mines operated by BMA that are railed to HPCT.

Table 3.1 Operating Mines in the Hay Point Catchment

Mine Name	Operator	Mine Type	Product Types
Blair Athol	TerraCom	OC	Thermal
Broadmeadow UG [#]	BMA	UG	HCC
CapCoal	AAMC	OC	HCC, PCI
Carborough Downs	Fitzroy Resources	UG	HCC, PCI
Caval Ridge [#]	BMA	OC	HCC
Clermont	Glencore	OC	Thermal
Coppabella	Peabody	OC	HCC, PCI
Daunia [#]	BMA	OC	HCC
Foxleigh	Taurus Funds	OC	PCI
German Creek Grasstree	AAMC	UG	HCC
Gooniyella Riverside [#]	BMA	OC	HCC
Grosvenor	AAMC	UG	HCC
Hail Creek	Glencore	UG	HCC, Thermal
Isaac Plains / Isaac Plains East	Stanmore Coal	OC	SSCC
Lake Vermont*	Jellinbah Group	OC	HCC, PCI
Middlemount	Yancoal / Peabody	OC	HCC, PCI
Millennium	Peabody	OC	HCC, PCI
Moorvale	Peabody	OC	PCI
Moranbah North	AAMC	UG	HCC
North Goonyella	Peabody	UG	HCC
Oaky North	Glencore	UG	HCC
Peak Downs [#]	BMA	OC	HCC
Poitrel	BMC	UG	HCC, PCI
Saraji [#]	BMA	OC	HCC
South Walker Creek	BMC	OC	PCI

* Exports through RGCT and AAPT

BMA mines use HPCT

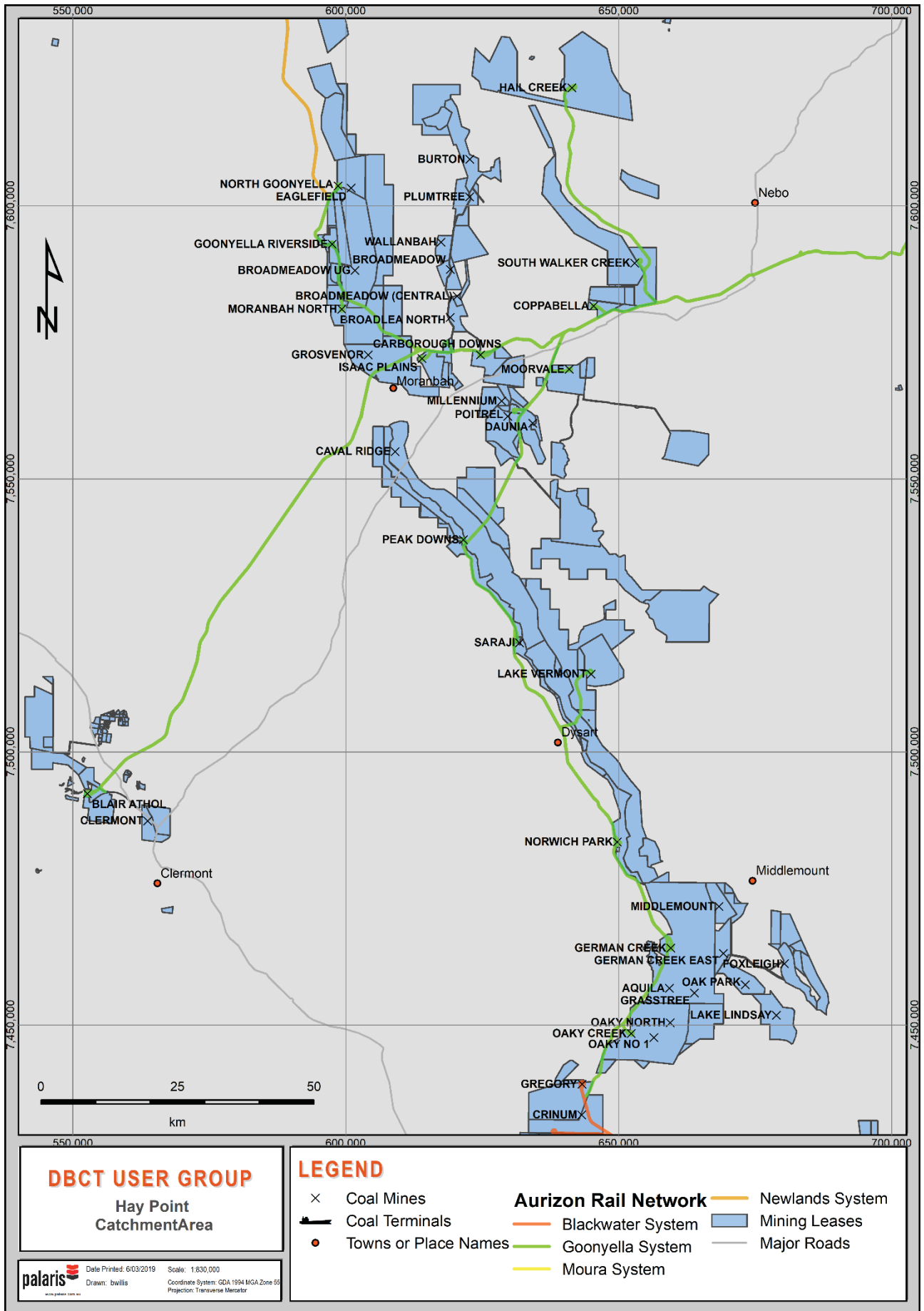


Figure 3.2 Existing mines within the Hay Point catchment

3.2.2 Projects in Hay Point Catchment

The Hay Point catchment also includes a significant number of undeveloped projects, life extension projects (e.g. BMA’s Red Hill and Stanmore’s Isaac Downs) and also mines which are on care and maintenance and may be restarted (Gregory Crinum and Norwich Park). These are summarised in Table 3.2 below.

Table 3.2 Exploration or pre-development projects in the Hay Point Catchment

Project Name	Holder	Type	Stage	Product Type
Bee Creek	Aquila	OC	Early stage exploration	HCC
Broadlea	Fitzroy	OC	C&M	HCC
Broughton	U&D Mining	OC	Early stage exploration	HCC
Burton	New Hope	OC	C&M	HCC
Codrilla	Peabody	OC	Late stage exploration	Thermal, PCI
Eagle Downs	S32/Aquila	UG	Pre-development	HCC
German Creek (Aquila seam)	AAMC	UG	Pre-development	HCC
Gregory Crinum (inc M Block and Liskeard)	Sojitz	UG/OC	C&M	HCC
Grosvenor West	Carabella (Wealth)	OC	Late stage exploration	HCC
Hail Creek UG	Glencore	UG	Late stage exploration	HCC
Harrybrandt	Yancoal	OC	Early stage exploration	PCI
Hillalong	Shandong	OC/UG	Late stage exploration	HCC
Ironbark No 1	Fitzroy	UG	Pre-development	HCC, PCI
Isaac Downs/South	Stanmore Coal	OC	Late stage exploration	SSCC, HCC
Isaac Plains Underground	Stanmore Coal	OC	Pre-development	SSCC
Isaac River	Bowen Coking Coal	OC	Early stage exploration	HCC
Lake Elphinstone	Glencore	OC	Early stage exploration	HCC
Mavis Downs	Peabody	OC	Early stage exploration	HCC
Moranbah South	AAMC/Exarro	UG	Late stage exploration	HCC
Mount Robert	Glencore	OC	Early stage exploration	HCC

Project Name	Holder	Type	Stage	Product Type
New Lenton	Aquila	OC	Pre-development	HCC
Norwich Park	BMA	OC	C&M	HCC
Olive Downs Complex	Pembroke	OC	Pre-development	HCC, PCI
Olive Downs North	Peabody	OC	Late stage exploration	HCC
Picardy	BMA	OC	Early stage exploration	HCC
Red Hill	BMA	UG	Pre-development	HCC
Red Hill East	Fitzroy	OC/UG	Early stage exploration	HCC
Red Rock	Glencore	OC/UG	Early stage exploration	HCC
Rockwood	U&D Mining	OC	Early stage exploration	PCI
Talwood	Aquila	OC/UG	Late stage exploration	SSCC, Thermal
Valeria	Glencore	OC	Late stage exploration	Thermal, SSCC
Vermont East	Jellinbah Group	UG	Late stage exploration	HCC, PCI
Wards Well	BMA	UG	Pre-development	HCC
Wilunga	Peabody	OC	Late stage exploration	Thermal
Winchester South	Whitehaven Coal	OC	Late stage exploration	HCC, PCI

3.3 Hay Point Catchment Attributes

3.3.1 Geological Factors

Geological Setting

The Hay Point catchment mines are almost entirely located within the central-northern part of the Permian Bowen Basin. The Bowen Basin is part of a connected group of Permian coal basins in Eastern Australia that includes the Sydney and Gunnedah Basins. Located within the central-northern parts of the Bowen Basin (which extends over 250km from north to south), a large number of producing mines of the Hay Point catchment are located along the western edge of the Bowen Basin.

The western parts of the Permian Bowen Basin is characterised by the relatively shallow and undisturbed coal seams developed over large areas on the Collinsville Shelf/Comet Platform. On the central to eastern edges of the Bowen Basin, a series of structures and thrust faults in the Nebo Synclinorium gives rise to various open cut and some underground mining opportunities.

Geological Formations

Coal-bearing sequences occur in numerous stratigraphic levels throughout the Bowen Basin; however, those that have economic significance are classified as four distinct groups, referred to as Group I to IV by Mutton (2003) as shown in Table 3.3 below. The distribution of the major coal bearing sequences in the Hay Point catchment is shown in Figure 3.3.

Mines and projects in the Hay Point catchment predominately target Group III coal seams of the Moranbah Coal Measures and the German Creek Formation, and Group IV coal seam of the Rangal Coal Measures. Outside the Bowen Basin proper, thermal coals are targeted in smaller Permian sub-basins at Blair Athol and Clermont.

Table 3.3 Bowen Basin stratigraphy (modified from Mutton, 2003)

Bowen Basin and Structural Outliers				
Coal Group	North	Central	South-East	South-West
IV	Rangal Coal Measures (RCM)	Rangal Coal Measures (RCM)	Baralaba Coal Measures (BCM)	Bandanna Formation (BF)
IIIA	Fort Cooper Coal Measures (FCCM)	Burngrove Formation (BGF)	Kaloola Member (KM)	
		Fair Hill Formation (FHF)		
III	Moranbah Coal Measures (MCM)	German Creek Formation (GCF)	(Aldebaran SS and Freitag Fm)	
II	Collinsville Coal Measures (CCM)	Blair Athol and Wolfgang Coal Measures (BW)		
I		Reids Dome Beds (RDB)		Reids Dome Beds (RDB)

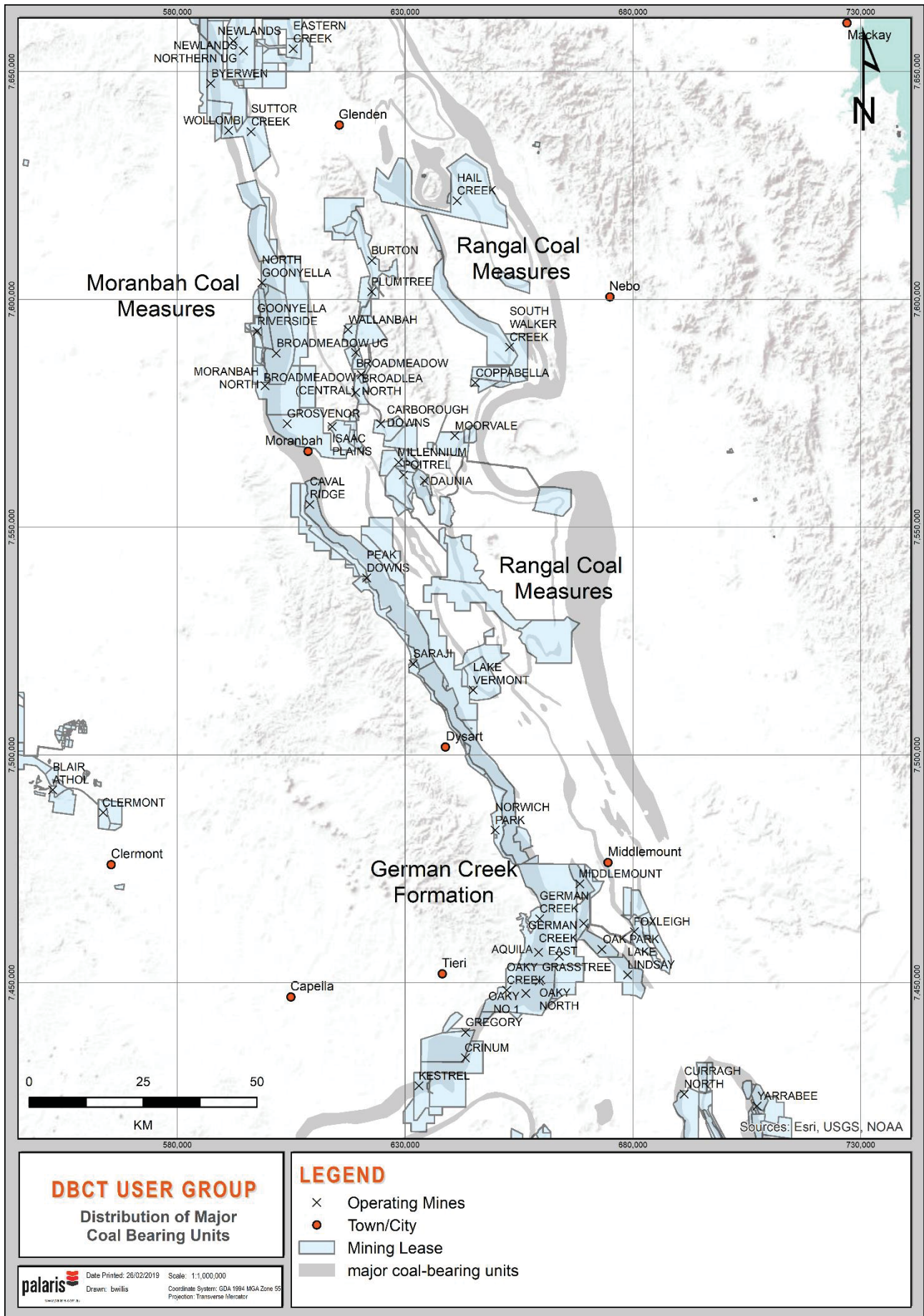


Figure 3.3 Distribution of major coal bearing units in the Hay Point catchment

The Moranbah Coal Measures (and German Creek Formation) unquestionably contain some of the highest quality coal seams in the world. Particularly in the Moranbah region where the coal seams are thick, amenable to open cut and underground mining, and generate high yielding, high quality, low to mid-volatile hard coking coals.

The Rangal Coal Measures are also mined extensively in the Hay Point catchment. These Group IV coals are relatively free of tuffaceous material with clean, low ash coal seams being a distinguishing characteristic. Thick coal seam development and structural features present large reserves of low strip ratio coal, and are primarily targeted by open cut mining.

Group II coal seams are mined in smaller Permian aged sub-basins and usually generate thermal products, but can be present in thick coal seams with low stripping ratio (Blair Athol, Clermont). Group IIIA and Group I coals are rarely mined in the Bowen Basin according to depth/distribution (Reids Dome Beds) or coal quality issues (Fair Hill Formation).

Coal Quality

The Bowen Basin contains one the world’s largest deposits of Permian bituminous coking coals, and the vast majority of mines and projects in the Hay Point catchment are metallurgical mines. This is due to the unique combination of geological factors including rank (or thermal maturity), grade (inorganic constituents of a coal) and maceral composition.

In particular, the coal mines targeting the Moranbah Coal Measures (and German Creek Formation) produce some of the highest quality premium metallurgical coals on the global market. The highest quality low and mid volatile hard coking coals are produced from these mines including Peak Downs, Saraji, Caval Ridge, Moranbah North/Grosvenor, GRB Complex, North Goonyella and Grasstree.

The Rangal Coal Measures typically have lower vitrinite contents (reactive coal macerals) than the Moranbah Coal Measures, but usually have high total yields; they are typically washed in a two stage process to generate several product types. The Rangal Coal Measures in the Hay Point catchment produce a range of product types, including high quality hard coking coal, semi-soft coking coal, low volatile PCI and thermal products (Table 3.4).

Table 3.4 Typical processing, yield and product types by formation

Formation	Typical Processing	Total Yield	Typical Product Types
Moranbah Coal Measures	Single stage	High	Low to mid volatile premium hard coking coal
German Creek Formation	Single stage	High	Mid to high volatile premium hard coking coal
Rangal Coal Measures	Two stage	Moderate to very high	Mix of primary hard, semi-hard and semi-soft coking coal or PCI products, with secondary thermal and PCI products
Wolfgang/Blair Athol Coal Measures	Single stage	High	Export thermal

3.3.2 Mine Development Factors

Position on Cost Curve

Operating mines in the Hay Point catchment are defined by favourable positions on the cost curve which result in them being termed ‘world class operations’ with vast reserves of open cut and / or underground mineable coal.

The coal seams of the Moranbah Coal Measures (and German Creek Formation) are well developed in the Catchment, and are characterised by relatively structurally benign conditions in the western Bowen Basin. These conditions generally provide good conditions for high productivity longwall mining. Thick seam development, particularly along the western edges of the Bowen Basin in the Moranbah region also provide excellent conditions for low strip ratio open cut mining. In the southern parts of the Hay Point catchment, the cumulative coal thickness of the German Creek Formation thins, but provides excellent underground mining conditions in particular seams (German Creek and Aquila seams).

The Rangal Coal Measures have a long history of underground mining with mixed results in the Hay Point catchment. The thick nature of the seams provides significant reserves of open cut coal with favourable stripping ratios. Regional structural features including the Jellinbah, Foxleigh and Burton Downs thrust faults result in multiple crop zones of open cut mineable coal.

Infrastructure

Since the Bowen Basin commenced large scale production in the 1970’s, the region has been well supported by infrastructure. The development of infrastructure services is a testament to the size and quality of the coal tenements in the Hay Point catchment.

The region is connected to the coal terminals by the Goonyella, Newlands, Blackwater and Moura rail systems. Available infrastructure for rail and port is capable of supporting an expansion in coking coal exports due to a range of upgrades during the 2011-2012 export boom. The connection of the Goonyella and Newlands systems was completed in 2012 and Goonyella to Abbot Point Expansion (GAPE) completed in 2011.

The coal supply chain cost elements include above and below rail, coal terminal access and port and shipping costs. An example of indicative differences in supply chain costs for the Hay Point catchment, Abbot Point and southern Bowen Basin catchments is summarised in Table 3.5. These costs are not publicly available, and have been estimated by the Queensland Competition Authority (QCA)¹.

One of the key benefits of the Hay Point catchment is the close proximity to the Hay Point coal terminals, with shorter railing distances. In addition, the Hay Point catchment benefits from efficient coal terminal pricing at DBCT and larger train payloads on the Goonyella rail system. Specifically, DBCT coal handling charges, although similar to average port costs at RGTCT (by the QCA’s estimate), are materially lower than terminal costs at WIECT and AAPT. Similarly, the Goonyella system benefits from a larger train payload (10,055 t) that improves the above rail

¹ Queensland Competition Authority (QCA) Draft Recommendation, Part C: DBCT Declaration Review (December 2018), Appendix A.

costs relative to the Blackwater (8,211 t) and Newlands (6,871 t) systems. This results in materially lower total supply chain costs for mines in the Hay Point catchment (Table 3.5).

Table 3.5 Coal supply chain cost comparison²

	Goonyella System - DBCT	Goonyella System - AAPT	Blackwater System - RGTCT	Blackwater System - WICET
	(\$/tonne)	(\$/tonne)	(\$/tonne)	(\$/tonne)
Below-rail (lower bound)	\$3.07	\$10.69	\$7.25	\$7.25
Above-rail	\$3.25	\$3.47 (22% increase vs Goonyella due to smaller train payloads)	\$3.71 (46% increase vs Goonyella due to smaller train payload)	\$3.71 (46% increase vs Goonyella due to smaller train payload)
Terminal charges	\$5.05	\$7.01	\$5.18	\$14.67
Port and shipping costs	\$0.05	\$0.05	\$0.05	\$0.05
TOTAL	\$11.42	\$21.22	\$16.19	\$25.68

The distribution of the Goonyella rail network and number of existing train load outs and rail spurs generally also means shorter distances for new project development in the Hay Point catchment, reducing capital intensity for new projects.

Supporting towns in the Hay Point catchment including Mackay, Moranbah and Emerald provide accessibility to mining services as well as housing and accommodation for mine staff.

Regulatory Approvals Risk

While it is recognised that the approvals process can be lengthy in Queensland, tenements in the Hay Point catchment benefits from high levels of investment certainty relative to other coal producing areas and basins.

Projects in the Hay Point catchment are largely metallurgical coal focused and for the most part, do not attract the negative social view that is problematic to large scale thermal coal developments, such as those encountered in the Galilee Basin.

In contrast, the Hay Point catchment generally has had a favourable precedent for project approvals, and enjoys significant support from local communities.

² Collated from Queensland Competition Authority (QCA) Draft Recommendation, Part C: DBCT Declaration Review (December 2018), Appendix A.

Revenue Factors

Revenue factors considered for mine development include product total yield (processing yield), product split and product type/s. Each of the product types is traded on its recognised specification (or branding) and pricing is usually determined relative to benchmark pricing.

Globally, the Bowen Basin represents the largest exporting basin of metallurgical coals. Metallurgical coal products from the Bowen Basin (predominantly from coal tenements in the Hay Point catchment) boast a very strong position in the seaborne market. This is attributed to several factors including the premium quality of Bowen Basin metallurgical products, proximity to end users (primarily Asia), end-user mine equity agreements (particularly Japanese JV partners), and stability in the historically important markets of Japan, Korea and Taiwan³.

The Hay Point catchment hosts some of the most well established and regarded metallurgical brands traded on the global market. Many of the benchmark price indices are based on Australian brands (examples include the Peak Downs premium LV HCC benchmark, Goonyella HCC64 benchmark and the Foxleigh ULV PCI benchmark).

The Hay Point catchment produces some of the highest quality premium hard coking coals traded on the global market, with high coke strength after reaction (CSR) values. In other areas, only the Illawarra brand (South 32's Illawarra mines) have high CSR values.

An example of the specification of some of Australia's highest quality hard coking coals, including those from the Hay Point catchment, southern Bowen Basin and the Southern Coalfield are shown in Table 3.4 below.

Table 3.6 Selected Australian hard coking coal products

Operator	Mine	ASH %	VM %	CSN	Fluidity ddpmm	CSR	R _o Max	Basin / Catchment	Formation
BMA	Peak Downs	10.5	20.5	8.5	400	74	1.40	Bowen - Hay Point	Moranbah CM
BMA	Saraji	10.5	19	8.5	200	74	1.55	Bowen - Hay Point	Moranbah CM
BMA	Caval Ridge	11	20.7	8.5	400	74	1.42	Bowen - Hay Point	Moranbah CM
South 32	West Cliff	8.9	20.6	7.5	1200	73	1.25	Southern Coalfield	Illawarra
BMA	Goonyella Riverside	9.2	22.8	8	500	72	1.20	Bowen - Hay Point	Moranbah CM
South 32	Appin	8.9	24.5	8	1000	70	1.28	Southern Coalfield	Illawarra CM
Glencore	Oaky North	9.5	24	9	2000	69	1.30	Bowen - Hay Point	German Ck FM

³ Market Demand Study: Australian Metallurgical Coal, Commodity Insight (2018)

Operator	Mine	ASH %	VM %	CSN	Fluidity ddpn	CSR	R _o Max	Basin / Catchment	Formation
AAMC	Grasstree (German Creek seam)	9.2	16	8	50	68	1.65	Bowen - Hay Point	German Ck FM
Glencore	Hail Creek	8.5	21.1	8.5	300	68	1.33	Bowen - Hay Point	Rangal CM
Peabody	North Goonyella	8.5	22.7	8.5	900	68	1.24	Bowen - Hay Point	Moranbah CM
AAMC	Moranbah North	8.5	24	8	1200	65	1.20	Bowen - Hay Point	Moranbah CM
Peabody	Metropolitan	8.8	20	6.5	300	63	1.34	Southern Coalfield	Illawarra
Jellinbah	Lake Vermont	8	21.5	7	65	62	1.25	Bowen - Hay Point	Rangal CM
Coronado Coal	Curragh	7	20.8	8	100	60	1.40	Bowen - Southern	Rangal CM
Fitzroy	Carborough Downs	8	22	6	30	58	1.30	Bowen - Hay Point	Rangal CM
Peabody	Middlemount	10	18.3		50	57		Bowen - Hay Point	Rangal CM
EMR / Adaro	Kestrel	6.5	34.5	8	3000	56	0.87	Bowen - Southern	German Ck FM

Source: Palaris Coal Quality Database, Platts

Coal deposits from within the Hay Point catchment have a unique combination of factors (including rank, macerals and ash chemistry) to produce high quality metallurgical coals. As shown in Figure 3.4, the Moranbah Coal Measures / German Creek Formation have high rank and also high proportions of vitrinite, which are two of the main contributing factors to generation of high CSR coals.

The Rangal Coal Measures and Illawarra Coal Measures (Southern Coalfield) have high rank in some areas but generally not high vitrinite content. In the southern Bowen Basin, the rank of the German Creek Formation is lower, and generally produces lower value high volatile coking coals.

In the Hunter Valley and Gunnedah Basin, the rank is insufficient to generate hard coking coals, and lower value SSCC products can be produced from only vitrinite rich seams.

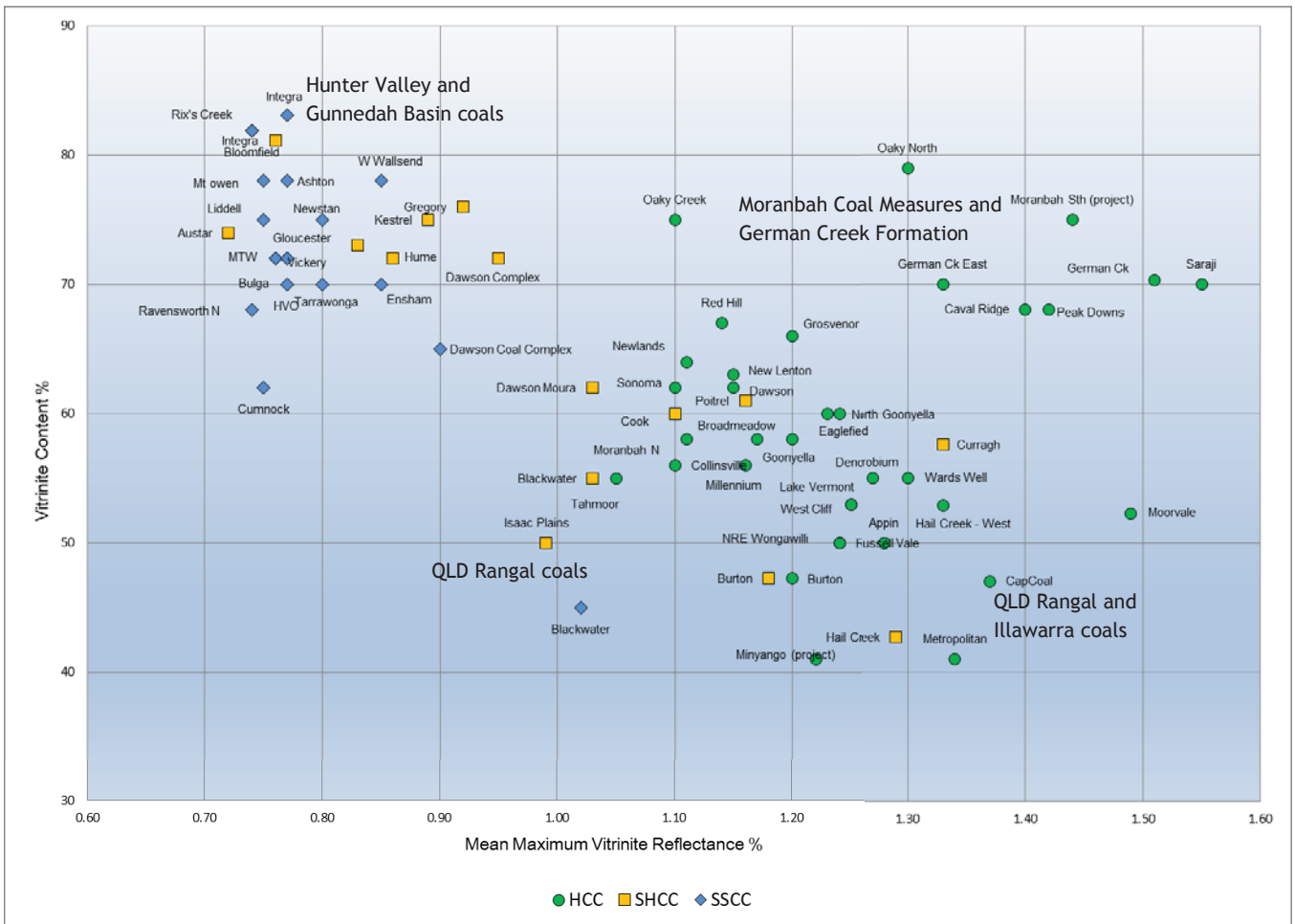


Figure 3.4 Australian coking coals reflectance vs. vitrinite content

The Hay Point catchment also produces a large volume of low volatile and ultra-low volatile PCI products, mostly from the Rangal Coal Measures. A list of some of the most well-known PCI products from Australia is shown in Table 3.4 below. The Hay Point catchment produces a large share of high quality PCI products, including the benchmark for Tier 1 ULV PCI coal, Foxleigh.

Table 3.7 Selected Australian LV and ULV PCI products

Producer	Mine / Project	ASH %	VM %	TS %	CV gad	R _o max	Basin/ Catchment	Formation
Yancoal	Yarrabee	10.5	10	0.65	7500	2.18	Bowen - Southern	Rangal CM
Baralaba Coal	Baralaba	10.5	12	0.60	7600	2.06	Bowen - Southern	Rangal (Baralaba CM)
Realm Resources	Foxleigh (Benchmark)	9	12.5	0.60	7900	2.2	Bowen - Hay Point	Rangal CM
Peabody	Coppabella	10	13	0.50	7750	1.9	Bowen - Hay Point	Rangal CM
BMC	South Walker Creek	8.5	13.5	0.37	7775	1.85	Bowen - Hay Point	Rangal CM

Producer	Mine / Project	ASH %	VM %	TS %	CV gad	R _o max	Basin/ Catchment	Formation
Jellinbah Group	Jellinbah	10	15	0.75	7600	1.7	Bowen - Southern	Rangal CM
Coronado	Curragh	9	18.1	0.48	7700	1.43	Bowen - Hay Point	Rangal CM
Anglo Coal	Capcoal OC	9	19	0.51	7620	1.3	Bowen - Hay Point	Rangal CM
Vale	Carborough Downs	9.5	19.5	0.35	7500	1.3	Bowen - Hay Point	Rangal CM
Jellinbah Group	Lake Vermont	9.5	19.5	0.35	7570	1.26	Bowen - Southern	Moranbah CM
South32	Illawarra Coal	10	20.5	0.35	7600	1.27	Southern Coalfield	Illawarra CM
Peabody	Millennium	9.5	22	0.45		1.15	Bowen - Hay Point	Rangal CM
BMC	Poitrel	9.3	22	0.40	7470	1.13	Bowen - Hay Point	Rangal CM

Source: Palaris Coal Quality Database, Platts

3.4 Comparison with Other Coal Producing Areas

A qualitative comparative analysis of Australian coal producing areas and / or basins is summarised in Table 3.8 below. This notes the favourable attributes of the Hay Point catchment as detailed in Section 3.4 of this report. Table 3.8 clearly demonstrates how tenements in this catchment are unique and not substitutable for tenements in other coal basins.

3.4.1 Hay Point catchment

The Hay Point catchment is by far the dominant premium hard coking coal producing region of Australia, with well-established and lower cost rail networks and port access as well as power and water availability, short rail distances to port, and a long history of mining.

Coal mines target the premium hard coking coal producing seams of the Moranbah Coal Measures (and German Creek Formation), and Rangal Coal Measures. As with any QLD or NSW developments, the approvals timeframe can be lengthy, but in recent years there has been a significant number of successful approvals and subsequent mine developments (Caval Ridge, Ironbark No.1, and Isaac Plains East).

3.4.2 Abbot Point catchment

The Abbot Point catchment draws on a smaller number of mines and projects in the northern Bowen Basin, and would require development of a rail link to the Galilee Basin for expansion. The development and distribution of the Moranbah Coal Measures is not as pronounced, and significant areas are affected by intrusions. There are no operating underground mines in the area. The Abbott Point catchment produces metallurgical coal products, but typically not of the same quality, and therefore value, as the Hay Point catchment. Ease of approvals is considered to be similar as the Hay Point catchment. As discussed above, infrastructure costs are greater than for the Hay Point catchment.

Table 3.8 Qualitative analysis - comparison of coal producing areas / basins

Basin - Catchment	Port/s	Key Mines	Target Formations*	Mining Method	Cost Quartile**	Approvals Risk	Rail and Port Access	Capital Intensity	Product Value
Bowen - Abbot Point Catchment	AAPT, BDCT	Collinsville, Newlands, Byerwen, Drake	RCM, MCM, CCM	Open cut, UG historically	Q1 - Q3	Low	Good	Moderate	Low to mid volatile HCC, SSCC/SHCC, thermal
Bowen - Hay Point Catchment	DBCT, HPCT, AAPT	Moranbah North / Grosvenor, Peak Downs, Caval Ridge, Saraji, North Goonyella, Clermont, Capcoal complex, Oaky Creek	MCM / GCF, RCM, WCM	Open cut and underground in both MCM and RCM	Q1 - Q3	Low	Good	Moderate	Premium low to mid volatile HCC, SSCC/SHCC, ULV PCI and some thermal
Bowen - Southern Bowen Basin	RGCT, WICET	Kestrel, Blackwater, Curragh, Ensham, Rolleston, Jellimah, Yarrabee	RCM, GCF, CAL, RDB	Underground in GCF, open cut in Rangal (bord and pillar mining in RCM only)	Q1 - Q3	Low	Good	Moderate - high	Low - high volatile HCC, SSCC / SHCC, ULV PCI and thermal
Clarence Moreton / Surat	BCT (QBH)	New Acland, Jeebropilly, Cameby Downs	WAL	Open cut only	Q2 - Q3	Moderate to High	Constrained, long distance	High to very high	Moderate CV export thermal
Galilee	AAPT	(Carmichael, Alpha, Galilee Coal Project)	BCB	Mostly open cut (proposed)	Q1 - Q3	High	Constrained, long distance	Very High	Moderate CV export thermal
Gunnedah	NCIG, PWCS	Narrabri, Maules Creek, Tarrawonga	BJG, MCF	Mostly open cut, some UG mining	Q1 - Q3	Moderate to High	Good, long distance	Moderate - high	Thermal (JPU), some SSCC and high volatile PCI
Hunter Valley and Hunter Coalfield	NCIG, PWCS	HVO, Mt Arthur, Bulga Complex, Bengalla, MTW	WCM, NCM	Mostly open cut, some UG mining	Q1 - Q3	Moderate to High	Good	Moderate	Export thermal (JPU), SSCC, domestic thermal
Illawarra	PKCT	Appin, West Cliff, Tahmoor, Metropolitan	ICM	UG mining	Q2 - Q3	High	Good	High	Premium low to mid volatile HCC, thermal
Western Coalfield	PKCT, NCIG, PWCS	Moolarben, Ulan, Wilpinjong, Springvale	ICM	Open cut and UG mining	Q1 - Q3	Moderate	Good, long distance	High	Domestic and export thermal

* RCM = Rangal CM, MCM = Moranbah CM, GCF = German Ck Fm, CCM = Collinsville CM, WCM = Wolfgang CM, RDB = Reids Dome Beds, WAL = Walloons, BCB = Betts Ck Beds, BJG = Black Jack Gp, MCF = Maules Creek Fm, WCM = Wittingham CM, NCM = Newcastle CM, ICM = Illawarra CM ** Generalisation of typical operating costs, some operations which are variations to this are likely to occur and may be operating under portfolio effect or take or pay obligation

3.4.3 Southern Bowen Basin

The southern Bowen Basin is also a world class metallurgical coal region, but mines more commonly target the lower value⁴ Rangal Coal Measures, which have also proven difficult to successfully mine with high productivity longwall⁵. The region has poorer development of the German Creek Formation, and produces a greater mix of HCC, SHCC/SSCC, PCI and thermal products relative to the Hay Point catchment. As discussed above, infrastructure costs are greater than for the Hay Point catchment.

3.4.4 Clarence-Surat Basins

Coal mine development in the Clarence Moreton and Surat Basins are constrained by rail and port access at Brisbane. Development of the Surat Basin projects in particular has been delayed due to postponed development of an alternative rail link to Gladstone ports (Surat Basin Rail). The Surat projects have high capital intensity, long raiing distances (up to 460km) and the products are lower value, moderate energy thermal products. Development of new mines, particularly in the Clarence Moreton Basin, has been difficult (i.e. New Acland) with competing land use and social opposition to new mines.

3.4.5 Galilee Basin

The Galilee Basin is an undeveloped basin that is rail constrained. With a small number of players, the proposed operations are large scale open cut mines with high capital intensity. Rail distances are ~500km to AAPT and would require significant development capital. The approvals process for development of new mines including Adani Carmichael has proven to be difficult, with strong social objection to new, large scale thermal mines. The Galilee Basin coals would yield lower value, moderate energy thermal products.

3.4.6 Gunnedah Basin

The Gunnedah Basin has relatively few players (dominated by Whitehaven Coal), a small number of operating mines and exploration tenements, and mining is mostly by open cut methods (with the exception of Narrabri longwall operation). The coal is generally of low rank with most coal below 0.70% vitrinite reflectance, so most products are lower value export thermal products, with lesser amounts of high volatile PCI and SSCC produced. Development of new greenfield mines is becoming increasingly difficult with significant social opposition. Rail haulage distances to Newcastle ports are significant (generally > 350km).

3.4.7 Hunter Valley

The Hunter Valley (including the Newcastle Coalfield) has experienced significant market consolidation in recent years. Operating mines in the Hunter Valley are predominantly open cut and many have good stripping ratios due to the large number of coal seams in the Wittingham Coal Measures. Several, higher cost underground operations remain, or are proposed in the Newcastle Coalfield and Hunter Valley. Coal rank is generally low (<0.80%) and exported

⁴ RCM generally produce lower yields of higher value coking product, with secondary thermal or PCI middlings products

⁵ Based on experience from Cook and Kenmare mines

products are mostly high energy thermal products (including higher energy coals suitable for the JPU market), with some volumes of SSCC, domestic thermal and PCI products. Development of greenfield projects is becoming increasingly difficult with competing land use and social opposition to development of new mines.

3.4.8 Western Coalfield

The Western Coalfield contains large scale open cut and underground mines with low operating costs in the northern coalfield (Ulan, Wilpinjong, Moolarben), and smaller mines with higher operating costs in the Lithgow region of the coalfield. There are relatively few players in the market. The coal seams are generally vitrinite poor and low rank (<0.60%) and generate mostly export thermal, premium export thermal and domestic thermal products. Development of new greenfield projects is likely to be somewhat difficult. Coal transport distances can be significant depending on the mine's location in the Western Coalfield and terminal used.

3.4.9 Southern Coalfield

The Illawarra (Southern Coalfield) has a limited number of operating mines, small number of operators, and all mines are underground mines. Operating costs have historically been higher than other coal basins due to geological factors including depth of cover, gas and geotechnical challenges. The coal seams of the Illawarra Coal Measures have moderate vitrinite, but with high rank (1.0 - 1.4%) and good ash chemistry, the region produces high quality premium low to mid volatile hard coking coals, with some middlings thermal products. Development of greenfield projects (i.e. Hume) is becoming increasingly difficult with competing land use and social opposition to new mines. Rail distances to PKCT are relatively short.

3.5 Substitution for Other Coal Producing Areas

The coal tenements in the Hay Point catchment are unique and are evidently not substitutable for coal tenements in other coal basins or regions.

In addition to the key geological, coal quality and operating cost factors, geographical location is also a key factor in determining value and whether coal tenements may be considered substitutable.

The key reasons that coal tenements in the Hay Point catchment are not substitutable for tenements in other basins or coal producing areas are as follows:

- Exceptional geological conditions providing low strip ratio open cut mines and tectonically stable conditions for high productivity longwall mines
- The unique distribution of coal formations that have the ideal combination of rank, grade and composition to produce premium grade metallurgical products
- Typically clean 'low ash' coal seams that can be processed at high yields
- Strong global marketing and brand reputation
- Established path to market; rail networks and close proximity to port relative to other coal basins, with lower supply chain costs and capital intensity for new mines
- Generally lower regulatory and / or approvals risk

3.5.1 Substitution for other commodities

Coal exploration permits (EPCs) and other tenements granted by the Queensland Government are strictly for the exploration and production of coal. They do not grant the holder rights to explore, or produce any other commodity types, which are held under separate and sometimes overlapping tenements.

The coal industry is vastly different to other commodities (base metals, oil and gas, iron ore) in that it has its own supply and demand relationship (and commodity pricing), its own spatial distribution (coal basins), different processing requirements and transportation costs.

Palaris agrees that there would be limited willingness by participants in the coal tenement market to substitute coal tenements for different types of tenements. Many of the new entrants into the Queensland coal market are purely coal plays, including Whitehaven Coal, Fitzroy Resources, New Hope, Stanmore Coal, Coronado Coal, Bowen Coking Coal and Realm Resources. These companies are not potential buyers or developers of tenements for different commodities

4 TENEMENT MARKET ANALYSIS

4.1 Queensland Tenement Markets

4.1.1 The Tenement Markets

In the Queensland coal industry, tenements are a collective term for mining leases (MLs), mineral development licences (MDLs), and coal exploration permits (EPCs). EPCs generally have a period of grant, a minimum exploration commitment, annual reporting and partial relinquishment requirements.

With a long history of historical exploration, particularly in the Bowen Basin, there were many historical exploration permits (originally called ATP's), some of which were successfully converted to mining leases or MDLs⁶.

Prior to 2012, the Queensland Government allowed companies to apply for unallocated areas of ground in an open application process, which resulted in almost all of the prospective coal basins being covered with exploration permits. This resulted in minimal barriers to entry and emergence of numerous coal juniors and many entrants into the tenement markets. Relinquished areas have been historically applied for, leaving a vast quantity of tenements held.

This differs immensely with the process in New South Wales, which has historically taken a more conservative approach. Generally, few coal exploration leases (ELs) have been granted upon request, with the Government using a tender process to allocated new exploration areas. Alternatively, operational allocations for exploration areas may be granted (as an extension area to an existing mine).

4.1.2 Competition in the Tenement Markets

The acquisition or divestment of coal tenements in Queensland are currently competitive markets.

As such, coal tenements in the Hay Point catchment can be acquired in the following competitive processes:

- Exploration tenement areas are tendered out to successful applicants by the Queensland government in competitive process
- Tenements at the asset level are offered for sale through a bidding process
- Tenements are bought and sold through private negotiation between buyer and seller
- Listed companies are the subject of hostile or non-hostile takeover bids resulting in the acquisition of one or more assets being acquired. Examples include takeovers of Macarthur Coal, Felix Resources, Carabella Resources and Cuesta Coal

For the purposes of assessing competitive effects within coal tenements markets, it is important to differentiate between different types of tenements, which relate to two clear markets

⁶ MDLs generally indicate the project is well explored with defined JORC resources, and represent higher certainty of tenure relative to an EPC

identified in the Balance Advisory⁷ report and the QCA draft decision⁸. That is, coal tenements are divided into the markets for a) exploration or pre-development projects and b) operating assets.

This is a clear distinction that separates exploration and development projects with a lower level of certainty and higher risk profile, to that of operating mines where most risks are known, and production volumes and operating costs can be estimated with a much higher level of certainty.

This separation is important because in most cases, companies looking to acquire coal tenements will be aiming to acquire exploration or development assets or operating mines, but are highly unlikely to switch between the two in response to a changes in the price to acquire one such type of tenement. The reasons for this are numerous and include availability of capital and acquisition costs, location and synergy value for existing tenements, and risk appetite.

4.1.3 Changing Industry Dynamics

Competition in the tenement markets has changed over the last decade, with numerous developments resulting in increased competition in the tenement markets (Table 4.1). In recent years this has caused a material increase in the number of tenement acquisitions in the Queensland coal industry, including a string of recent transactions in the Hay Point catchment.

Table 4.1 Changes in the coal industry and effect on the Queensland tenement market

Period / Event	Year/s	Causes / Examples	Resultant Effect
Coal prices rise dramatically	2007 - 2008	Queensland floods and global demand, open application process for coal exploration permits	Increasing margins, start of coal industry boom, rise of ASX coal juniors and increased competition in tenement market. The Queensland DNRM also allowed companies to apply for unallocated ground to be granted as coal exploration permits (EPCs)
Market consolidation	2009 - 2011	Peabody takeover MCC, Yancoal takeover of FLX, Vale - Belvedere	Large players consolidating coal tenements
Change in tenement application process	2012	Tenement application process changed to competitive tender	Resulted in inability for companies to peg unallocated ground, exploration areas had to be gradually released and tendered out, decreasing exploration
Coal prices falling	2012 - 2015	Global oversupply	Coal industry downturn, cost cutting measures, rapid drop in exploration expenditure, higher cost mines placed on care and maintenance
Divestment decisions	2014 - 2016	RTCA, AAMC and VALE decide to divest from coal, fire sales (Isaac Plains, Blair Athol)	Corporate decisions to divest from Australian coal industry due to challenging conditions and increasing scrutiny on the future of coal, assets

⁷ Balance Advisory - DBCTM Declaration Review, Independent Opinion for the QCA, 31st August 2018 p6.

⁸ Queensland Competition Authority (QCA) Draft Recommendation, Part C: DBCT Declaration Review (December 2018).

Period / Event	Year/s	Causes / Examples	Resultant Effect
			sold cheaply to avoid rehabilitation liabilities
Coal prices rise	2016 - 2017	Chinese regulation and supply disruptions	Renewed interest in the tenement market, increasing margins
Increased M&A, rise of mid-tier and private equity	2015 - current	Foxleigh (Realm), Curragh (Coronado), Olive Downs (Pembroke), VALE assets (Fitzroy), Kestrel (EMR/Adaro), Winchester South (WHC), Eagle Downs (S32)	Recognised value in coal assets, increased competition in the tenement market with a range of smaller, private equity backed and pure coal play mid tiers making acquisitions, increasing margins and exploration effort

With current commodity prices remaining well above previous periods of subdued demand, competition in the Hay Point catchment tenements markets has been active in recent times.

4.2 Comparison

4.2.1 Tenement Markets

There are distinct differences between the markets for coal tenements in the Hay Point catchment relative to other coal producing areas or basins.

The quantity of coal tenements in the Hay Point catchment is vast, and held by a large number of companies, from explorers through to producers. Coal tenement transactions have been relatively frequent in recent years and the markets have significant liquidity. It is clear that the Hay Point catchment has more active and competitive tenement markets than other coal producing catchments or basins. Notably, a significant number of participants in these markets were not existing DBCT users at the time of acquisition.

Coal tenements in other areas such as the Surat and Galilee Basins are considered to be illiquid; there are very infrequent examples of recent transactions that have occurred. It is a similar story for the Galilee Basin, Gunnedah Basin and Southern Coalfields of NSW. In these areas, there is only a small number of granted tenements, and tenement holders are few and far between, resulting in relatively illiquid markets.

The differences between the tenement markets in the Hay Point catchment, and other coal producing areas or catchments is summarised in Table 4.2.

Table 4.2 General attributes of comparable tenement markets

Basin / Catchment	Number of Participants	Quantity of Tenements	Frequency of Recent Transactions	Market Liquidity
Bowen - Abbot Point Catchment	Moderate	Moderate	Infrequent	Liquid
Bowen - Hay Point Catchment	Large	Large	Relatively frequent	Liquid
Bowen - Southern Bowen Basin	Large	Large	Relatively frequent	Liquid
Clarence-Surat Basin	Moderate	Large	Infrequent	Illiquid
Galilee Basin	Small	Moderate	Infrequent	Illiquid
Gunnedah	Small	Small	Infrequent	Illiquid
Hunter Valley and Newcastle Coalfield	Large	Large	Relatively frequent	Liquid
Western Coalfield	Moderate	Moderate	Infrequent	Illiquid
Southern Coalfield	Small	Small	Infrequent	Illiquid

The distribution of coal tenements and coal producing areas for Queensland and NSW is shown in Figure 4.1 and Figure 4.2 respectively.

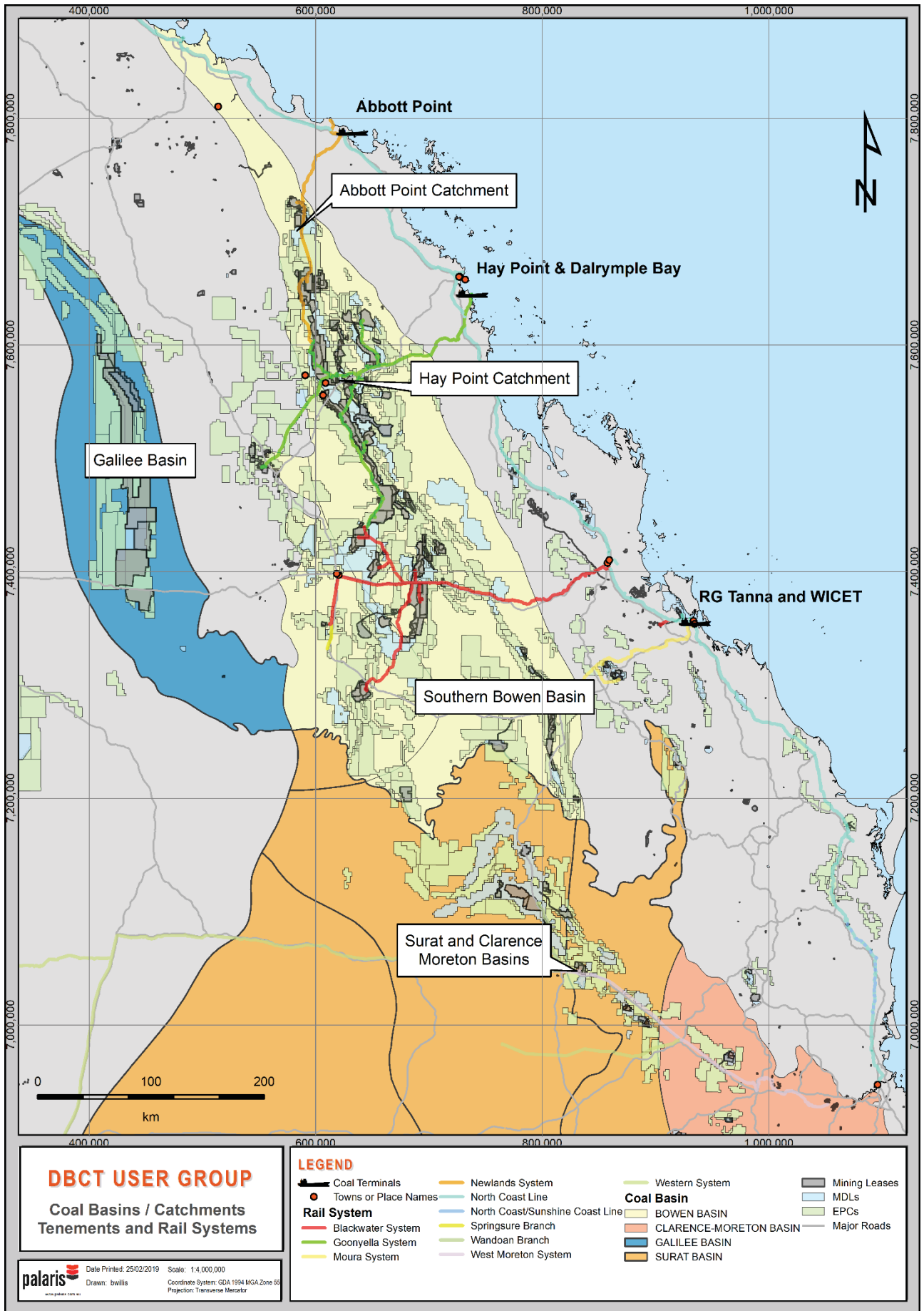


Figure 4.1 Queensland tenements and major coal producing areas

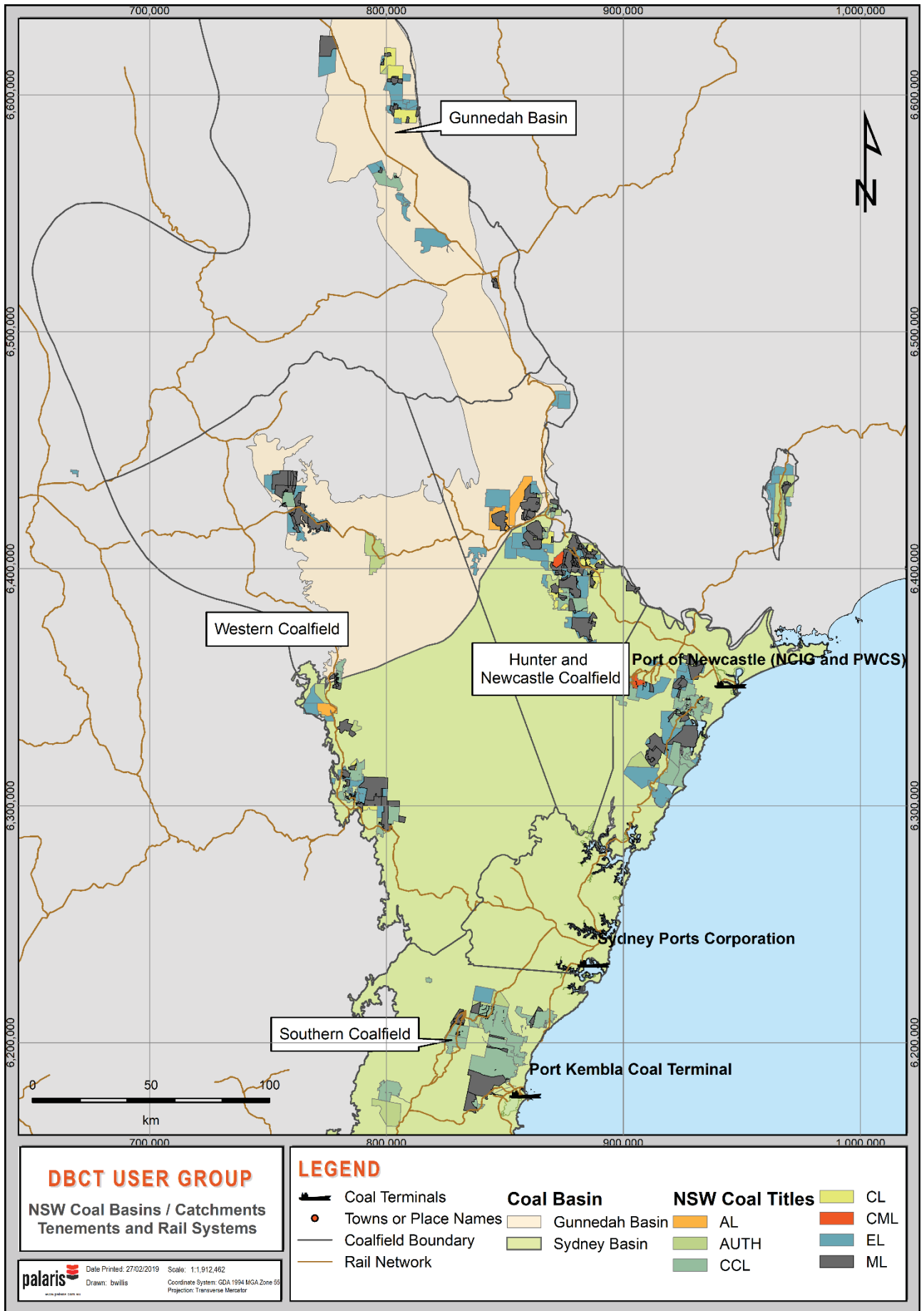


Figure 4.2 NSW tenements and major coal producing areas

4.2.2 Recent Transactions

Supporting the view that the tenement markets in the Hay Point catchment is much more active than other catchments / basins, Table 4.3 illustrates the number of recent transactions as collated from the public domain.

In this period (2013 - current), there have been 18 transactions from within the Hay Point catchment, compared to 11 in the Hunter Valley and 8 in the Southern Bowen Basin.

In the same time, there has been:

- one transaction in the Surat Basin (New Hope’s acquisition of North Surat projects from Cockatoo in 2014)
- two transactions in the Western Coalfield, including one minority stake in Ulan and sale of two assets from Coalpac (who were placed into administration)
- no recent transactions in the Galilee Basin
- one transaction in the Gunnedah Basin (Vickery South)
- two transactions in the Southern Coalfield (Hume and Tahmoor)
- one transaction in the Abbott Point catchment of the Bowen Basin

Table 4.3 Quantity of recent transactions in various tenement markets

Basin - Catchment	Transactions 2013 - 2019 ⁹	Assets Included
Bowen - Hay Point Catchment	18	Hail Creek and Valeria, Eagle Downs, Winchester South (2), Olive Downs Complex, Carborough Downs / Broadlea and Ironbark No.1, Isaac Plains / IPE / Wotonga South, Foxleigh, Burton, Clermont, Blair Athol
Bowen - Abbot Point Catchment	1	Collinsville / Newlands
Bowen - Southern Bowen Basin	8	Kestrel, Curragh, Gregory Crinum, MDL162, Cook and Minyango, Consuelo
Clarence-Surat Basin	1	North Surat
Galilee Basin	0	-
Gunnedah Basin	1	Vickery South
Hunter Valley and Newcastle Coalfield	11	Bengalla (2), Mount Pleasant, Dartbrook, HVO, MTW, Drayton / Drayton South, Integra / Glennies Creek
Western Coalfield	2	Ulan (10%), Invincible / Cullen Valley
Southern Coalfield	2	Tahmoor, Hume

Source: Palaris transactions database

⁹ At the asset level. Includes transactions of partial ownership in an asset.

The history of recent transactions shows that the Hay Point catchment of the Bowen Basin, the Southern Bowen Basin and Hunter Valley have the most active tenement markets, and that there is a significant amount of competition in those markets.

Other markets by comparison are illiquid due to several reasons including:

- unavailability of rail and / or port capacity (Clarence-Surat)
- undeveloped rail links (Galilee and Surat)
- small number of exploration tenements and / or small number of companies with tenements (Galilee Basin, Gunnedah Basin, Southern Coalfield)
- high capital intensity (Galilee Basin)
- development uncertainty or regulatory risks (Galilee Basin, Clarence-Surat and NSW in general)
- potential supply-demand risks for large scale, moderate energy thermal coal developments (Galilee and Surat Basins)

By contrast, potential participants in the acquisition of Hay Point tenements are assured of the following positive attributes:

- well established coal producing area with existing port and rail networks
- government declaration on rail and port providing certainty and efficient pricing
- shorter rail distances and co-shipping opportunities at Hay Point terminals
- availability of mine services and workers and accommodation
- favourable precedence for approvals
- higher value metallurgical coal products

4.3 Non Declaration of DBCT and an Anti-Competitive Market

The DBCT User Groups submission is that the clearest impact on competition in a dependent market occurs in relation to the tenements in the Hay Point catchment.

The DBCT User Group Cross Submission report¹⁰ states that declaration provides “a stable regulatory environment, a certain path to access to DBCT on reasonable terms and long term certainty of efficient pricing.”

The absence of declaration over price setting at DBCT is expected to create investment uncertainty for tenements in the Hay Point catchment, resulting in disruption to competition in the tenement markets.

4.3.1 Two Tiered Pricing System

The absence of declaration over price setting at DBCT is expected to result in a two tiered pricing system; that is defined by a separation of Existing Users and Potential Users.

Under the proposed access framework, the higher ceiling prices will never apply to Existing Users. This means that Existing Users will be operating under existing terms of access, with more

¹⁰ DBCT User Group Cross Submission report (July 2018) p80

favourable pricing and higher level of certainty around access. The proposed access framework is summarised in Table 4.4 below.

The DBCT User Group Cross Submission report¹¹ subdivides Existing Users into two groups:

- Those who have contracts tightly matched to a particular project - and would only be advantaged by acquiring tenements targeted for development at the point of ramp down / closure of their existing mine
- Those users who have multiple mines with a clear portfolio effect, where it is possible to substitute production between mines to fulfil capacity

The latter, being the major mining houses with multiple mines (i.e. Peabody, Glencore, Anglo American or even BMC) would be advantaged by being able to utilise advantageously priced capacity for new projects which they either acquire or develop from their existing tenement portfolio.

Potential Users includes new entrants who have no existing access agreements with DBCTM and have much higher degree of uncertainty relating to both pricing and access, but also relates to Existing Users with port capacity matched to current production levels. In both cases, it is likely that Potential Users would have little incentive to acquire or develop additional tenements.

The Castalia port¹² describes the resultant effect as a segmented market between Existing and Potential Users (Table 4.4). It is likely that Potential Users will be ultimately disadvantaged in the tenement markets as they cannot compete with Existing Users.

Table 4.4 Access Conditions under proposed access framework

	Up to current contract level (~76mtpa)	Between current contract level & current physical capacity (85mtpa)	Greater than current physical capacity (> 85mtpa)
Existing Users	Existing contracts: "reasonable price"	Access Framework: "price between floor and ceiling"	Access Framework: "price between floor and ceiling"
Potential Users	Access Framework: "price between floor and ceiling"	Access Framework: "price between floor and ceiling"	Access Framework: "price between floor and ceiling"
Result	Material advantage to Existing Users	Equal terms and conditions of access	Equal access terms and conditions

Source: Castalia Report (2018)

The two-tiered pricing would suggest that Existing Users with established mine/s and tenements (especially those with a portfolio effect) would be clearly incentivised to expand and develop tenements to make use of the more favourable pricing structure.

¹¹ DBCT User Group Cross Submission report (July 2018) p79

¹² Castalia Report p2

The more favourable and certain pricing and terms of access that Existing Users have under their existing User Agreements means that Existing Users will place a higher value on tenements within the Hay Point catchment, making them more effective competitors for acquisition of tenements (either exploration and pre-development or operating mines) and more likely to result in them becoming the principal acquirers.

Conversely, it is argued that Potential DBCT Users will have far less incentive to invest in acquisition or development of coal tenements (particularly exploration or pre-development projects as opposed to operating mines), as they will be unable to reliably estimate returns that it can be derived, and the increased uncertainty involved due to the nature of the proposed Access Framework.

It is important to note that in respect of recent transactions in the Hay Point catchment, most have been made by Potential Users (Table 4.5) as opposed to Existing Users. This supports the assertion that:

- a) The Hay Point catchment remains attractive as an investment opportunity to companies outside of the DBCT User Group
- b) The current declaration status of rail and port is working, in that both Potential and Existing DBCT users can compete for coal tenements

Table 4.5 Recent Hay Point transactions and BDCT User status

Acquirer	Asset	Vendor	Date Completed	Existing or Potential User (at time of transaction)
South 32	Eagle Downs (50%)	China Baowu Steel Group	14-Sep-18	Potential
Bowen Coking Coal (BCB)	Isaac River MDL444 and EPC830	Aquila Coal and Eagle Downs Pty Ltd	Q3 2018	Potential
Glencore	Hail Creek and Valeria (82%)	Rio Tinto Coal Australia (RIO)	1-Aug-18	Existing
Stanmore Coal	Wotonga South	Millennium Coal Pty Ltd (Peabody Energy)	31-Jul-18	Existing
Whitehaven Coal	Winchester South (75%)	Rio Tinto Coal Australia (RIO)	1-Jun-18	Potential
Whitehaven Coal	Winchester South (25%)	Scentre Group	1-Jun-18	Potential
Bowen Coking Coal (BCB)	Hillalong East EPC2141 and EPC1860	Rio Tinto Coal Australia (RIO)	11-May-18	Potential
New Hope Corporation	Burton (90%)	Peabody	27-Nov-17	Potential

Acquirer	Asset	Vendor	Date Completed	Existing or Potential User (at time of transaction)
Fitzroy Resources	Carborough Downs, Broadlea, Red Hill and Ironbark No.1 (90%)	Vale	2017	Potential
Terra Energy Corporation	Blair Athol	Blair Athol Coal JV (RIO)	31-May-17	Potential
Pembroke Resources (Denham Capital)	Olive Downs Complex	Peabody and CITIC	Q4 2016	Potential
Realm Resources Limited	Foxleigh (70%)	Anglo American Metallurgical Coal (AAMC)	29-Aug-16	Potential
Stanmore Coal	Isaac Plains	Vale / Sumitomo	30-Nov-15	Potential
Stanmore Coal	Wotonga / 'Isaac Plains East' MDL135 and a portion of MDL 137	Millenium Coal (Peabody Energy)	4-Sep-15	Potential
Cuesta Coal	Moorlands (EPC 2013)	FMG	1-Jul-14	Potential
Glencore, Sumitomo	Clermont mine (50%)	Rio Tinto	3-Jun-14	Existing
Mozambi Coal	EPC1768 and 2098	Rio Tinto	19-Nov-13	Potential
Stanmore Coal	Lilyvale EPC 2157	Cape Coal	17-Jun-13	Potential

4.4 Valuation of Tenements

4.4.1 The VALMIN Code

The VALMIN Code (2015) requires that an Expert or Specialist preparing a valuation must make use of valuation methods suitable for the assets under consideration. Selection of an appropriate valuation method will depend on such factors as:

- the nature of the valuation
- the development status of the Mineral or Petroleum Assets and
- the extent and reliability of available information

As defined in the VALMIN Code (2015) Section 14 (Definitions), most Mineral Assets can be classified as either:

Early-Stage Exploration Projects - tenure holdings where mineralisation may or may not have been identified, but where Mineral Resources have not been identified.

Advanced Exploration Projects - tenure holdings where considerable exploration has been undertaken and specific targets identified that warrant further detailed evaluation, usually by

drill testing, trenching or some other form of detailed geological sampling. A Mineral Resource estimate may or may not have been made, but sufficient work will have been undertaken on at least one prospect to provide both a good understanding of the type of mineralisation present and encouragement that further work will elevate one or more of the prospects to the Mineral Resources category.

Pre-Development Projects - tenure holdings where Mineral Resources have been identified and their extent estimated (possibly incompletely), but where a decision to proceed with development has not been made. Properties at the early assessment stage, properties for which a decision has been made not to proceed with development, properties on care and maintenance and properties held on retention titles are included in this category if Mineral Resources have been identified, even if no further work is being undertaken.

Development Projects - tenure holdings for which a decision has been made to proceed with construction or production or both, but which are not yet commissioned or operating at design levels. Economic viability of Development Projects will be proven by at least a Pre-Feasibility Study.

Production Projects - tenure holdings - particularly mines, wellfields and processing plants - that have been commissioned and are in production.

4.4.2 Palaris Experience

In the ~19 years since Palaris has offered consultancy services to the mining industry, most commonly to the Australian coal mining sector, our Financial Services department has undertaken over 200 asset valuations and due diligence projects.

The valuation work we have been involved in ranges from valuation of early stage exploration projects, exploration projects with JORC resource estimates, pre-development projects, and operating assets.

Valuations are undertaken in accordance with, or using the guidance and principles of the VALMIN Code (2015).

4.4.3 Common Valuation Approaches

The VALMIN Code (2015) provides guidance on applicability of valuation approaches (Table 4.6) generally a number of methods are used to enable a comparison between different methods.

Table 4.6 Guidance on valuation approaches (VALMIN Code, 2015)

Valuation Approach	Exploration Projects	Pre-Development Projects	Development Projects	Production Projects
Market	Yes	Yes	Yes	Yes
Income	No	In some cases	Yes	Yes
Cost	Yes	In some cases	No	No

The basic approaches used in preparing valuations are:

Income Based:

- Discounted Cash Flow Approach (NPV modelling)

Cost based:

- Appraised Value Approach
- Cost Based Approach (Geoscientific Rating Method)

Market based:

- Market Comparables Approach
- Yardstick Methods Approach
- JV Terms or Farm In Commitment Methods Approach

4.5 Valuation Certainty

4.5.1 Income Based Approach

Discounted cash flow (DCF) modelling of mining projects is an income based valuation approach where financial modelling is a key component in determining the net present value (NPV) or 'fair value' of a project.

DCF is a valuation method used to estimate the value of an investment based on its future cash flows (or the present value of expected future cash flows using a discount rate). DCF modelling is carried out by estimating the total value of all future cash flows (both inflowing from sales of product and outflowing both OPEX and CAPEX), and then discounting them (usually using Weighted Average Cost of Capital - WACC) to find a present value of that cash.

The main inputs for DCF modelling include:

- Capital expenditure to develop the mine - mine infrastructure, connecting infrastructure, mining equipment, coal handling and processing, box-cuts or capitalised development
- Operating costs - mining, handling, processing, rail and port and indirect costs
- Revenue factors - production schedule, yield, product split, pricing relativity
- Macro-economic assumptions - coal price and exchange rate forecasts
- Royalties and taxes - government (and other) royalty streams, levies and taxes

Estimation of rail and port costs are some of the key costs that need to be calculated with a reasonable level of certainty when determining a mine's operating costs on free on board (FOB) basis.

Other variables which impact on the viability of a project are macroeconomic assumptions and the include commodity pricing and currency rates; largely, they are predicted using various forecasts and largely cannot be influenced by the attributes of the mine.

In order to make an informed investment decision, financial modelling requires relatively accurate port and rail costs. There is validity in the assertion that investment requires certainty

in the asset's key value drivers. Non-declaration of port costs increases uncertainty in the calculation or returns that can be derived from an investment.

4.5.2 Other Valuation Approaches

Exploration or pre-development tenements are clearly different to operating assets. Aside from DCF valuation (that may be suitable pre-development assets at Feasibility level if study), other valuation approaches can be used for valuation and investment decisions:

- Market based; Yardstick method (resource multiples for recent comparable transactions, or JV terms)
- Cost based - Appraised value or Geoscientific method

These valuation approaches are generally adopted for exploration projects to pre-development projects, while the Geoscientific method can be used for very early stage exploration projects where no JORC resource estimates have been reported.

For these types of valuations, it is important to understand rail distances, above and below rail costs, availability of capacity and port costs. Forces that are prohibitive to the development of new mines will likely drive distortion in the tenement markets.

In the tenement markets, certainty with regard to the ability to obtain access, and provide confidence that pricing will remain at an efficient level is extremely important in the exploration and development of greenfield coal projects, which have a higher risk profile relative to operating assets.

4.6 Potential Effects on the Tenement Markets

It is argued that with non-declaration, Potential DBCT Users will have far less incentive to invest in acquisition or development of coal tenements. They will be unable to reliably estimate returns that it can be derived from an investment, due to the increased uncertainty involved with pricing and the nature of the proposed Access Framework.

As the 2nd Castalia report¹³ states “this distortion of investment decisions in the coal tenement market lead(ing) to inefficient development of mines results directly from the material impact on competition that will occur without declaration.”

Price certainty in all aspects of the coal chain is critical. Not only does this uncertainty on pricing increase investment uncertainty, it is highly likely to make it more difficult to obtain financing for new investments in the Hay Point catchment “it is difficult to see how any new entrant would be incentivised to make new investments or obtain financing for such investment where the pricing could become uneconomic due to ceiling price movements which will occur every 5 years¹⁴.”

This is particularly so once commodity prices decline, and ex-mine costs such as rail and port constitute large portions of a mine's operating costs.

¹³ Economic Analysis - Response to DBCTM Expert Report on Criteria (a), Castalia (2018) 'second Castalia report'

¹⁴ DBCT User Group Declaration Review Cross Submission (July 2018) P96

Certainty of access and efficient pricing at DBCT will promote continued acquisitions and development of mines in the Hay Point catchment.

Competition in the market for exploration and pre-development tenements is even more likely to be distorted due to non-declaration at DBCT than competition in the market for operating mines. Exploration projects have a much higher risk profile compared to operating mines. It may be determined that exploration projects are not bankable given the long term and high sunk cost nature of investment in mines. In contrast, the sale of operating mines are more likely to come with existing DBCT terms of access for at least some of their tonnage which are more favourable under the proposed access framework.

Other consequences of non-declaration could include:

A lack of investment in coal exploration in the Hay Point catchment

This related to a reduction in the interest for acquisition of coal tenements and government exploration tender areas, especially from new entrants who are at a disadvantage to Existing Users.

For Australian coal mines to remain competitive on a global stage through various stages in commodity cycles, it is important to provide an environment where regulation and costs promote an active exploration sector¹⁵.

Existing valuations for mines and projects are likely to be affected

It is important to consider that transactions that have already taken place where the investment decision has been undertaken using an approach that aims to reliably calculate operating costs.

Companies that have made significant investment decisions have done so assuming that port and rail costs can be estimated and will remain competitive. The amounts they have paid to gain control of assets (sunk costs) is based on these calculations. Changing fixed costs such as port costs therefore materially affects the profitability and therefore valuation of these assets.

4.7 Effect on Supply Chain Infrastructure

Maintaining competition in the coal tenement markets is important in order for new coal mine developments to continue into the future. Maintaining a competitive pricing environment ensures that DBCT remains a long term and sustainable option for coal mines and new mine developments in the Hay Point catchment.

If competition in the coal tenement markets and investment in coal exploration was adversely impacted through non-declaration, it would likely have a flow on effect to reduced investment in infrastructure that provides services to coal mines (below rail, above rail and the port itself).

¹⁵ Australian Coal Industry Competitiveness Assessment, National Energy Resources Australia (2018)