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Economic concepts underpinning the assessment of access criteria

A report for DLA Piper

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Report author

Greg Houston

Daniel Young

Contact Us

Sydney

Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore

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

Phone: +65 6817 5010

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Contents

1. Introduction	1
1.1 Scope of this report	1
1.2 Structure of this report	1
2. Economic elements of criterion (a)	2
2.1 DBCT's TIC without declaration	2
2.2 Effect of declaration on competition in the tenements market	4
3. Economic elements of criterion (b)	7
3.1 Substitutability of coal handling services	7
3.2 Supply and demand	9
3.3 Determination of least cost	10

Figures

Figure 2.1 Terminal infrastructure charge at DBCT without declaration	4
Figure 3.1: Surplus supply and surplus demand	9
Figure 3.2: At the QCA price there is surplus demand for the DBCT service	10
Figure 3.3: QCA's error in calculating least cost	12



1. Introduction

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

On 18 December 2018, the QCA published its draft recommendation. It concluded that each of the relevant criteria is satisfied in respect of the DBCT service.

1.1 Scope of this report

We¹ have been asked by DLA Piper (DLA), on behalf of DBCT Management Pty Limited (DBCTM), to review whether the coal handling service supplied at Dalrymple Bay Coal Terminal (DBCT) satisfies criterion (a) and criterion (b) of section 76(2) of the QCA Act.

During the QCA's review process to date, we have prepared six reports for DLA, three each in relation to criterion (a) and criterion (b). Our most recent reports responded to the QCA's draft recommendation and these were attached to DBCTM's submission.

The QCA published initial submissions on its draft recommendation on 11 March 2019, including submissions made by the DBCT User Group, Peabody Energy and BHP, largely in support of the QCA's draft recommendation. Glencore Coal added its support to the recommendation in a late submission published on 13 March 2019. A public forum was held in Brisbane on 20 March 2019, at which presentations were made by DBCTM and the DBCT Users Group, followed by an open discussion.

DLA has asked us to revisit our earlier conclusions in relation to whether the DBCT service satisfies criterion (a) and criterion (b), or otherwise, in light of the submissions made by the DBCT User Group, Peabody Energy, BHP and Glencore Coal, the expert advice upon which they rely, and issues raised in the public forum.

1.2 Structure of this report

In order to give appropriate structure to and context for our comments, we have organised this report so as to revisit and identify the key economic elements that underpin the assessment of criterion (a) and criterion (b). The structure of the remainder of this report is set out as follows:

- section 2 reviews the assumptions underpinning the assessment of criterion (a), and responds to issues raised in relation to:
 - > the TIC that would apply at DBCT without declaration; and
 - > the effect of declaration on competition in the tenements market;
- section 3 reviews the elements involved in the assessment of criterion (b), and responds to issues raised in relation to:
 - > substitution between the DBCT service and other coal handling services;
 - > estimation of total foreseeable demand in the market; and
 - > assessment of the least cost means of serving total foreseeable demand in the market.

¹ The authors of this report are Greg Houston and Daniel Young.

2. Economic elements of criterion (a)

Criterion (a) reads:²

...that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote a material increase in competition in at least 1 market (whether or not in Australia), other than the market for the service.

In its draft recommendation, the QCA concluded that:³

Criterion (a) is satisfied

DBCT Management has an ability and incentive to exercise market power, such that in the absence of declaration, efficient entry to the coal tenements market would be discouraged and there will be a material impact on competition in that market

Access (or increased access) to the DBCT service on reasonable terms and conditions as a result of declaration would promote a material increase in competition in the coal tenements market

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

- incumbent users of DBCT access the service using ‘evergreen’ contracts, which protect them from this increase;
- non-incumbent users of DBCT are not protected from this increase and may therefore be exposed to a higher TIC than incumbent users; and
- the difference in TIC between incumbent users and non-incumbent users is such that more efficient entrants would be kept out of the tenements market by less efficient incumbents who would have a higher willingness to pay for tenements because of their preferential terms of access.

In this section, we review two aspects of the QCA’s rationale that have been addressed in submissions on the draft recommendation and in the public forum:

- the TIC that would apply at DBCT without declaration; and
- the effect of declaration on competition in the tenements market.,

2.1 DBCT’s TIC without declaration

At the public forum in Brisbane, representatives of the DBCT User Group raised concerns that DBCTM had made material changes to its access framework and that this represented an attempt to ‘game’ the declaration process with a ‘contrived and artificial’ counterfactual.⁴ We address these concerns by explaining the essential difference between the pricing elements of the access framework proposed by DBCTM in May 2018 and the executed access framework that was attached to its submission in response to the draft recommendation.

In its submissions to the QCA prior to the draft recommendation, DBCTM proposed that, if agreement cannot be reached with an access seeker, an arbitrator would determine a TIC that:⁵

² QCA Act, section 76(2)(a).

³ QCA, *Draft recommendation | Part C: DBCT declaration review*, December 2018, p 5 (‘QCA draft recommendation’).

⁴ DBCT User Group, *DBCT declaration review*, 20 March 2019, pp 2 and 18.

⁵ DBCTM 2018 access framework, 29 July 2018, schedule C(2).

- would be agreed between a willing but not anxious buyer and a willing but not anxious seller of coal handling services for mines that are proximate to the Port of Hay Point; but
- notwithstanding this direction:
 - > is not less than the floor TIC, being that which would have prevailed had a QCA-administered regime continued to be applied; and
 - > is not greater than the ceiling TIC, being the highest price at which coal volumes served at DBCT would be the same as if the floor TIC applied – with this assessment being made without reference to any contractual limitations on volumes that are able to be delivered to either DBCT or any other coal terminal.

In its draft recommendation the QCA assumed that, under the 2018 access framework, the TIC would be set 'based on willingness to pay'. It concluded that, in a future without declaration, the coal handing charge at DBCT would be capped only by the cost of accessing WICET.⁶ This would be equivalent to a TIC of about \$17.66 per tonne at DBCT.⁷

This approach to assessing the effect of the 2018 access framework is not realistic. In our criterion (a) report responding to the QCA's draft recommendation, we estimated the ceiling TIC under DBCTM's 2018 access framework. Using demand estimates from MMI and other parameters from AME, we estimated that this value is likely to be at most \$7.44 per tonne.⁸ Further, any TIC set under the access framework would have been set by reference to the 'willing but not anxious' principle and would likely be lower than the ceiling TIC.

In light of the QCA's draft recommendation, DBCTM made a change to the pricing terms of the access framework that it executed. In the executed framework, it amended the specification of the ceiling TIC so that it can be no higher than \$3.00 per tonne above the floor TIC, expressed in real terms of 2020-21.⁹ The intent behind this amendment was to provide a higher degree of certainty for the QCA and access seekers as to the 'worst case' scenario arising from the implementation of the access framework.¹⁰

Figure 2.1 below sets out a comparison of the potential TICs that could apply at DBCT without declaration, as compared to the QCA's assessment. It shows that:

- if the terminal is not expanded, and is at full utilisation, then the TIC will be between \$2.37 per tonne and \$5.37 per tonne;¹¹
- if the terminal is expanded, and this expansion is socialised, then the TIC will be between \$2.67 per tonne and \$5.67 per tonne;¹² and
- if the terminal is expanded, and this expansion is differentiated, then the TIC will be approximately \$5.57 per tonne.¹³

Figure 2.1 also indicates the effect of the change made in the executed access framework. The shaded teal area represents the range of pricing outcomes that were possible under the 2018 access framework but are not possible under the executed access framework.

⁶ QCA draft recommendation, p C84.

⁷ This value is derived from Table 3 of the appendix to the QCA's draft recommendation. It is calculated as the supply chain cost for WICET (\$26.51 per tonne) less the charges for accessing DBCT other than the TIC (ie, below rail charges of \$3.07 per tonne, above rail charges of \$3.25 per tonne and fixed and variable handling charges of \$2.53 per tonne).

⁸ HoustonKemp, *Assessment of the QCA's recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 15-19.

⁹ DBCTM executed access framework, 11 March 2019, schedule C(2).

¹⁰ DBCTM submission, 11 March 2019, para 186.

¹¹ We calculate the lower bound of this range using Table 7 from the appendix to the QCA's draft recommendation as the ARR without expansion (\$199.6 million) divided by the system capacity of DBCT without expansion (84.2 mtpa).

¹² We calculate the lower bound of this range using Table 7 from the appendix to the QCA's draft recommendation as the ARR with expansion (\$248.6 million) divided by the system capacity of DBCT after expansion (93.0 mtpa).

¹³ We calculate the lower bound of this range using Table 7 from the appendix to the QCA's draft recommendation as the increase in ARR with expansion (\$49.0 million) divided by the increase in system capacity of DBCT as a result of the expansion (8.8 mtpa).

The QCA's assessment of the TIC without declaration gives rise to an estimated TIC that is far in excess of the outcomes that would be expected to occur under either the 2018 access framework or the executed access framework.

Figure 2.1 Terminal infrastructure charge at DBCT without declaration



Figure 2.1 demonstrates that, contrary to the statements made by the DBCT User Group, there has not been a fundamental change to the proposed pricing under the executed access framework.

2.2 Effect of declaration on competition in the tenements market

The tenements market comprises two distinct tenement types (or functions), being:

- exploration and development¹⁴ tenements, which involve intrinsically high risk, speculative activity (many such tenements never turn into producing mines); and
- production tenements, where the risks arise principally in relation to the price of coal (rather than whether there are sufficient reserves to allow mining).

The tenements market identified by the QCA in its draft recommendation did not distinguish these activities, and its theory of harm is unclear as to from precisely which of them more efficient new entrants will be deterred.

In contrast, at the public forum in Brisbane, the DBCT User Group's representative emphasised that the criterion (a) competitive harm arises for exploration and development tenement holders. In advancing this theory of harm, reference was made to:¹⁵

- the negative effect of differentially priced access to DBCT that will only be required (by, at that time, production tenement holders) ten years and beyond from now;

¹⁴ Exploration and development rights are legally and functionally distinct. The former is focused on determining the extent of any mineral resource, while the latter is focused on the development potential of a defined resource. However, for the purpose of any criterion (a) analysis, there is no apparent need to distinguish these two forms of right.

¹⁵ DBCT User Group, *DBCT declaration review*, 20 March 2019, p 19.

- the near term manifestation of this effect as being on economic activity that is taking place now, but which is dependent on access to infrastructure at the end point of the lengthy exploration and mine development phase; and
- the nature of this effect being on the valuation (today) of exploration and development tenements, based on the present value effect of a future, long term differential as to the price of access.

Underpinning these propositions are a substantial number of assumptions.

First, they contain an implied assumption as to the terms of access to DBCT in 2030 and beyond. Declaration is proposed to apply for a period of 10 years from 2021. This has no particular implications for access prices beyond 10 years. However, the theory of harm put forward by the DBCT User Group assumes a difference between the terms of access with and without declaration applying in the period beyond 2030.

Second, the User Group's analysis assumes that the geographic boundaries of the tenements market is confined to the Hay Point catchment. Differential terms at DBCT could not materially affect competition in a broader market for tenements.

We explained in our criterion (a) report responding to the QCA's draft decision that the market for tenements is likely to extend beyond the Hay Point catchment, at least to Central Queensland. We observed that the critical element determining the substitutability of tenements within the Hay Point catchment as compared to other areas was not the coal handling charge at DBCT, but the ability of buyers to re-deploy capital and expertise from one region to another so as to bring about an equalisation in expected returns.¹⁶

These observations are echoed in a recent assessment by NERA Economic Consulting, which was asked by the National Competition Council to address issues relating to the coal tenements market:¹⁷

The Council finds that the coal export market is most likely global, and that a narrower coal export market might be relevant, which is likely to be as broad as the Asia-Pacific region ([6.91]). In either case, a firm wishing to supply the market could do so from similar coal fields located elsewhere in Australia and overseas.

So although each tenement is specific to one location, potential investors are not limited to that location – if a tenement in the Newcastle catchment is not attractive, an investor could consider exploring or mining for coal elsewhere (or not coal mining at all). There is scope for some potential investors to prefer the Newcastle catchment all else being equal, because of economies of scope and potentially also scale, if those buyers have established operations close to there. However, in general, prior to investing capital into a mine, potential owners of tenements have geographic options.

In fact, because the coal export market is global (or at least as broad as the Asia-Pacific region), it does not make sense to consider the "tenement market" to be limited to the Newcastle catchment. If an owner of a coal tenement in the Newcastle catchment raised price above the competitive level (or otherwise made the tenement less attractive), potential investors could in general look elsewhere (although as noted those with existing mines might have economies of scope and scale). Accordingly we consider the geographic scope of the tenements market to be at least as wide as Australia, and potentially as broad as the Asia Pacific.

If the market for tenements extends beyond the Hay Point catchment, then it follows that the TIC at DBCT is not material to competition in this market. Any increase in TIC at DBCT would not affect the environment for competition in the market since buyers can substitute between tenements in the Hay Point catchment and tenements in other regions.

¹⁶ HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (a)*, March 2019, p 28.

¹⁷ NERA Economic Consulting, *Declaration of the shipping channel service at the Port of Newcastle*, 8 April 2019, p 4.

Finally, we note that no evidence has been presented that establishes that the potential for a higher TIC applying to new entrant miners under the access framework would materially affect competition in the market for tenements.

The materiality threshold in criterion (a) is intended to avoid declaration due to effects on competition that are trivial.¹⁸ The QCA must make a positive determination as to the potential harm to competition in the tenements market as compared to the situation with declaration.

It is difficult to see how the QCA can be satisfied of an effect on competition without declaration in circumstances where its access undertaking already provides for the prospect of a discriminatory price to be charged to new entrants under a differentiated expansion. We explain at section 2.1 above that this process could give rise to a TIC of \$2.37 per tonne for incumbent users of the existing terminal component, and \$5.57 per tonne for new entrant users of the terminal expansion. The difference between these potential charges exceeds the \$3.00 per tonne 'maximum spread' to which DBCTM's executed access framework commits.

At the public forum, the DBCT User Group's representative contended that the present day valuation consequences for exploration and development tenements of differentially priced access *beyond* the declaration period give rise to competitive detriment *within* the declaration period.

Even if we accept the User Group's assumption that a ten-year declaration has implications for access prices beyond ten years, it is straightforward to show that its implications for competition in the tenements market would not pass the materiality threshold. The value of an exploration and development tenement is given by the present value of the difference between:¹⁹

- the expected potential revenues from mine production (if this is ever realised); and
- the expected costs of exploration, development and production activity, including the use of a port coal handling facility.

The likely magnitude of this valuation effect can be estimated, adopting ball park assumptions that are in line with current market average parameters. Adopting ball park assumptions for metallurgical coal prices (\$300/tonne), cost of production (\$100/tonne), and the additional cost of access to DBCT for a new entrant (\$3/tonne); then the expected effect on the valuation today of an exploration and development tenement that was not anticipated to be coming into production until 2030 would be a reduction in tenement valuation of 1.5 per cent.²⁰

It follows that, if the effect of differentiated access prices contended by the DBCT User Group that would cause exploration and development tenements to fall into the hands of less efficient incumbent miners, the potential size of this effect on tenement valuation is negligible.

¹⁸ HoustonKemp, *Assessment of the QCA's recommendation to declare the DBCT service – criterion (a)*, March 2019, pp 26-27.

¹⁹ These details are already explained in our recent criterion (a) report, at page 26.

²⁰ These valuations assume that production costs (being \$100 per tonne) include an amount sufficient to finance pre-production exploration and development costs.

3. Economic elements of criterion (b)

Criterion (b) reads:²¹

...that the facility for the service could meet the total foreseeable demand in the market–

- (i) over the period for which the service would be declared; and
- (ii) at the least cost compared to any 2 or more facilities (which could include the facility for the service);

In its draft recommendation, the QCA concluded that:²²

Criterion (b) is satisfied

The relevant market for criterion (b) is the market for DBCT's coal handling services in the Goonyella system

In this market, there are no viable substitutes to DBCT

DBCT is able to meet total foreseeable demand in the market at the least cost compared to any two or more facilities

The QCA reaches this conclusion because it finds that:

- no other coal handling services are substitutable with the DBCT service, so DBCT is the only supplier in the relevant market; and
- total demand in this market does not include coal volumes that are produced within the market but are served at other coal terminals; and
- the coal handling supplier that can meet this demand at least cost is also the supplier for which the lowest charges apply, which is DBCT.

3.1 Substitutability of coal handling services

We have previously put forward evidence of Goonyella system mines that utilise coal handling services both at DBCT and other terminals (apart from HPCT), including:²³

- South Walker Creek and Poitrel, which have contracts with DBCT and AAPT;
- Lake Vermont, which has contracts with DBCT and AAPT;
- Middlemount, which has contracts with DBCT and AAPT;
- Capcoal, which has contracts with DBCT and RGTCT;
- Oaky Creek, which has contracts with DBCT and RGTCT; and
- Blair Athol and Clermont, which until recently had contracts with DBCT and AAPT.

²¹ QCA Act, section 76(2)(b).

²² QCA draft recommendation, p 5.

²³ HoustonKemp, *Does DBCT's coal handling service satisfy criterion (b)?*, 28 May 2018, pp 14-15.

We have presented this as evidence that miners within the Goonyella system are able to substitute between the DBCT service and other coal handling services. Contracts of Goonyella system miners that are served by other coal terminals represent demand in the relevant market that were not met by DBCT.²⁴

The DBCT User Group disagrees with this framework for interpreting the evidence. At the public forum, the DBCT User Group's representative stated that our reliance on this information is a fallacy, because the fact that a customer buys two products does not demonstrate that those products are substitutes. By way of example, he observed that one person might consume both tea and coffee, but this does not establish that these products are substitutes.

This claim has its origin in the Federal Court's decision in *Arnotts Limited & Ors v Trade Practices Commission*, upheld on appeal to the Full Federal court. This judgment is cited by the DBCT User Group in support of its position.

In *Arnotts*, Justice Beaumont addressed the question of whether biscuits might be in the same market as other similar products:²⁵

In the present case, emphasis is placed upon the fact that, upon some occasions, a consumer might select a non-biscuit product instead of a biscuit; for example, corn crisps might be served with a savoury dip rather than dry biscuits; chocolate mints might be offered as an after-dinner sweet, rather than chocolate biscuits.

Justice Beaumont found that it was not correct to treat corn crisps and dry biscuits as being in the same market simply because, on some occasions, some consumers select one product rather than another.

The facts that are addressed in *Arnotts* are very different from the facts of the matter in hand. A choice between coal handling services at DBCT and another terminal is not similar to a choice between corn crisps and dry biscuits. In our opinion, there are few meaningful insights for the assessment of the substitutability of coal handling services that can be taken from this judgment.

A household may well keep both corn crisps and dry biscuits in storage and serve them as required on different occasions, while not regarding them as substitutes more generally. Acquiring take or pay capacity from a coal terminal is not analogous to this thought experiment. Coal terminal services must be paid for even when not being used, and cannot be 'stored'. A mine requiring a unit of coal handling capacity needs only a unit of DBCT capacity or unit of AAPT capacity – not a unit of each. It would be entirely uneconomic for a miner to acquire both a unit of DBCT capacity and a unit of AAPT capacity, and use these alternately to address its needs, in the way that a household might draw from stored corn crisps one day and dry biscuits another.

Anglo American observes that there may be risk management reasons why a customer would find it desirable to establish contracts with more than one terminal for capacity that is greater than they expect to export. Accepting this statement at face value suggests that demand for coal handling services will be higher than total coal production. It does not establish that a coal miner with contracts at more than one terminal would not be able to substitute demand between them.

In any case, the factual material put before the QCA demonstrates that, at least for Lake Vermont and Middlemount, the choice of AAPT's coal handling services was not made, in substance, for risk management reasons. Rather, for these mines, the AAPT service was more attractive and better value than the DBCT service because contracted capacity at AAPT could be made available more rapidly than at DBCT.²⁶

²⁴ HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (b)*, March 2019, pp 4-9.

²⁵ *Re Arnotts Limited; Arnotts Biscuits Limited; Fledspac Limited and the Dickens Corporation Pty Limited v Trade Practices Commission* [1990] FCA 473; 97 ALR 555/2 (29 November 1990), para 64.

²⁶ DBCTM, *DBCT Management submission to the QCA*, 30 May 2018, paras 140-142.

3.2 Supply and demand

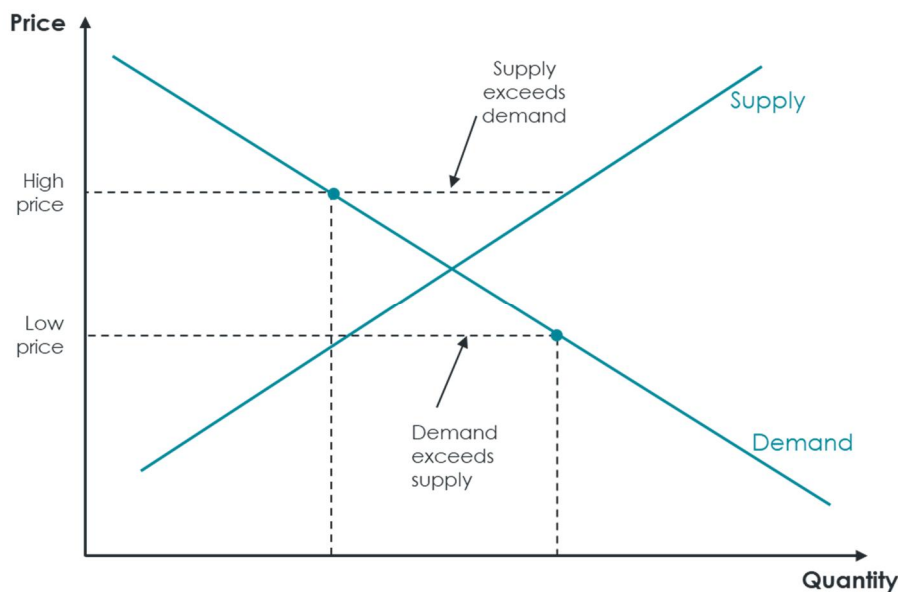
At the public forum in Brisbane, Glencore’s representative spoke about the ‘commercial reality’ that demand is constrained by supply, and that to estimate demand that exceeds the capacity of the terminal is ‘hypothetical’.

This observation echoes in its substance, although not its words, the QCA’s approach to estimating total foreseeable demand in the market. The QCA excludes from its estimate of demand, contracts for coal handling services entered into by customers in the market with coal terminals other than DBCT.²⁷

The fundamental problem with the notion that demand is limited by supply can best be illustrated by a simple diagram of these concepts. Demand by an individual for a product reflects the maximum quantity that he or she is willing to consume at any given price of that product.²⁸ Market demand is the sum of the demand of individuals in the market. These concepts are independent of willingness to supply. The diagram below shows that:

- when prices are high, supply may exceed demand; and
- when prices are low, demand may exceed supply.

Figure 3.1: Surplus supply and surplus demand



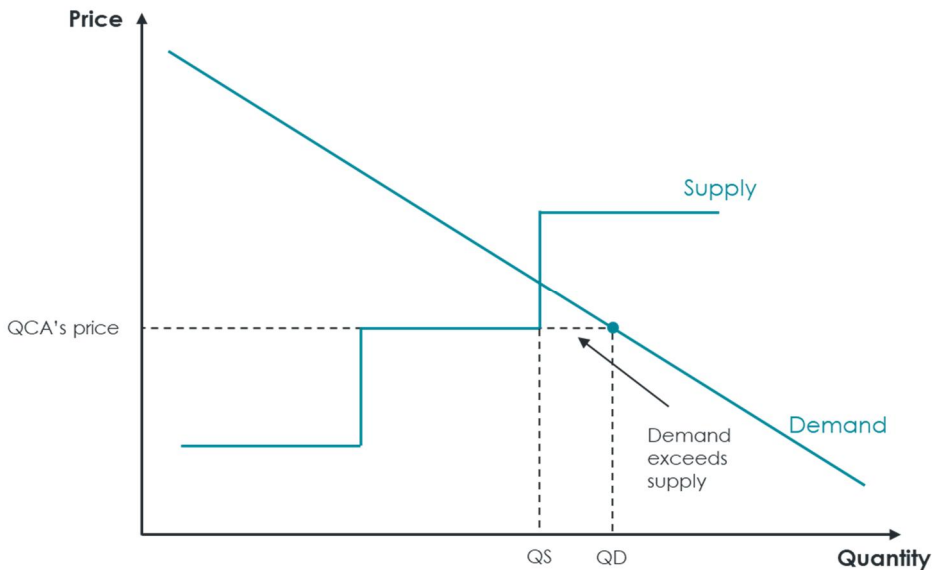
All parties agree that coal handling services using the existing capacity of DBCT are the cheapest option available to coal mines in the Goonyella system. It is not surprising that, at the administered price determined by the QCA, demand for the service exceeds the capacity of DBCT.

The figure below shows this situation, with a ‘lumpy’ supply curve representing the prospective costs of providing increased terminal capacity. ‘QD’ represents the quantity demanded at the QCA’s price. ‘QS’ represents the quantity supplied at the QCA’s price, a value that is constrained by the capacity of the terminal.

²⁷ QCA draft recommendation, p C43.

²⁸ Morgan, W, Katz, M and Rosen H, *Microeconomics*, McGraw-Hill: Maidenhead, 2006, p 62.

Figure 3.2: At the QCA price there is surplus demand for the DBCT service



There appears to be agreement that Lake Vermont and Middlemount would have preferred to use the DBCT service at the QCA's administered price, rather than the AAPT service. It follows that the tonnages contracted with AAPT are included in 'QD' above, not in 'QS', and that the QCA's approach to demand is estimated by reference to willingness (or ability) to supply the service at the QCA's price, not by reference to willingness to use the service at the QCA's price.

The diagram above shows that excluding volumes served at other terminals will underestimate total foreseeable demand in the market. This approach will instead give rise to an estimate of the quantity supplied of the DBCT service. This is not what criterion (b) in the QCA Act requires.

The incoherency of this approach to assessing total foreseeable demand in the market is further revealed by reference to the paradox to which it gives rise, being that:

- up until the day that Lake Vermont and Middlemount decided to contract with AAPT, the QCA's approach assesses these tonnages as being part of total foreseeable demand in the market; and
- from the day that Lake Vermont and Middlemount decided to contract with AAPT, the QCA's approach assesses these tonnages as not being part of total foreseeable demand in the market.

In other words, tonnages can be in the market, out of the market, and possibly in the market again later. This leaves open the possibility that the determination of whether DBCT is a natural monopoly could change with this assessment, even without changes to the underlying economics associated with the terminals or the mines. This is an unsatisfactory basis on which to assess whether criterion (b) is satisfied.

3.3 Determination of least cost

The third element of criterion (b) is the assessment of whether it is least cost for foreseeable demand to be met at the facility, as compared with at two or more facilities.

3.3.1 Treatment of sunk costs

In our criterion (b) report responding to the QCA's draft recommendation, we identified that a fundamental problem in the QCA's assessment of criterion (b) was its approach to assessing costs.²⁹ The QCA's assessment of least cost – which uses charges rather than incremental or total costs – is distorted because it:

- ignores the sunk costs associated with other terminals when considering scenarios under which DBCT meets all foreseeable demand – even though the sunk costs of those other terminals will continue to be incurred in these scenarios; but
- takes into account these same sunk costs when considering scenarios under which some foreseeable demand is met at those other terminals.

We advised that the use of resource costs (or incremental costs to society) is the appropriate basis on which to assess the least cost means of serving total foreseeable demand in the market.³⁰ PwC, advising the DBCT User Group, previously accepted the relevance of resource costs to an assessment of least cost.³¹ However, in its most recent advice, PwC adopts without commentary the approach proposed by the QCA in its draft recommendation, being the use of total charges to miners as a proxy for cost.³²

In assessing least cost, the relevant comparison is the cost of serving all foreseeable demand in the market at DBCT as against serving some of that foreseeable demand at DBCT and some at another terminal. If it is lower cost for any amount of foreseeable demand to be served at a terminal other than DBCT, then it is least cost to meet total foreseeable demand using two or more facilities.

Since DBCT is fully contracted for most years of the declaration period, the least cost assessment amounts to a comparison of the cost of meeting foreseeable demand that exceeds DBCT capacity by using capacity already available at another terminal (including any additional transport or costs associated with that terminal) or by expanding DBCT. Such comparison of the costs of meeting total foreseeable demand:

- *may include* unavoidable costs that have already been incurred, such as the capital costs required to build and maintain the existing capacity of DBCT and other terminals; but
- *must include* the incremental costs that will be incurred prospectively to meet the demand, such as the costs of expanding DBCT or the variable costs associated with use of an existing, other terminal.

The least cost comparison will be determined only by differences in *incremental* costs. Unavoidable costs are not affected by whether all demand is served at DBCT or some demand is served at another terminal – by definition, unavoidable costs will be the same on both sides of the comparison. It is on this basis that we say an incremental cost basis is an appropriate approach to the assessment of least cost.

The DBCT User Group's submission assumes that determining the least cost means of meeting total foreseeable demand is the same as identifying the facility with the lowest average costs or the average charges paid, which include a return on and of unavoidable costs.³³ This is the same fundamental error made by the QCA in its draft recommendation, which:

- *includes* the unavoidable cost of using other terminals when serving foreseeable demand at *another terminal*; but

²⁹ HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (b)*, March 2019, p 24.

³⁰ HoustonKemp, *Does DBCT's coal handling service satisfy criterion (b)?*, 28 May 2018, pp 20-22.

³¹ PwC, *2018 access declaration review – supplementary report*, 17 July 2018, pp 10-13. PwC also argues that the use of resource costs is problematic when used for the purpose of market definition. We agree – we have never proposed the use of resource costs to assess market definition. The use of charges to miners is the appropriate basis for this assessment.

³² PwC, *2020 access declaration review*, 11 March 2019, p 17.

³³ DBCT User Group, *Submission in response to the Queensland Competition Authority draft decision*, 11 March 2019, p 51.

- *does not include* the unavoidable cost of using other terminals when serving *all foreseeable demand at DBCT*.

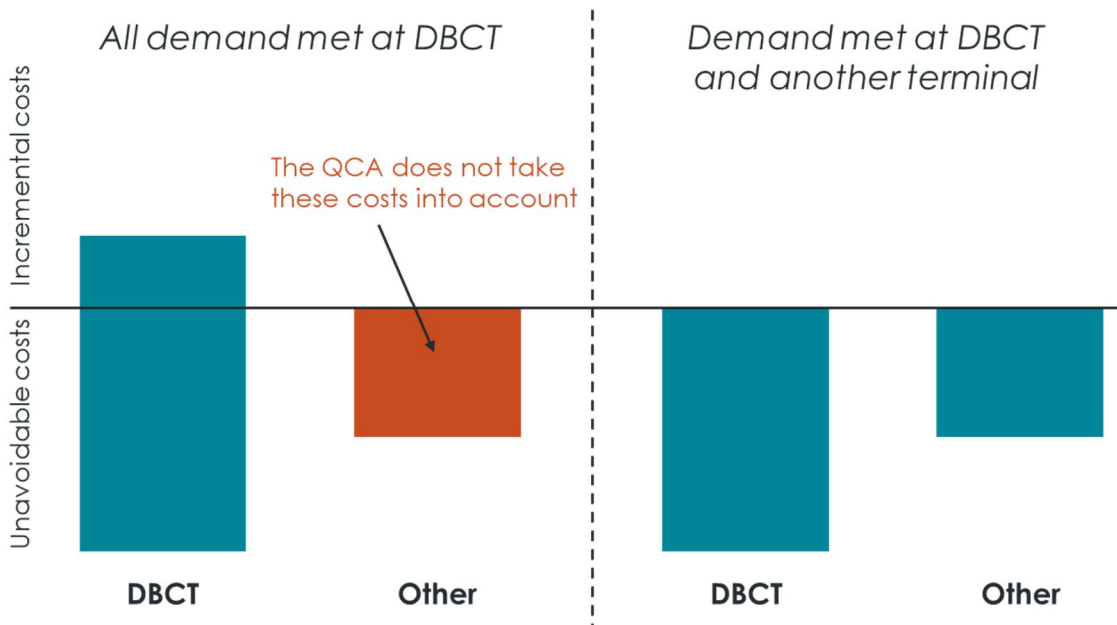
Put another way, use of ‘charges paid’ as a proxy for costs omits the unavoidable costs of the alternative other terminal, whenever no charges are paid at that terminal (even though the other terminal’s costs are still not avoided by it not being used). This approach violates the requirement for the *same unavoidable costs* to be *included on both sides* of the comparison.

This approach understates the cost of serving all foreseeable demand at DBCT, because:

- it omits *unavoidable* costs at other terminals when all demand is served at DBCT; yet
- *unavoidable* costs are unavoidable in all circumstances and must be taken into account in all circumstances.

The nature of this omission from the QCA’s least cost analysis is illustrated in figure 3.3 below:

Figure 3.3: QCA’s error in calculating least cost



Once this correction is made, but without any changes to either the market as defined by the QCA, or foreseeable demand in the market, as forecast by the QCA, then the QCA’s conclusion in relation to its least cost assessment reverses and so criterion (b) is no longer satisfied.³⁴

3.3.2 Facilities relevant to the assessment of least cost

At the public forum in Brisbane, the DBCT User Group’s representative stated that it cannot be least cost for two or more facilities to serve total foreseeable demand in the market because DBCT is the only terminal in the market. This contention is consistent with an earlier statement by the DBCT User Group.³⁵

³⁴ HoustonKemp, *Assessment of the QCA’s draft recommendation to declare the DBCT service – criterion (b)*, March 2019, pp 30-34.

³⁵ DBCT User Group, *Declaration review regarding Dalrymple Bay Coal Terminal: submission to the Queensland Competition Authority*, 30 May 2018, p 71.

However, there is no basis for this contention. An assessment of the least cost means by which to serve foreseeable demand can objectively be made by reference to the option of using any facility, whether inside or outside the market. This step is conceptually different from market definition. The market definition and least cost steps are not equivalent because market definition can be influenced by how the costs of facilities are reflected in prices, whereas the assessment of least cost looks beyond prices to the underlying costs to society of providing coal handling services.

By way of example, it is entirely feasible that there may be a single facility in the market, but that total foreseeable demand in the market is met at least cost by more than one facility. For example, this could occur if another facility has a very high price such that it is not identified as being in the relevant market, yet the incremental costs it incurs to meet demand are lower than those of DBCT. The potential for divergence between marginal price and cost is relevant to the assessment of the market, but has no bearing on an assessment of whether the DBCT service is the least cost means of meeting total foreseeable demand in the market (and so is a natural monopoly).

It follows that the assessment of least cost cannot be satisfactorily concluded either in the positive, by observing that there is more than one facility serving the market, or in the negative, by observing that there is only one facility serving the market. Rather, the least cost step must be conducted separately from the assessment of the market and total foreseeable demand in the market.

Further, even if one assumed that there must be a close consistency between market definition and the assessment of least cost, it would also be necessary to consider this consistency in the assessment of demand. For example, it would be inconsistent to define the relevant market by reference to the existing charges at DBCT, yet use this market to conclude that total foreseeable demand in the market could only be met at least cost by expanded capacity at DBCT without also considering the costs of meeting this demand at other facilities.³⁶

In any case, it is not correct to say that DBCT is the only supplier of coal handling services in the market. A facility does not need to be located within the Hay Point catchment in order to provide coal handling services to miners in that region. Specifically:

- AAPT provides coal handling services to Lake Vermont and Middlemount, which are both customers in the market; and
- RGTCT provides coal handling services to Oaky Creek and Capcoal, which are both customers in the market.

Even on the narrow view of the least cost test proposed by the DBCT User Group, AAPT and RGTCT are both alternative facilities that should be considered in the assessment of whether total foreseeable demand in the market can be met at least cost by DBCT.

³⁶ See for example our discussion in HoustonKemp, *Assessment of the QCA's draft recommendation to declare the DBCT service – criterion (b)*, March 2019, pp 5-12.



HOUSTONKEMP

Economists

Sydney

Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore

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

Phone: +65 6817 5010