Port of Newcastle
Assessment of revocation application by Port of Newcastle Operations

Prepared on behalf of Glencore Coal Ltd

8 August 2018

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Executive Summary

Synergies is assisting Glencore in its response to the NCC on the application submitted by PNO to the NCC on 2 July 2018 for the declaration made by the Australian Competition Tribunal on 16 June 2016 in relation to the use of the defined service (‘Service’ which largely comprises the shipping channels) at the Port of Newcastle to be revoked pursuant to s 44J of the Competition and Consumer Act 2010 (Cth) (CCA).

Synergies has been instructed by Glencore to provide a report that assesses the application by PNO in respect of the Service against the declaration criteria set out in s 44CA(a) and (d) of the CCA and considers whether the declaration remains consistent with the objects of Part IIIA, as set out in s 44AA of the CCA.

Criterion (a) and (d) are forward looking tests and require consideration of the likely outcomes under two scenarios – the expected future where access is provided on reasonable terms and conditions as a result of declaration, or the expected future without declaration.

Revocation and the extent to which such a decision is consistent with the objects of Part IIIA requires an assessment as to whether it will promote efficient use of, and investment in, infrastructure and competition in upstream and downstream markets. It also requires an assessment as to how revocation encourages a consistent approach to access regulation in each industry more broadly.

Synergies notes that, in the context of Glencore’s original application to the NCC in 2015 to declare the Service, there was general industry support for the Service to be declared. PNO is a privately owned monopoly, with a clear incentive to increase prices to maximise profits. Apart from the declaration, there are no effective constraints on the extent to which PNO may increase prices. While there is uncertainty about how prices will be determined, the pace of price increases and the exact final level, it is reasonable to conclude that there are likely to be very high price increases over time. In this sense, nothing has materially changed in the period since the Service was declared that would negate or dismiss Glencore’s original concerns about PNO’s effectively unfettered pricing behaviour and the need to establish the legitimate rights of port users to secure access to the shipping channel Service on reasonable terms and conditions.

In this context, Criterion (a) requires that:

(a) 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 one market (whether or not in Australia), other than the market for the service;
We have formed a view that revocation of the declaration is likely to lead to a material loss of competition in at least one of the dependent markets, namely the market for coal tenements (i.e. mining authorities). This market is critical for ensuring future coal reserves are well placed to meet demand. Any loss of competition in this market is likely to result in adverse effects including weakened incentives for investment and lower coal resource values. Given our view that criterion (a) is satisfied in relation to the coal tenements market, and in view of the time specified by the NCC as available to make submissions in response to PNO’s application, we have not undertaken a detailed assessment of the remaining identified markets and are unable to conclude that there would be no competition effects in these other markets as a result of revocation of the declaration.

Criterion (d) requires that:

(d) that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote the public interest.

We consider that continued declaration of the Service will promote the public interest, having regard both to the incentives that it will create for increased efficiency, particularly in the use of and investment in supply chain infrastructure (including rail, coal handling terminals and port) and to enhanced growth in the NSW and Australian economies resulting from enhanced incentives for investment in coal production. Moreover, revocation will lead to a public detriment and is not in the public interest where it undermines public confidence in the regulatory arrangements for preventing infrastructure owners being able to unreasonably exercise their market power.

Pursuant to s 44AA of the CCA, the objects of Part IIIA are to:

(a) promote the economically efficient operation of, and use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets; and

(b) provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry.

We hold the view that the existing declaration, and the ability to have access disputes arbitrated by the ACCC, provides a meaningful constraint on PNO’s ability to increase prices for the Service in order to maximise profits. Ultimately, we consider that revocation of the declaration is not consistent with the objects of Part IIIA as it will lead

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1 See s 44AA of the CCA
to reduced efficiency in the operation, use of and investment in supply chain infrastructure, and will cause a reduction in competition in dependent markets, with the effect being material in at least the coal tenements market.

Further, the current ACCC arbitration process between PNO and Glencore, once finalised, will be likely to provide a framework and guiding principles that will encourage and lead to consistent access principles in the coal export industry - provided the declaration is not revoked.

Finally, we note that PNO has not sought to argue that there has been any change to the economic position at the Port in respect of the nature of the Service since it was declared in June 2016 and therefore this report has been limited accordingly.
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1 Introduction

1.1 Background and instructions

Synergies Economic Consulting (Synergies) is assisting Glencore Coal Pty Ltd (Glencore) in its response to the National Competition Council (NCC) on the application submitted by Port of Newcastle Pty Limited (PNO) to the NCC on 2 July 2018 for the declaration made by the Australian Competition Tribunal on 16 June 2016 of the declared Service at the Port of Newcastle to be revoked pursuant to s 44J of the Competition and Consumer Act 2010 (Cth) (CCA).

The declared Service is specified as follows:

The provision of the right to access and use the shipping channels (including berths next to the wharves as part of the channels) at the Port, by virtue of which vessels may enter the Port precinct and load and unload at relevant terminals located within the Port precinct and then depart the Port precinct.

and is declared for the period to 7 July 2031.

In support of its application, PNO contends that two of the declaration criteria established in s 44CA - criterion (a) and (d) - are no longer satisfied with respect to the Service.

Synergies has been instructed by Glencore to provide a report that assesses whether revocation of the Service is consistent with the objects of Part IIIA of the CCA, and assesses the Service against the declaration criteria set out in s 44CA(a) and (d) of the CCA, as follows:

‘Criterion (a)’

(a) 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 one market (whether or not in Australia), other than the market for the service; and

and ‘Criterion (d)’:  

(e) that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote the public interest.
1.2 Report structure

Synergies has adopted the following structure for this report:

- Section 2 presents an assessment of the future with and without declaration, which forms the basis for our assessment of both criterion (a) and (d);

- Section 3 presents Synergies’ assessment of the Service against criterion (a), including the following matters:
  - an overview of our approach to assessing the impact of the declaration on competition;
  - identification of the relevant dependent markets; and
  - assessment of the impact on competition in the dependent markets.

- Section 4 addresses criterion (d), identifying:
  - the public benefit associated with declaration of the Service; and
  - the additional public detriments that will result from revocation of the Service.

- Section 5 examines whether revocation is consistent with the objects of Part IIIA, in terms of whether revocation:
  - promotes the economically efficient operation of, and use of and investment in the infrastructure by which access to the Service is provided, thereby promoting effective upstream and downstream competition; and
  - provides a framework that encourages a consistent approach to access regulation in each industry.
2 Comparison of future with and without declaration

2.1 Approach to assessing future with and without declaration

Criterion (a) and (d) were recently amended by the *Competition and Consumer Amendment (Competition Policy Review) Act 2017* (Clth), which came into effect in November 2017. Under the previous criterion (a), in accordance with which the Service was previously assessed, the relevant question was whether ‘access (or increased access) to the Service would promote a material increase in competition in at least one market other than the market for the Service, whether or not in Australia’, when compared to the situation where no access to the Service was provided.

However, the amended criterion (a), as set out in s 44CA of the CCA, is directed at whether ‘access (or increased access) to the Service, on reasonable terms and conditions as a result of declaration would promote a material increase in competition in at least one market other than the market for the Service, whether or not in Australia.’ The amended criterion (d) similarly focuses on the impact of access, on reasonable terms and conditions as a result of declaration.

The amended criteria require two scenarios to be considered – one in which a declaration is made and access (or increased access) to the Service is available on reasonable terms and conditions and the other in which no declaration is made. This also needs to be assessed in a practical, real world context, which in this case is that the declaration of the Service is in existence. This is consistent with the manner in which the Queensland Competition Authority and industry stakeholders are approaching the review of Service declarations for Aurizon Network, Dalrymple Bay Coal Terminal and Queensland Rail under the *Queensland Competition Authority Act 1997* (Qld).

In Synergies’ view, continued declaration will ensure that users have a right of access to the Service on reasonable terms and conditions. In contrast, in the absence of declaration, there is no effective commercial, contractual or regulatory fetter on PNO’s ability to impose further significant price increases on coal producers dependent on the port for the export of their coal. This reflects that:

1. PNO has a commercial objective to maximise profits when setting access charges;

2. notwithstanding that PNO is heavily reliant on coal throughput for its revenue and profit, PNO’s profits will be most effectively maximised through increasing prices and accepting the likely consequential impact on existing coal volumes.

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2 See s 44CA(1)(a) of the CCA
3. existing constraints (other than declaration) on PNO’s ability to substantially increase prices are generally accepted to be weak.

Therefore, absent the declaration, as explained below, decisions about future coal production and investment in the coalfields in the Hunter Valley, Newcastle, Western and Gunnedah basins (‘Newcastle catchment’) will be impacted by the high probability that PNO would implement large increases in charges for use of the Service.

The basis for this conclusion is set out below.

### 2.2 Future with ongoing declaration (the current situation)

Where declaration of the Service continues, market participants will be assured that access to the port will be made available on reasonable terms and conditions for the term of the declaration (to July 2031), with this right supported by a legal right of access and opportunity to seek arbitration in the event of a dispute.

This means that, if they consider that PNO’s terms and conditions of access, including price, are unreasonable, they have an opportunity to negotiate access with PNO, and have recourse to arbitration if required. This will ensure that the resulting terms and conditions, including price, are reasonable. Reasonable terms and conditions for access to the Service will include prices that are aligned with the efficient cost of providing the Service and a term of access consistent with the nature of relevant contracts in this industry relating to coal export. The presence of declaration will also provide a strong ongoing regulatory constraint on PNO further increasing prices beyond the level of the reasonable price.

PNO has submitted that there is no reason to believe that terms and conditions will vary materially as between the future with declaration and the future without. PNO’s basis for this view includes:

- that PNO currently provides open access to the Service and will continue to do so regardless of whether the Service is declared; and

- PNO contends that its prices are already set at a reasonable level, on the basis that generated revenues are less than its assessed ‘building block’ revenue, and that current charges are substantially lower in real terms than they were throughout the 1990s.

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*PNO (2018), Application for Revocation of Declaration, 2 July 2018, p.17*
In contrast, Synergies understands that Glencore considers that reasonable terms and conditions will involve charges that are substantially lower than PNO’s current tariffs. This reflects that:

- while charges (in real terms) may be lower than they were throughout the 1990s, the massive expansion of the coal industry from 2000-2013 means that port revenue has more than doubled in real terms.\(^4\) However, the cost to the port of providing the Service will have remained largely stable, given that all channel expansion costs have been directly funded by the coal terminals – Port Waratah Coal Services (PWCS) and Newcastle Coal Infrastructure Group (NCIG);\(^5\)

- for the period prior to privatisation of the port in 2014, the Newcastle Port Corporation (NPC) reported a positive return on assets as shown in Table 1 below, and there is no indication that NPC considered that prices were materially below the full cost (including a risk adjusted return on capital) for providing the Service; and

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Source: Newcastle Port Corporation annual reports

- while PNO purchased the Port of Newcastle in 2014 for $1.75bn (which in itself was a price that exceeded the expectations of Government and analysts\(^6\)), it then proceeded to revalue its trade assets (substantially comprising the channel and related assets) to $2.398bn.\(^7\) Based on an engineering review of the DORC value of the channel and related assets, we understand that Glencore considers this value to be significantly overstated, particularly given the extent of channel dredging that has been either funded or directly undertaken by users. As a result, no confidence can be placed on the reasonableness of PNO’s application of a building block model for establishing charges.

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4 Based on annual reports, total Port of Newcastle revenue in 2000-01 was $37.6m, increasing to $99.5m by 2012-13.


7 Port of Newcastle (2014), Annual trade report, p.3
Having regard to these issues, Synergies understands that Glencore considers that a reasonable access price for the Service is likely be more reflective of the tariffs applicable prior to PNO’s price increase of January 2015, when it increased charges to coal vessels by, on average, more than 40%.

Furthermore, and importantly, where users have negotiated an agreement with PNO, this is likely to provide predictability over the way in which prices will vary over the term of that agreement. Under an agreement, prices would be expected to vary in accordance with the well understood building block framework, with the key factors influencing price being port throughput, asset value and WACC.

The NSW Minerals Council, which represents the minerals industry in NSW, including explorers and producers of minerals and coal in NSW, supports the contention that reasonable prices are likely to be well below the prices currently applied by PNO. In its submission to the NCC in 2015 it noted that:8

Comparing the counterfactuals with and without regulated access, it is therefore clear that regulated access creates the conditions for improved competition from what it would otherwise be.

The expectation that declaration will lead to reduced prices was also identified by Shipping Australia Limited in the originating declaration process. It stated that:9

The recent coal tariff restructure by PoN resulted in a 61% increase in the navigation service charge...this cannot be justified against any increased cost base and seems to be clear evidence of price gouging by the new private operator...SAL strongly believes that the declaration will provide a clear mechanism to facilitate and enforce fair and reasonable priced access to shipping channels.

Synergies acknowledges that the reasonable price may not be Glencore’s (or PNO’s) subjective view of what is reasonable. Importantly, however, there is an arbitration process currently afoot10 that will unambiguously resolve what is a reasonable charge for the provision of the Service for coal users. While Synergies understands that the ACCC is required under the CCA to publish some details of the arbitration determination, even where aspects of the outcome of this arbitration remain confidential.

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8 NSW Minerals Council (2015), Submission in support of Glencore’s application for declaration of shipping channel services at Port of Newcastle under Part IIIA of the Competition and Consumer Act, June 2015, p.7
9 Shipping Australia Limited (2015), Letter to the National Competition Council re Declaration of Shipping Channel Services at the Port of Newcastle - Glencore Application, June 2015, p.2
10 The ACCC is currently arbitrating a dispute between Glencore Coal and PNO in relation to the reasonable terms and conditions of access to the declared service.
between the parties to the dispute, PNO will have full knowledge of the pricing outcome that is likely to occur if other parties also seek to negotiate for access to the Service.

Therefore, where the Service remains declared, even if other users do not avail themselves of the right to negotiate with recourse to arbitration, PNO’s clear understanding of what is a reasonable price for access will be expected to have the effect of constraining PNO from subsequent significant increases in price over and above this established reasonable price. This reflects that further significant price increases are most likely to trigger users seeking negotiated access, and then gaining that access on reasonable terms and conditions as judged in the context of Part IIIA.

Continued declaration would further provide a ‘level playing field’ for coal producers, such that all market participants would have access to such an arbitrated outcome in the event that private negotiations fail to reach a mutually acceptable resolution. However, in the event that the declaration is revoked, this benefit will be limited to Glencore (on the expectation that its agreement will be finalised in the near future and, in any case, prior to a decision on revocation). The benefits of ongoing declaration of a Service in providing protection to all current and future users of the Service has been highlighted by the DBCT User Group as part of the Queensland Competition Authority’s (QCA) current review of third party access arrangements at the Dalrymple Bay Coal Terminal.\(^\text{11}\)

**2.3 Future if declaration is revoked (the counter factual)**

As discussed above, in considering the counter factual, this test is not intended to be assessed simply based on the terms and conditions upon which PNO currently offers access to the Service. Rather, consistent with the accepted need for criterion (a) to be forward looking, this must be assessed based on how these offered terms and conditions may change over time, given PNO’s commercial incentives and constraints in an unregulated environment.

To apply this ‘without’ test, a clear understanding of PNO’s incentives and constraints is necessary in order to predict how it may behave in the future without declaration.

**2.3.1 PNO’s commercial incentives**

The shipping channel is a bottleneck which all coal producers in the Newcastle catchment must use in order to gain access to export coal markets – that is, the shipping

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\(^{11}\) Dalrymple Bay Coal Terminal User Group (2018), Declaration review regarding Dalrymple Bay Coal Terminal – Submission to the Queensland Competition Authority, 30 May 2018, p.77
channel is an essential facility such that the Service provided by the facility is a natural monopoly. This accords with the Tribunal’s 2016 determination which indicated that:\^12

…the Service providing access to the shipping lanes is a natural monopoly and PNO exerts monopoly power; the Service is a necessary input for effective competition in the dependent coal export market as there is no practical and realistically commercial alternative…

PNO states that it is not relevantly vertically integrated into any dependent market, which means that it has no incentive to constrain third party access for the purpose of advantaging any related entity.\^13

While we understand that this claim of lack of vertical integration is untested having regard to the change in PNO’s shareholders since the matter was considered by the NCC in 2015, even in the absence of vertical integration, it does not automatically follow that, as submitted by PNO, it has incentives to maintain volumes, protect competition and not price coal producers out of the market.\^14 Rather, PNO has a commercial incentive to maximise its profits. As the owner of a natural monopoly facility and in the absence of another constraint, this means that PNO has a clear incentive to use its market power to charge a price that extracts monopoly rents from users of the facility (as Glencore submits it has already begun doing). The extent to which PNO will be able to use its market power to increase prices will depend on the responsiveness of demand and the threat of more stringent regulation.

It is a well-known economic result that a monopolist will increase prices whenever demand is inelastic and the profit maximising price will depend on the elasticity of demand and marginal cost. Intuitively, if demand is inelastic, then irrespective of costs, that means that a percentage price increase will always exceed the percentage decrease in demand, so that the percentage change in revenue will be positive. Hence, the monopolist will always have an incentive to increase prices when demand is inelastic.

This can be seen in the equation for setting the profit maximising price

\[
\text{Price} = \frac{\text{Marginal Cost}}{(1 + \frac{1}{\text{absolute value of elasticity of demand}})}
\]

\^12 Australian Competition Tribunal (2016), *Application by Glencore Coal Pty Ltd* [2016] ACompT 6, p.23

\^13 PNO (2018), p.33

\^14 PNO (2018), p.20
Appendix A shows the derivation of the profit maximising price for a monopolist, as well as the profit maximising prices when the monopolist can price discriminate for different customer types.

The ACCC’s Chairman Rod Sims in a 2016 address to the Ports Australia Conference noted:\textsuperscript{15}

…inevitably there are situations where the conditions for effective competition are absent; such as where firms have a legislated or natural monopoly. Many of Australia’s key infrastructure assets, including ports, exhibit such monopoly characteristics.

Where this is the case, appropriate regulation is needed to act as a constraint on pricing. And it’s not difficult to understand why. If you were the commercial owner of monopoly infrastructure without any effective constraint on your pricing, what would you do? Of course you would use the situation to earn high returns over time. To do otherwise would be doing a disservice to your board and your shareholders.

Why allow a monopolist such discretion?

2.3.2 What behaviours will most effectively maximise PNO’s profits

PNO has highlighted its reliance on coal volumes and the existence of spare capacity as evidence that its incentives and strategy are to encourage growth to benefit from increased volumes and revenues.\textsuperscript{16} It states that this is consistent with the NCC’s observation that if:\textsuperscript{17}

a service provider has no vertical interests in a dependent market(s), and its facility has excess capacity, then it may be profit maximising for the service provider to promote competition in the dependent market(s), reduce margins and prices in the dependent market(s) and increase incremental demand for the service provided by the facility.

This is an overly simplistic and erroneous view, as an objective of profit maximisation does not necessarily align with an objective of volume maximisation for a profit maximising monopolist. This can be seen by a review of standard economic theory. Where an otherwise unconstrained monopolist applies a single price for all users (as is


\textsuperscript{16} PNO (2018), p.34

\textsuperscript{17} NCC (2018), Declaration of Services – A guide to declaration under Part IIIA of the Competition and Consumer Act 2010, April 2018, version 6, paragraph 3.31, p.34
the case for PNO in relation to coal users), it is a standard result that, for the given demand at each price, there is a profit maximising incentive to restrict output to achieve a higher price. While a monopolist would prefer an increase in demand at each price point, it remains the case that for a given demand schedule, it will have an incentive to increase its price (notwithstanding that this will restrict output), consistent with the limited responsiveness of demand to price. Intuitively, a profit maximising monopolist will simply not know it has maximised profit until there is at least some demand response to its price rises.

This can be seen in Figure 1, where the monopolist’s profit is illustrated by the green-shaded rectangle. If the monopolist were to increase quantity, the width of the green-shaded rectangle would increase. At the higher quantity though, the price charged on all units must decrease. In other words, the height of the green rectangle must decrease. At the point where marginal revenue equals marginal cost, the trade off between the height and width of the rectangle (i.e. the profit) is optimised. At quantities to the right of this point, prices can be increased (from P₂), and thus quantity decreased, to increase profit. The key question for a monopolist is whether the price effect or quantity effect will dominate the impact on profit. This will depend on the responsiveness of demand to changes in price as well as marginal cost.

Figure 1  Trade off between price and quantity for a monopolist

The profit maximising price occurs where marginal revenue is equal to marginal cost.¹⁸

¹⁸ Appendix A shows the derivation for the profit maximising price for a monopolist and also shows the profit maximising prices when the monopolist can price discriminate across different customers.
Applied to the context of PNO, even substantial increases in charges are not likely to induce a material reduction in volume from existing mines, with the result that the price effect will far outweigh any quantity effects. This is because, at current prices, demand for the Service is likely to be price inelastic, i.e. the percentage reduction in demand is likely to be less than the percentage increase in prices over a very large price range, and, in the absence of some other constraint, PNO would always have an incentive to increase prices until demand was not inelastic. Further, a monopolist may seek to mitigate the demand risk through price discrimination, for example through providing price rebates to vulnerable demand. The incentive to increase port prices will be particularly pronounced when coal prices are high, and thus coal miners’ margins are relatively wide. Consequently, the only real constraint on prices is the threat and potential impact of more stringent regulation, as discussed in section 2.3.4.

While it is acknowledged that not all products handled at the Port of Newcastle have the same capacity to pay port charges, and that large price increases may have a more significant impact on volumes of products other than coal, PNO already applies different charges to coal and other products. Notably, while PNO’s 2015 price review substantially increased the price for coal vessels, the impact for other products was only modest. Therefore, as a result of its ability to price discriminate, increasing prices for coal vessels will not affect its ability to remain competitive for other trades, such as in relation to its proposed development of a new container terminal at the Port of Newcastle.

2.3.3 Effectiveness of alternate strategies in maximising PNO’s profit

In order to understand the implication of PNO’s profit maximising objective, we have assessed the impact of alternate strategies that PNO may adopt in terms of their effectiveness at improving PNO profit. In order to do so, we have first considered:

- the potential volume impact of PNO’s pricing decisions; and
- the potential cost impact to PNO of volume changes.

Potential volume impact of pricing decisions

For existing coal producers, the key driver of volume is how the coal price compares to their marginal cost of production. Marginal cost refers to the minimum operating cash cost of producing additional coal from operating mines. Where supply is balanced with demand, the price will be determined by the highest marginal cost supplier of the total required volume (where this is provided at least overall cost).
Wood Mackenzie prepares international cost curves for all producers in the seaborne thermal and coking coal markets. These coal cost curves are based on a calculation of total cash costs for each mine, incorporating mining, coal preparation, transport and port costs, as well as overheads and royalties and levies.

In theory, no other costs are relevant for existing producers, as their initial fixed investment costs are deemed sunk. However, this situation is different for new projects, as the initial investment costs are not yet sunk. Therefore, the relevant costs for new projects also include recovery of capital expenditure and a required rate of return on capital. Where supply from operating mines is inadequate to meet demand, the price will need to be sufficient to provide an incentive for new mine development. Therefore, the price will be expected to reflect the operating cash cost, capital expenditure and required rate of return on capital, on a levelised (annuitized) basis, for the highest cost supplier of the total required volume (where this is provided at least overall cost).

As discussed below, coal that is exported via Port of Newcastle competes in the global seaborne coal markets. In purchasing coal, buyers will take account of the cost of transporting the coal from the point of sale to the point of its ultimate consumption – this includes PNO’s channel charges. Any increase in the charges imposed by PNO will be expected to commensurately reduce the price paid for the coal. As a result, for coal producers, changes in PNO’s channel charges will have a similar impact as a direct change in input costs, and will influence:

- the margins achieved from existing projects (noting that there is substantial sunk investment in existing projects);
- the volume from existing projects, but only where the input cost increase is sufficient to move the mine to the position where it is at or above the marginal cost price (or decrease is sufficient to move the mine to a position where it is below the marginal cost price) – noting that there may be incentives for mines to maintain production even when suffering a cash loss, given the existence of fixed costs, together with the costs of stopping and restarting production; and
- the viability of new projects, and hence incremental volume growth.

The potential impact on Newcastle coal exports can be assessed based on an examination of cost curves, as developed by Wood Mackenzie. Figure 2 shows the cost curve for all thermal coal exported through Port of Newcastle.
The data in Figure 2 shows that, where thermal coal prices are above AU$80/t, most existing mines that operate through the Port of Newcastle are able to operate such that marginal cost is materially less than price. As a result, there is unlikely to be any loss in volume for a modest increase in input costs. However, the effect on profitability will be more severe if the coal price decreases below AU$80/t. For example, at prices of AU$65/t, as was observed at times over the last five years, many mines would be under intense cost pressure. A number of these would only be able to continue operating with negative cash margins, and they would consider options for reducing volumes if this would allow them to reduce their cash losses. Note, however, that there are several factors which will serve to mitigate the impact on volumes from an increase in charges for the Service, such as:

- the impact of take or pay charges for rail and export coal terminal services – these costs (estimated to be on average AU$13.50/t for Newcastle exporters) are in essence fixed for mines – hence, they cease in a relevant sense to be cash costs; and
- abandoning a mine or ceasing operation (i.e. putting a mine into “care and maintenance”) and subsequently re-commencing operations as prices improve is

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19 Price and cash cost data from Wood Mackenzie are expressed in US$. We have converted these values to AU$ using an exchange rate of 0.74 US$/AU$, which is consistent with the exchange rate at the end of July 2018. As we discuss below the cash cost curves include charges that are take or pay in nature, and as such, do not vary strictly with output in the short term.
not a costless exercise. Consequently, it is entirely rational for mines to continue operations despite short term losses, reducing output only to the extent that they are able to reduce variable cost.\textsuperscript{20}

\textit{Potential cost impact of volume changes}

Based on our understanding of the cost structure of ports, together with available evidence in relation to Port of Newcastle, we anticipate that PNO’s cost structure for the Service is likely to be substantially fixed over a wide volume range. This reflects that:

- the largest cost is the capital cost of providing the channel and associated infrastructure, which is already sunk. PNO has previously submitted that it has channel capacity in excess of 328mtpa (compared to 2017 usage of 167mtpa) – indicating that there may be little foreseeable need to invest in new capacity;\textsuperscript{21}

- operating costs, such as channel dredging and port management costs, are expected to be substantially fixed; and

- a number of the cost items that are likely to be more variable, for example the cost of managing vessel movements in the port, are largely borne by the harbour master service, provided by the Port Authority of NSW rather than by PNO.

Therefore, we consider that it is reasonable, for the purpose of this analysis, to assume that over the foreseeable volume range, a change in PNO revenue will be fully reflected as a change in profit.\textsuperscript{22}

Given these anticipated changes in volume associated with a change in price, and the anticipated changes in cost associated with a change in volume, it is possible to assess the effect on PNO’s profit from pursuing a strategy that focuses on volumes as compared to a strategy that focuses on price.

\textit{Strategy 1: maintaining price to encourage incremental volume}

This strategy reflects the status quo, and we consider that the volume that is ‘most likely’ to arise from this strategy will reflect current forecast exports from the Port of Newcastle.

Using forecasts from Wood Mackenzie, Figure 3 shows that export volumes are expected to increase between now and 2021, and thereafter remain generally stable until 2030. As


\textsuperscript{21} PNO (2018), p.34

\textsuperscript{22} Even though that may not be strictly the case in practice.
a result, it seems doubtful that maintaining current prices is expected to encourage significantly higher volume.

Figure 3  Predicted Newcastle export volumes

Strategy 2: increasing price and accept consequential impact on volume

An alternate strategy would be for PNO to increase prices and accept the consequential impact on throughput volumes.

To assess the impact of this, it is necessary to first consider:

- the range of possible price increases that PNO may apply;
- the likely impact that such price increases may have on volume; and
- assess the likely impact that the combination of price and volume may have on PNO profit.

In considering these issues, we have assumed, for simplicity, that volume will reduce if the cash cost of production is higher than the expected sale price. However, as discussed above, there are several factors which will serve to mitigate the impact on volumes from an increase in charges for the Service. Further, as has been seen in the recent times, coal producers will quickly respond to reducing coal prices by aggressively reducing their cash costs to preserve margins. As a result, we consider that our approach will indicate the likely ‘worst case’ impact on volumes as a result in changes in the price for the Service.
In the absence of any regulatory constraint, it is difficult to estimate with any confidence the prices that PNO may contemplate. In order to estimate what charges PNO may consider, we have referred to the range of navigation service charge (NSC) scenarios that Synergies developed during the declaration assessment process in 2015. These scenarios identified the charges that could be presented as being consistent with a building block model based on publicly available information and a series of assumptions on potential asset lives and asset values.\(^\text{23}\)

The 2015 analysis identified that PNO’s 2015 channel charges (which were estimated to be equivalent to approximately $0.53/t) could potentially increase by a further 211% to $1.64/t, based on a building block model.\(^\text{24}\) Using these scenarios as a guide, we have considered the impact on PNO’s profit from an increase in charges of $1.00/t. However, recognising that there is no obligation on PNO to set charges with reference to a building block model (or to retain parameter values contained in it), we have also considered the impact on PNO’s profit from a more extreme increase of $3/t.

Using cost curve data from Wood Mackenzie, it is possible to assess the extent to which such input cost increases will cause operating mines to move to the position where they are at or above the marginal cost price.

Figure 4 displays the potential sensitivity of volume from existing mines to a change in input costs over range of feasible coal prices. While coal prices remain the key determinant of volume, the change in input costs for mines exporting from Port of Newcastle will result in a change in their position on the international cost curve. In terms of establishing a feasible range of coal prices, it is noted that coal prices have exhibited substantial volatility over the last five years. The average thermal coal price over this timeframe was AU$95/t, although it was as low as AU$65/t in April 2016. We note that Wood Mackenzie forecasts a thermal coal price of AU$100/t in 2020, increasing modestly over the following decade.

In Figure 4, the impact of an increased port charge is demonstrated by the difference between the orange and green lines. The orange line illustrates expected volumes assuming that the port charge remains at its present level. Meanwhile the green line shows the potential volume response, at a range of coal prices, assuming the charge is increased by AU$1/t. Consequently, the gap between the two lines indicates the shortfall in volume that could arise from an increased port charge.

\(^{23}\) Glencore (2015), Applicant’s response to the draft recommendation not to declare the shipping channel service at the Port of Newcastle, 9 September, Annexure A.

\(^{24}\) All references to the navigation services charge, or increases in the navigations services charge, are expressed in AU$. 
Figure 4 clearly shows that, at higher coal prices, volume from existing mines is highly inelastic. The consequence of this is that, theoretically, PNO has the scope to increase prices substantially without discouraging throughput when coal prices are high. Having regard to the theoretical diagrams presented in the previous section, the positive price effect outweighs any negative quantity effect, such that this trade-off is unlikely to constrain profit if the coal price is sufficiently high. In effect, the only constraint on prices in such a circumstance is likely to be a regulatory one.

The effect of an increase in the port access charge is predicted to be more acute at lower coal prices. For example, if coal prices were to fall below AU$80/t, the difference in volume with and without the increased port access charge could be as high as 10mtpa on existing projects.

The volume differential with a AU$3/t increase in the access charge over the base case is displayed in Figure 5. The potential divergence in volume follows a similar pattern, although it is more pronounced.
Figure 5  Volume differential with a $3/t increase in PNO’s access charge

Figure 6 shows the magnitude of the volume differential; that is, the difference between the orange and green lines in Figure 5. This shows that the change in volume is negligible at prices above the five year average of AU$95/t. However, at prices at the lower end of the five-year range, a higher port charge could prematurely induce volume contractions of 20 to 30mtpa.

Source: Wood Mackenzie, Synergies analysis
This analysis, while not without limitations, verifies the expectation that in each case, even if an increase in port charges discouraged all expansion volumes, the increase in port charges will not be sufficient to undermine existing volume to an extent that PNO’s profits would be materially adversely affected. Rather, the increase in port charges brings forward the point where cash costs exceed price, such that in the event of declining coal prices, mine operators are priced out of the market more quickly than would have been the case under a lower navigation services charge.

**Profit impact of alternate pricing strategies**

Figure 7 shows the profit impact for PNO of the alternate pricing strategies discussed above. These estimates have been calculated on the basis of three potential coal price scenarios:

- AU$95/t, which is the average price over the last five years;
- AU$115/t, which is AU$20 above the five-year average price; and
- AU$75/t, which is AU$20 below the five-year price (but still above the 5-year minimum).

Each coal price scenario is assigned a different line on the chart. Each line shows the change in PNO revenue under access charge increases that range from no increase to an increase of AU$3/t. As explained earlier, given the dominance of fixed costs, the revenue impact can be interpreted as a profit impact for PNO.
Figure 7 Profit maximising scenarios under various coal prices and port charge increases

Figure 7 shows that each of the identified port charge increases is expected to lead to an increase in profit, regardless of the prevailing coal price. The highest of the increases examined ($3/t) could lead to revenue of almost $700 million. It should be noted that the revenue scenarios for coal prices of AU$95/t and AU$115/t are almost identical, whereas the scenario which assumes a coal price of only AU$75/t results in significantly lower revenue for each port price increase. This is because of the similar volume under the former two scenarios, as the majority of mines remain profitable at these coal prices, whereas at a price of AU$75/t, the price increases may lead to a reduction in volume. However, the key point is that even with a price increase of $3/t over the current level, and assuming a coal price of AU$75/t, PNO’s profits still increase despite the realisation of materially lower volumes.

Figure 7 illustrates the profit incentives at a single point in time. However, a key question is how these revenue scenarios could develop over time. Possible revenue scenarios for 2018-2030, assuming a coal price of AU$95/t, are shown in Figure 8. These scenarios are as follows:

- no increase in port access charge, and volumes based on Wood Mackenzie forecast;
- a $1.50/t increase in port access charge, and volumes adjusted for impact of charge increase; and
• a $3/t increase in port access charge, and volumes adjusted for impact of charge increase.

Although long term forecasts are subject to considerable uncertainty, Wood Mackenzie predicts Newcastle exports to be approximately 210Mt in 2030, an increase of only 7% on the forecast 2018 volume of 196.3Mt. Consequently, a strategy of keeping port charges steady (as shown by the dark green line) to encourage future volume growth will have only a marginal effect on PNO revenue over the longer term. On the other hand, because of the insensitivity of volumes to price increases, it would foreseeably be possible for PNO to increase charges materially (as shown by the light green and orange lines) without jeopardising long-term revenue.

**Figure 8  PNO revenue scenarios under different charge increases, 2018-2030**

![Graph showing PNO revenue scenarios under different charge increases, 2018-2030](image)

**Note:** Wood Mackenzie estimates the 2018 Newcastle export volume to be 196.3 Mt, of which 146.7Mt is attributable to thermal coal. For simplicity, we assume that volume changes for thermal and coking coal are consistent over time. A coal price of $95/t is assumed for all scenarios in this figure.

**Source:** Wood Mackenzie, Synergies analysis

Importantly, this analysis does not mean that the highest of the considered price increases is the profit maximising price. Given the relative insensitivity of volume from existing mines to changes in port charges, it is quite likely that further price increases beyond that shown in these scenarios would increase PNO’s profits even further.
We also acknowledge that the profit increase may not be enduring, as the price increases are likely to undermine exploration and investment in mining projects, which is expected to cause a longer term decline in volumes. However, even if price increases were to result in a 25% reduction in long term volumes, as is possible with a $3/t price increase at a coal price of $75/t, Service revenue could still be increased from $65.3 million to $321.1 million, as per the light green line in Figure 7. Even if such price increases lead to a further 25% decline in long term volumes due to the reduction in incentives for exploration and mine development, PNO’s revenue would still be $240.8 million – far higher than would be the case without the price increase.

Further, in the event that volumes were to start to decline more materially over the long term, it would remain open to PNO to adjust prices to limit the impact of volume decline, including through:

- a reduction to its navigation service charge if it considered that this may delay such volume decline (and hence maximise PNO’s profitability); or
- introducing price discrimination, reducing the charge applied to relatively more elastic volume (e.g. through the application of a price discount or rebate), while maintaining the charge applied to inelastic volume.

### 2.3.4 What will constrain PNO’s profit (price) maximising behaviour

PNO has submitted that it has contractual obligations to the State (as part of the lease transaction) which mean it does not have an incentive to diminish the long-term output of the Hunter Valley coal industry. However, leaving aside whether the State would enforce such obligations, Synergies considers that this incentive will not act as a significant constraint on prices. Our previous analysis demonstrates that price adjustments in the order of up $3/t are possible without triggering any major reduction in volumes at current and forecast prices. Provided that PNO stays within this large band of possible price increases and does not price in a way that causes a substantial reduction in volumes, is it unlikely that PNO would ever conceivably be in breach of these obligations to the extent they are meaningful.

We consider that the threat of alternate regulatory oversight is also weak. As part of the original declaration proceedings, PNO (and NSW Treasury) both submitted that the ability of PNO to increase prices is constrained by legislative pricing monitoring arrangements, specifically the *Ports and Maritime Administration Act 1995 (NSW)* (PAMA 1995) providing:

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25 PNO (2018), p.35
Act), Ports and Maritime Administration Regulations 2012 (NSW) and the Independent Pricing and Regulatory Tribunal Act 1992 (NSW). However, both the Tribunal and the NCC have previously acknowledged that the existing NSW monitoring regime provides effectively no constraint on pricing practices, and as such, the regime would be highly unlikely to meet the requirements for certification under the National Access Regime.

Further, we consider that the NSW Government is subject to a clear conflict of interest in this matter. The price monitoring framework established under the PAMA Act was put in place in preparation for the NSW Government’s program for port privatisations, including Port Botany, Port Kembla and Port of Newcastle. By providing such a light handed price monitoring arrangement, the NSW Government established a regulatory arrangement that was likely to maximise the prices that it would achieve for these assets. Indeed, as noted above, the price achieved for Port of Newcastle was well above analysts’ expectations at that time.

This may explain why no action was taken against PNO following price increases in excess of 40%—increases that are completely unprecedented in the context of privatised assets in Australia. Given the absence of a response by the NSW Government and the lack of transparency concerning the specifics of the transaction and the charging structures agreed as part of that transaction, coal producers can have no confidence in the integrity of the NSW Government’s imposition of regulatory constraints in respect of this issue.

Moreover, introducing price regulation shortly after such privatisations, however warranted, would be likely to undermine the assumptions that underpinned PNO’s bid for the port. While we are not aware of whether this would have caused any specific consequences in relation to the Port of Newcastle transaction, it would certainly be likely to undermine the confidence of investors in relation to any future asset privatisations by the NSW Government. As a result, the NSW Government has a strong incentive to not introduce any more stringent arrangements for the regulation of prices at Port of Newcastle.

The ACCC’s view is that price monitoring, in general, is not an effective constraint on monopoly power. For instance, using the existing airports monitoring regime as an example, the ACCC has previously stated that:

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26 PNO (2015), Submission in response to Glencore’s application to the National Competition Council, 18 June 2015, p.14. see also NSW Treasury (2015), Glencore’s application for Declaration of Shipping Channel Services at the Port of Newcastle, June 2015, p.5

27 ACCC (2011), Submission to the Productivity Commission’s inquiry into the economic regulation of airport services, March 2011, pp.4-6, p.18
With regards to assisting the competitive process, monitoring has limitations in its scope to correct market failure when the causes extend beyond information asymmetry…

…Although monitoring has played a role in problem identification, it is ineffective as a tool to address the problem it identifies… There is greater justification instead, to look to regulatory arrangements that respond appropriately to the risks that have been identified, and can facilitate market based outcomes…

…monitoring does not present an effective constraint on monopolists’ market power.

This is consistent with the Tribunal’s 2016 decision to declare the Service which found that there were no direct regulatory constraints on PNO’s pricing structures. It noted that coal miners supplying coal into the coal export market from mines in the Hunter Valley have no “real practical alternative” to using the Service, and in more profitable times, they are “vulnerable to charging changes imposed by PNO for access…”.

In practice, the effectiveness of a price monitoring process will depend upon the credibility of the threat of more heavy handed regulatory responses to the exercise of monopoly power. As we have seen no response from the NSW Government to PNO’s conduct to date, we conclude there is no credible regulatory threat or constraint to that conduct other than Part IIIA of the CCA.

2.3.5 Conclusion

Before considering the competition effects of possible changes in the declaration status of the Service, Synergies considers that it is first important to establish the key factors that are likely to influence PNO’s pricing behaviour in the absence of declaration, which can be summarised as:

1. PNO has a commercial objective to maximise profits when setting access charges;

2. notwithstanding that PNO is heavily reliant on coal throughput for its revenue and profit, as shown above, PNO’s profits will be most effectively maximised through increasing prices and accepting any likely consequential impact on existing coal volumes.

3. existing constraints (other than declaration) on PNO’s ability to significantly increase prices are generally accepted to be weak.

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28 Australian Competition Tribunal (2016), *Application by Glencore Coal Pty Ltd [2016] ACompT 6*, p.36
Therefore, in the absence of declaration, PNO has the incentive and ability to impose further significant price increases on coal users.

While PNO claims that it will apply a building block methodology in establishing charges for the Service\textsuperscript{29}, application by a monopolist of a building block methodology does not provide any confidence in the resulting prices being reasonable, if there is no constraint or review on the manner in which it derives the inputs to that model. As shown by Synergies’ previous analysis\textsuperscript{30}, price increases of over 200% could be conceivably be argued under a building block methodology based on PNO’s published asset valuation. Further, there is also no constraint on PNO subsequently changing these parameter values in order to ‘legitimise’ additional price increases. Moreover, in the absence of declaration, there is no obligation on PNO to apply a building block methodology, and no constraint on it applying a different methodology at a future point in time.

Finally, regardless of the price increases that PNO would actually apply in the short term, market participants will necessarily have regard to the risk that, in future, significant price increases may be imposed. That is, particularly when making a decision whether to invest in exploration or development, coal producers will base their decision on the price that they anticipate that PNO may apply. In an environment where there is no meaningful regulatory constraint on PNO’s ability to increase prices, and where PNO has previously shown a willingness to sharply increase prices without any change in the cost or nature of the Service provided, there is a very high probability of further substantial price increases from current levels. As a result, it is inevitable that potential investors will base their investment decisions on conservatively high estimates of potential PNO charges, given its pricing incentives and constraints, as described in this section.

\footnotesize
\textsuperscript{29} PNO (2018), p.17

\textsuperscript{30} Glencore (2015), Applicant’s response to the draft recommendation not to declare the shipping channel service at the Port of Newcastle, Annexure A, 9 September.
3  Assessment of Criterion (a)

3.1  Approach to assessing impact on competition

It is necessary to assess criterion (a) on a forward looking basis. This involves a comparison of the future state of competition in the relevant market with declared access to the Service and the future state of the competition without such declared access.

In assessing an application for declaration of a service, the NCC usually first considers whether the relevant markets are currently workably competitive, on the basis that declaration is unlikely to promote competition in a market that is already workably competitive. Where a market is not workably competitive, the NCC then considers whether declaration will promote competition in that market.

The NCC, in its guidance, indicates that in order to recommend revocation, the NCC must reach the view that if an application for declaration were being brought today, it would not meet one or more of the declaration criteria.\(^{31}\)

In the current case where the Service is already declared, it is necessary to compare the future state of competition in the status quo with continuing declaration and the future state of competition where declaration is revoked. In this context, an assessment that there is currently workable competition in relevant markets is not determinative, as declaration may have driven the dependent markets to a state of workable competition. This is relevant as one needs to consider how competition is likely to evolve without declaration and then assess whether declaration will promote competition in the future.

3.2  Identification of the relevant markets

Criterion (a) requires that the markets, other than the market for the Service, in which competition is to be promoted, be identified.

Synergies notes that PNO’s application for revocation has accepted that criterion (a) should be assessed in terms of the impact on the same markets considered for the purposes of the original declaration application:

1. a coal export market;

2. markets for the acquisition and disposal of exploration and/or mining authorities (referred to in this report as a ‘coal tenements market’);

\(^{31}\) NCC (2018), Declaration of Services – A guide to declaration under Part IIIA of the Competition and Consumer Act 2010, April 2018, p.47
3. markets for the provision of infrastructure connected with mining operations, including rail, road, power and water (referred to in this report as an ‘infrastructure services market’);

4. markets for services such as geological drilling services, construction, operation and maintenance (referred to in this report as a ‘specialist services market’); and

5. a market for the provision of shipping services including shipping agents and vessel operators, of which ships exporting coal from the Port of Newcastle are part (referred to in this report as a ‘shipping market’).32

PNO has submitted that there is no evidence that increased access, on reasonable terms and conditions as a result of the declaration of the Service, would promote a material increase in competition in the coal export market, and as such, there is no basis to conclude that increased access would have a material effect on competition in any of the markets that are a derivative of the coal export market.33

Synergies disagrees with this presumption and considers that there is a need to independently analyse and assess the impact on competition in each of the dependent markets. Importantly, PNO’s presumption does not acknowledge the impact of access to the Service, on reasonable terms and conditions, on those dependent markets which rely primarily upon the prospects for ongoing future growth in export coal production from the Newcastle catchment area, rather than on continuing production from established mines. In this regard, Synergies considers that the most significant loss of competition that would result from revocation of the declaration will occur in the coal tenements market. Given the timeframe available for this report as determined by the NCC timetable, this market has been the focus of our review.

Each of the five dependent markets, put forward by Glencore in its originating application and previously accepted by PNO, the NCC and the Tribunal, have been defined in varying degrees of detail in the regulatory proceedings so far. However, we consider that in order to more closely examine the competition impacts in these markets, a more detailed description of their respective characteristics is required, having regard to the generally accepted dimensions of market definition, including product, function and geography (and sometimes temporal attributes, depending on the type of asset and prevailing market conditions). However, consistent with the ACCC approach in its Merger Guidelines, the product and geographic aspects are usually the most important

32 PNO (2018), p.16
33 PNO (2018), p.37
from a competition perspective. These market definition dimensions are presented below.

The NCC has previously indicated that, in competition law matters, it considers market definitions using a ‘purposive’ approach. It also noted that the particular purpose of the market definition in the consideration of applications for declaration is to enable examination of the effect of access or increased access as a result of declaration on competition in a dependent market. We have adopted this approach as a basis for further defining the relevant markets.

### 3.2.1 Coal export market

The scope of the dependent coal export market was examined more closely than other dependent markets as part of the original declaration application process. A brief overview, with some additional commentary on the main distinguishing characteristics that are considered relevant to conducting a competition analysis, is presented below.

The Hunter Valley Coal Industry and associated export supply chain is the largest coal export operation in the world. Spread over 250km, the coalfields in the Newcastle catchment area (including the Hunter Valley, Newcastle, Western and Gunnedah basins) produce over 170 million tonnes of saleable coal per year. This is around 90% of New South Wales production and 40% of Australia’s black coal production.

A map of the Hunter Valley Coal Chain network is presented below.

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34 ACCC (2008), Merger Guidelines, amended in November 2017, p.13
35 NCC (2018), Declaration of Services, A guide to declaration under Part IIIA of the Competition and Consumer Act 2010 (Cth), April 2018, p.29
37 Glencore (2015), Application for a declaration recommendation in relation to the Port of Newcastle, May 2015, p.3
In relation to the **product dimension** for the coal export market, Synergies considers that, given their substantially different properties and uses, there are separate markets for thermal and metallurgical (coking) coal:

- thermal coal is used to provide base load energy to produce steam for power generation, heating and industrial applications such as cement manufacture;
- metallurgical coal is used in steel production. It is used either to produce coke, which is then fed into the top of the blast furnace along with the iron ore, or for pulverised coal injection (PCI), where the coal is injected directly into the base of the blast furnace.

The thermal and coking coal markets operate largely independently, although some degree of substitution between thermal coals and lower ranked coking coals is possible.

The NSW coalfields primarily operate in the thermal coal market. This is illustrated in Figure 10 below which shows that NSW’s thermal coal resources and reserves are significantly greater than coking coal (with coking coal reserves primarily located in the southern basin, which exports through Port Kembla).
Reflecting this, most of the coal mines exporting through the Port of Newcastle are either wholly or predominantly thermal coal mines, with 85-90% of Newcastle coal exports being thermal coal.38

Therefore, while we consider that there are two relevant coal export markets, we consider that the most significant of these is the thermal coal market. While, in its revocation application, PNO has not specifically defined the product dimension of the export coal market, we note that in its discussion on the export coal market it has similarly acknowledged the differences between coking and thermal coal, and has focussed its attention on the thermal coal market. Therefore there appears to be agreement on this matter.

The functional dimension for the coal export markets is the sale of coal products for export.

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The geographic dimension of the coal export markets is often regarded as being global in nature. However, it is useful to consider in more detail what is meant by this. Figure 11 categorises the global coal market according to a number of key characteristics:

Figure 11 2016 estimated global coal production by market and end-use

As can be seen from this figure, most coal is used in the country in which it is mined. China, the US, and India in particular – the world’s three largest coal producers – consume the majority of their coal domestically. Of the two methods of cross border trade, landborne and seaborne, the seaborne market is far more significant in terms of size – landborne coal trade is confined to just a few key areas: Russia, China and Eastern Europe. Despite its relatively small proportion of global coal production, the Australian coal industry is a major participant in the seaborne export coal markets.39

The Reserve Bank of Australia (RBA) has examined coal markets and has identified that the global market for traded coal can be viewed as consisting of two broad geographical markets, which have historically been somewhat separate because of the effect of transport costs:

1. the Atlantic market, which consists of exports from the Americas and Russia to countries in Europe; and

2. the Asia-Pacific market, which largely consists of coal trade from Australia and Indonesia to countries in Asia and the Pacific, including China, Japan and Korea. Wood Mackenzie estimates that the Pacific market accounts for approximately 75% of seaborne coal trade.

39 Based on advice provided to Synergies by Wood Mackenzie
Figure 12 shows the destination of NSW thermal and metallurgical coal exports between 2013 and 2017. It shows that the vast majority of NSW coal exports are directed to the Asia-Pacific market.

The RBA further noted that these large markets have historically been quite separate, with only Russia and South Africa tending to supply both depending on price differentials across the markets. However, more recently, lower costs of freight, subdued demand from importers and an increase in the volume of traded coal from both traditional and non-traditional suppliers have all worked to increase the links between these two markets.40 As a result, there is some degree of competition between these markets, with the result that a price increase in one geographic zone will cause supply from the other zone to be diverted into that market, meaning that the market prices in the two geographic regions evolve similarly.41 Notwithstanding that the prices between the two geographic zones are linked, we consider it remains unclear as to whether they are so linked that a common market is likely on a longer term forward looking basis.


41 International Energy Agency, Medium-Term Coal Market Report 2016, p.55-56. The IEA report plotted steam coal prices for three different regions, - the ARA CIF in north-west Europe, Richards Bay in South Africa and Newcastle for the period 2002-16. All three price indexes were well co-integrated, and highly correlated despite regional differences.
From this, we conclude that the relevant geographic zone of the coal export markets is most likely to be limited to the Asia-Pacific region. However, in the context of our analysis in section 3.2.2 below, we do not consider that it is necessary to be definitive on this issue.

### 3.2.2 Coal tenement market

The NCC, the Tribunal and PNO have each previously accepted a separate dependent market(s) for the acquisition and disposal of exploration and/or mining authorities. The product, functional and geographic dimension of this market were not examined in detail in the originating declaration proceedings.

Synergies considers that this market is best defined as the market for prospecting, exploring and developing coal deposits within the Newcastle catchment area (at its broadest level), and that it is likely that is comprised of smaller regional markets in the areas of the Hunter Valley/Western Basins and the Gunnedah Basin.

The basis for this market definition is described below.

**Coal tenement rights**

Investment in exploration is necessary for developing coal reserves to meet future expected demand. In NSW, between half and three quarters of investment is spent on existing deposits (‘brownfield’), as opposed to new deposits (‘greenfield’).42

In Australia, mineral resources are owned by the Crown, regardless of who owns surface rights to the land. A tenement refers to a claim, created by a lease or licence that gives its holder the right to explore for resources or to undertake production.43 Generally, the process for allocating rights begins with an exploration licence, which permits the holder to explore for resources on a specified area of land.44

Tenements are typically mutually exclusive in so far as two parties cannot hold licences to explore the same piece of land. Tenements are usually time-limited. This enables jurisdictions to maximise resource rents (where the State government receives a payment from the explorer in return for allowing it to exploit a natural resource which is owned by the State) by incentivising explorers to progress works and ensuring that

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42 The Centre for International Economics (2014), The contribution of mining to the New South Wales economy – prepared for the NSW Minerals Taskforce, September 2014, p.16

43 This is consistent with FMG’s definition used in its application to the NCC for declaration of a service provided by the Mt Newman Railway Line. See NCC (2005), Draft recommendation on Application by Fortescue Metals Group Limited for declaration of a service provided by the Mount Newman Railway Line, November 2005, p.77

deposits are not hoarded. At expiration, a company may choose to renew its licence rights, surrender its licence (and therefore the right to further explore that area) or apply for a production licence if coal has been discovered.

The ability to prospect and explore for coal in New South Wales is governed by the *Mining Act 1992* (NSW) (‘the Mining Act’). Before exploring for coal, an explorer must first obtain an Authority under the Act. There are specific permits for coal exploration. Exploration authorities include an exploration licence and an assessment lease. These authorities are approved and regulated by the NSW Department of Industry, Resources and Energy. An exploration licence gives the licence holder the exclusive right to explore for specific minerals within a designated area, but does not permit mining. These licences can be granted for periods up to six years,\(^{45}\) and can be renewed for a further term of up to six years.\(^{46}\) Exploration licences are generally required to be reduced by 50\% (of the project area) on each renewal.\(^{47}\) An assessment lease (or also known as retention leases) enables explorers to maintain an interest in areas of land containing mineral resources where extraction is not yet commercially viable.

The design of the rights to explore deposits and prove coal resources and the method by which those rights are allocated can affect efficiency in that market. Since 2014, the NSW Government, in response to concerns about the lack of transparency and corruption in the allocation of exploration licences, has initiated a range of reforms, including the introduction of a competitive selection process for the granting of exploration licences (as opposed to the pre-existing direct allocation of licences by the Government to selected parties). In explaining its rationale for these reforms, the NSW Government highlighted its aim of ‘promoting competition in the sector for access to and commercialisation of coal assets’.\(^{48}\)

Following the initial allocation of coal tenement rights, subsequent transactions can take several forms:

- disposal and acquisition of shares in the corporate entity that has the licence to explore a tenement;

\(^{45}\) See *Mining Act 1992* (NSW), section 27

\(^{46}\) See *Mining Act 1992* (NSW), section 114


• transfer of a licence, noting that under NSW legislation, exploration licences and retention leases can be traded, although this requires the approval by the NSW Government before a transfer can occur; or

• creation of a joint venture where the entity that has a licence to mine the tenement shares the future proceeds of subsequent mining with another entity, in return for capital to construct the mining infrastructure.

The Productivity Commission examined the tenement regime in relation to Australia’s gas and energy resources sector and noted that the ability to transfer resource rights was an economically desirable aspect of the system as it enables the rights to be transferred to those who value them most highly, facilitating allocative (and dynamic) efficiency. In the case of retention leases, the ability to transfer rights can also help ensure that companies most adept at developing resources obtain the rights to do so (promoting productivity efficiency). These efficiencies would be reduced if there was a material reduction in competition in the market for tenements.

Further defining the coal tenements market

Synergies considers that the relevant product dimension for the market for coal tenements should appropriately be described as the rights to explore a specific coal deposit, with different markets existing for predominantly thermal and predominantly coking coal deposits. As described above, in NSW, with the exception of the Illawarra district, the coal reserves are predominantly thermal coal, and similarly the coal tenements market will be essentially a thermal coal tenements market.

We have considered whether it is necessary to further specify the product dimension to be proven deposits. In examining this issue, we have had regard to the NCC’s view in the FMG matter where it said:

It is unlikely that an iron ore deposit would be subject to transactions where the extent and value of that deposit have not been proven, at least to a level where there is a reasonable prospect that the deposit will prove to be economically exploitable.

In the context of coal exploration, we understand that the NSW Government undertakes initial drilling of exploration areas prior to their release, in order to initially prove the

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50 ‘Proving’ is used in this context to describe the proves of ascertaining (or “proving up”) the nature and extent of a deposit. This is consistent with NCC Draft Recommendation on FMG’s application to declare a rail service, p.78

51 NCC (2005), Draft recommendation on Application by Fortescue Metals Group Limited for declaration of a service provided by the Mount Newman Railway Line, November 2005, p.79
existence of resource. Companies will then conduct further exploration to better define and more fully prove the resource.

In considering what level of ‘proving’ is required, we consider that the tenements market should include all tenements released by the NSW Government for further exploration. We consider that prescribing the product market to more comprehensively proven tenements would unnecessarily limit the tenements market to only where further exploration expenditure has occurred and, as such, limits the market to the sale of tenements that have been explored, rather than to the release of tenements for exploration.

We have reached a view that the market should not be restricted to fully proven deposits. As part of the NSW Government’s recent reforms affecting the coal mining and exploration industry, it is reasonable to expect their stated objectives pertaining to promoting competition in the industry would include competition for new licences to explore where reserves are known to exist but have not yet been fully proven.

Synergies considers that the **functional dimension** for the coal tenements market is separate from mining and marketing activities. Exploration and development of coal tenements is part of the production chain, and vertical integration efficiencies do not appear to preclude a separate functional market for these exploration activities. This is consistent with the nature of transactions that take place for coal tenements, where explorers may develop the tenement themselves, and/or sell to another party that has greater capacity to develop a mine.\(^\text{52}\) This separate functional market is therefore appropriately described as prospecting, exploring and developing activities. This prescription is also consistent with the NCC’s approach to defining the market for iron ore tenements in the Pilbara.\(^\text{53}\)

The next question then becomes defining the **geographic dimension** for the coal tenements market. The geographic market is the area of effective competition in which sellers and buyers operate.

The Tribunal has previously noted that what is relevant as a starting point, are actual sales patterns, the location of customers and the place where sales takes place and any geographic boundaries that limit trade.\(^\text{54}\) Under the NSW regulatory regime, there is a competitive selection process for coal tenements where the NSW Government is the sole

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\(^\text{53}\) NCC (2005), Draft recommendation on Application by Fortescue Metals Group Limited for declaration of a service provided by the Mount Newman Railway Line, November 2005, p.81

\(^\text{54}\) Australian Competition Tribunal (2010), *Fortescue Metals Group Limited* [2010] ACompT 2, 30 June 2010, p.233
issuer (i.e. the seller) of mining exploration tenements across the state (although these tenements may then be traded). These permits to explore do not apply to deposits outside of NSW. Furthermore, the permits apply to exploration of a specific mineral deposit and a particular location in NSW. In other words, they cannot be used to explore for other mineral deposits at other intra-state locations. In effect this means that, irrespective of the options that buyers of exploration rights might have, the sellers of those rights are restricted in terms of the locations for the rights.

While the NCC’s final decision on the originating application for declaration of the Service at the Port of Newcastle did not seek to define the tenements market in any detail, the NCC noted that it considered it likely that the tenements market would extend beyond the Newcastle catchment area, although not necessarily beyond Australia. This was based on the view that parties seeking coal mining authorities may be able to consider different locations, for instance coal mining regions located in the Newcastle catchment area or coal mining regions in Queensland, thus expanding the field of substitutes.

Synergies has reviewed the NCC’s 2015 position in the context of the revocation application and considers that a more detailed assessment of the geographical limitations of the market is required before any such findings could reasonably be made. In particular, we note that the NCC’s final recommendation considered substitutability only from the perspective of buyers of tenements and not sellers of tenements where potential monopsony (buyer) power is an issue. We also note that the NCC’s final recommendation did not consider in any detail the aspects of this market, such as the differences in coal types or quality (i.e. thermal coal is predominantly mined in NSW while coking coal is predominantly mined in Queensland) and it did not consider the extent to which access to and cost of logistics infrastructure influences the extent to which buyers will see tenements in different regions as direct substitutes (noting that the most substantial thermal coal deposits in Queensland are located in the Surat and Galilee basins, which have limited, if any, existing available transport infrastructure).

Synergies considers that the relevant tenements market is confined at its maximum to a regional market where coal exports would necessarily go through the Port of Newcastle. This follows from considering the relevant market by application of a hypothetical monopsony test and asking the question whether a hypothetical monopsonist buyer of tenements, linked to supply through the Port of Newcastle, can profitably lower the price

55 NCC (2015), Declaration of the shipping channel service at the Port of Newcastle – Final Recommendation, November 2015, p.32
56 NCC (2015), Declaration of the shipping channel service at the Port of Newcastle – Final Recommendation, November 2015, p.32
for mining authorities by the imposition of a small but significant non-transitory decrease in price.

In applying this test there is a need to consider the options of sellers of the mining authorities as well as the scope for other buyers to be willing to enter the market and buy the relevant authorities thereby defeating the attempt to exercise monopsony power. In this case seller substitution takes the place of buyer substitution in the standard Hypothetical Monopolist Test, while other buyers take the place of substitution on the supply side which can be implemented as part of the test or at a subsequent stage.

Consider the market from the perspective of a hypothetical monopsonist, that is, a single buyer of mining authorities linked to supply through the Port of Newcastle. As the tenements are specific to defined locations in NSW, and, if developed, would have no option but to export via the Port of Newcastle, the seller would not have options to supply tenements except to that single buyer. Therefore, it follows that a monopsony buyer of tenements linked to the Port of Newcastle catchment could profitably reduce the prices paid for those tenements.

Importantly, this differs from the situation that led to the Tribunal’s conclusion in relation to the FMG matter that a monopsony buyer of iron ore tenements linked to a specific rail line could not profitably decrease the price paid for tenements because sellers would easily find an alternate purchaser. At the time of that decision, there was no third party access available to existing rail lines, and there was therefore likely to be no perceived advantage in being in close proximity to an existing rail line. As the Tribunal noted, the declaration application under consideration related only to the BHP Billiton rail lines, and that many of the Pilbara tenements would have effective substitutes available to them in the form of alternative rail lines (including both existing and planned rail lines). This contrasts with the tenements in the Newcastle catchment area, which have access to no existing or planned substitute to the Port of Newcastle.

While considerations of limited options for sellers of authorities constrains the geographic scope of the market to the broader Newcastle catchment area, Synergies considers that the market for coal tenements in the Newcastle catchment may be further defined into key regional markets.

Figure 13 below shows that there are three distinct areas within the broader Newcastle catchment where coal exploration licences have been issued by the NSW Government.

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58 Dalrymple Bay Coal Terminal User Group (2018), Declaration review regarding Dalrymple Bay Coal Terminal – Submission to the Queensland Competition Authority, 30 May 2018, p.46

1. the Hunter Valley and Newcastle Basins;
2. the Gunnedah Basin; and
3. the Western Basin.

Figure 13 Coal exploration licences in Newcastle catchment area (2018)

While there are other sites of coal exploration identified in this map (i.e. south towards Lithgow), the three regions identified above broadly align to the location of the Australian Rail Track Corporation (ARTC)’s ‘Zone 1’, ‘Zone 2’ and ‘Zone 3’ mines (see Figure 14 below). This rail network connects the coalfields and reserves to the Port of Newcastle ensuring that tenements have access to an effective logistics option.\(^60\)

\(^60\) While mines elsewhere in the Western Basin may also have access to a rail network, this is the NSW Country Regional Network, which is of significantly lower standard, and in many cases requires trains to transit the Sydney metropolitan area. This is a much less efficient option, with commensurately higher transport costs involved.
From a demand perspective, it is necessary to consider the extent to which tenements within each of the regional markets in the Newcastle catchment area are considered to be close substitutes. Where there is a high level of substitutability for coal tenements at different locations, then it is reasonable the NCC might conclude that the areas are in the same market. Conversely, where coal tenements in different locations are not highly substitutable, then it is reasonable to argue that different geographic markets should be recognised.61

We have conducted a review of the tenement owners of NSW coal exploration licences across the Hunter Valley, Gunnedah and Western basins. The results are summarised in Table 2 below. A more detailed listing is presented in Appendix B.

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61 NCC (2018), p.29
### Table 2  
Coal exploration licences in NSW – July 2018

<table>
<thead>
<tr>
<th></th>
<th>Hunter Valley Basin</th>
<th>Western Basin</th>
<th>Gunnedah Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of permits</td>
<td>66</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Number of companies</td>
<td>15</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Top permit holders</td>
<td>Glencore (15)</td>
<td>Glencore (4)</td>
<td>Whitehaven (9)</td>
</tr>
<tr>
<td></td>
<td>Yancoal (14)</td>
<td>Yancoal (3)</td>
<td>Idemitsu (2)</td>
</tr>
<tr>
<td></td>
<td>Centennial (8)</td>
<td>Peabody (2')</td>
<td>Yancoal (2)</td>
</tr>
<tr>
<td></td>
<td>Australia Pacific Coal (4)</td>
<td>KEPCO Korea (2)</td>
<td>Laneway Resources (1)</td>
</tr>
<tr>
<td></td>
<td>Korea Resources (4)</td>
<td>Bickham Coal Co (2)</td>
<td>Shenhua Group (1)</td>
</tr>
</tbody>
</table>

**Note:** Permits have been identified, wherever possible, to parent companies.

**Source:** NSW Department of Planning and Environment at [www.commonground.nsw.gov.au](http://www.commonground.nsw.gov.au) [accessed on 30 July 2018]

The table shows licence holders of exploration rights in NSW comprise a mix of owners of existing coal mines and explorers who do not have an existing operation. It also shows that while there is crossover of title ownership between the Hunter Valley and Western Basins, there is very little crossover of title ownership between these two basins and the Gunnedah Basin.

Based on the Tribunal’s identified starting point of actual sales patterns and location of customers, it appears that the Gunnedah Basin may be a separate market to the Hunter Valley/Western Basins. We consider that this apparent limited demand substitutability can be explained by a number of key differences between the regions:

- the exploration permits relate to different geological basins. This has implications for the type and quality of coal reserves, which will impact on the potential price for coal and mining costs; and
- their relative proximity to port, as shown in Table 3 and the volume of coal transported from the basin to port, both of which in turn have important implications for the cost for transporting coal from site to port in the event that these exploration sites are commissioned as mining operations.62

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Table 3  Geographic areas of coal tenements – proximity to Port of Newcastle

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Average distance from Port of Newcastle</th>
<th>Distinguishing features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunter Valley Basin</td>
<td>0 – 100 km</td>
<td>lowest cost structure due to close proximity to port and high traffic volumes leading to high economies of scale</td>
</tr>
<tr>
<td>Western Basin</td>
<td>275 km</td>
<td>average cost structure due to moderate proximity to port and moderate traffic volumes</td>
</tr>
<tr>
<td>Gunnedah Basin</td>
<td>365 km</td>
<td>highest average cost structure given it is long distance from port and small traffic volumes, leading to limited economies of scale</td>
</tr>
</tbody>
</table>

Source: Synergies, based on distances identified in Figure 9 as published by the HVCCC.

Given the differences in these factors for each of the NSW coal basins identified above, tenements in the Gunnedah basin appear to systematically attract different potential buyers compared to tenements in the Hunter Valley and Western Basins (although all are still required to have regard to the cost of access through the Port of Newcastle).

Further, over time the deposits which are being explored and developed have a tendency to be further away from the port, such that infrastructure costs would be anticipated to become more and more important to the prospect of tenements being developed into producing mines, and hence to the valuation of those tenements. This has similarly been recognised by the DBCT User Group which recently argued that the market for coal tenements in Queensland is most appropriately limited to the Hay Point catchment rather than a broader Bowen Basin market.

On the basis of this analysis, Synergies submits that, at its maximum scope, the coal tenements market that connects to the Port of Newcastle is confined to the broader Newcastle catchment area. However, the geographic market may be more accurately described as comprising regional catchment markets, focussed around the Hunter Valley and Western Basins and the Gunnedah Basin.

### 3.2.3 Other dependent markets

As part of the consideration of the original declaration, PNO, the NCC and the Tribunal accepted three of Glencore’s other dependent markets:

- **Infrastructure services market**: markets for the provision of infrastructure connected with mining operations, including export coal terminals, rail (infrastructure and haulage), road, power and water;

- **Specialist services market**: markets for services such as geological drilling services, construction, operation and maintenance; and

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63 Dalrymple Bay Coal Terminal User Group (2018), Declaration review regarding Dalrymple Bay Coal Terminal, Submission to the Queensland Competition Authority, 30 May 2018, p.43
• **Shipping market:** a market for the provision of shipping services including shipping agents and vessel operators, of which exporting coal from the Port of the Newcastle are part.

Glencore’s application identified an additional dependent market for financing of coal projects, but this was not accepted by the NCC or Tribunal as comprising a separate market for the purposes of Part IIIA.

The activities in these agreed markets occur in connection with, or derive from, the primary activity of the production and sale of coal. A brief overview of these markets is presented below. Given the timeframe available for this submission, we have not undertaken a detailed investigation of the product, functional and geographic dimensions of these markets, as we consider that our assessment of the impact on competition in the coal tenements market is sufficient to satisfy criterion (a). Further definition of these markets should be undertaken.

**Infrastructure services market**

The Hunter Valley Coal Chain relies upon a significant amount of investment into the infrastructure that supports coal development and export from the Port of Newcastle. The coal terminals (PWCS and NCIG), ARTC rail track and rail haulage providers are reliant upon commercially viable development projects and export operations.

In its submission, Glencore has provided details of mining operations in the Hunter Valley, including numbers of producers and mines, and of related infrastructure services, such as rail services and the port terminals identified above.

We note that the NCC has previously considered this market to be localised to the Hunter Valley, given that coal in the region is what is being transported and loaded onto ships for export at Newcastle. Infrastructure services in other geographic locations (for example above and below rail assets, port loading terminals) will not be substitutable. The NCC further noted that this was consistent with publicly available material relied upon by PNO.64 We therefore consider that the geographic dimension of this market is the Newcastle catchment area.

**Specialist services market**

The mining specialist industry provides construction, drilling, geological and technology services that help downstream mining companies to build infrastructure and engage in exploration and production at mining sites. There are numerous industry

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64 NCC (2015), Final Recommendation on Declaration of the shipping channel service at the Port of Newcastle, November 2015, p.32
participants ranging from small operators (e.g. with one or two drilling rigs) to very large operators (who may have over 20 rigs that can be deployed). Some firms offer specialised services for coal deposits, while other firms, depending on the size of the geological workforce, may provide services in relation to exploration of other mineral deposits. Glencore noted in its 2015 submission to the NCC the market is labour intensive and fragmented with many small operators concentrating their activities within a certain geographic location or product segment.\(^\text{65}\)

As the NCC previously noted in the original declaration proceedings, providers of specialist services may be able to work in different mining regions around Australia,\(^\text{66}\) suggesting that the market, or least some products within in, may have a national focus.

*Commercial shipping market*

The commercial shipping market covers shipping agents and vessel operators calling at the terminals at the Port of Newcastle. The NCC earlier accepted that there were separate markets for bulk and containerised shipping services and the relevant market is for bulk shipping services (but not solely coal bulk shipping services). Further, the NCC considered that there may be some limits to substitution (in particular ports may have limitations on ship sizes), but did not reach a final view.\(^\text{67}\)

### 3.3 Impact on competition in dependent markets

The degree to which competition in each of the dependent markets is affected by a revocation of the declaration is likely to vary across the various dependent markets reflects:

- the extent to which there are entities in those markets who are not affected by the prospect of higher port charges at the Port of Newcastle;
- the potential market influence of the entities that are affected;
- the extent to which their competitiveness is affected; and
- entry and exit barriers.

Market definition is crucial to understanding the scope of the impact on competition of declaration (to identify the dependent markets) as well as the intensity of the impact.

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\(^{65}\) [Glencore (2015), Application for a declaration recommendation in relation to the Port of Newcastle, May 2015, p.26](#)

\(^{66}\) [NCC (2015), Final Recommendation on Declaration of the shipping channel service at the Port of Newcastle, November 2015, p.32](#)

\(^{67}\) [NCC (2015), Final Recommendation on Declaration of the shipping channel service at the Port of Newcastle, November 2015, p.31](#)
(whether declaration is likely to result in a material increase in competition or not). Where the markets are broadly defined, for example from a global geographic perspective, the effects on competition are most likely to be more limited then when the markets are confined to regional areas within NSW.

Coal sourced from the Newcastle catchment area is a major source of supply in seaborne markets in the Asia Pacific – the Asia Pacific seaborne coal thermal market is one market dependent on the Service. However, there are several of the other dependent markets that are highly reliant on the production of coal from the Newcastle catchment area, and in turn, the Service. At least one of these dependent markets – the coal tenements market – is a local market where coal supply must be transported via the Port of Newcastle. The market for the provision of infrastructure to support mining operations in the Newcastle catchment area is also likely to be a local market, as recognised by the NCC.68

In considering this issue, we consider that it is important to recognise that a distinction needs to be made between a reduction in competition in the relevant coal export markets and the impact on competitiveness of coal exports sourced from the Newcastle catchment area.

The competitiveness of coal exports can deteriorate and cause flow-on competition reducing effects in other dependent markets, without there being a material reduction in competition in the relevant coal export market. This is because competition in some dependent markets will depend on the strength of demand for services and other inputs and reduced competitiveness of coal will, in time, have an adverse impact on these markets.

Therefore, in order to assess the potential impact on competition in the dependent market, we have first considered the impact that the declaration will have on the competitiveness of coal exports sourced from the Newcastle catchment area. We have then considered the implications, first in relevant coal export markets, and then in the coal tenements markets, where it is considered there is likely to be a material impact on competition over the longer term sufficient to meet criterion (a).

As noted above, given our view that criterion (a) is satisfied in relation to the coal tenements market and in view of the time constraints, we have yet not undertaken a detailed assessment of the remaining identified markets. As a result, we are unable to presently conclude that there would be no competition effects in these markets as a result of revocation of the declaration. Further analysis of these markets should be undertaken.

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68 NCC (2015), Final recommendation on Declaration of the shipping channel service at the Port of Newcastle, November 2015, p. 32
3.3.1 Impact on competitiveness of coal producers in Newcastle catchment area

This section discusses conditions in the thermal coal export market and the impact that revocation of the declaration is likely to have on the competitiveness of coal exports from the Newcastle catchment area in that market.

Seaborne thermal coal market

We concur with PNO’s assessment that the seaborne thermal coal market (however described geographically) is cyclical and volatile. Since the initial regulatory proceedings in 2015, conditions in the seaborne thermal coal market have improved, with prices having recovered from their previous lows, as shown in Figure 15.

Figure 15 Benchmark thermal coal prices

![Benchmark thermal coal prices chart](chart.png)

Source: Office of Chief Economist, Resources & Energy Quarterly, June 2018

However, while export coal prices have increased materially since 2014, Australian thermal coal exports have not grown commensurately over this period, as shown by Figure 16.
There has been some recent investment in additional coal production capacity, both in the Newcastle catchment area and elsewhere in Australia, as a result of these recent price increases. However this has been limited, largely reflecting the cautious outlook of investors together with the view that the factors influencing the thermal coal price may be transitory in nature.\footnote{Office of Chief Economist (2018), Resources and Energy Quarterly, June 2018, p.36}

However, on the basis of these recent trends, it is reasonable to assume that circumstances where existing mines have been operating with low, or even negative, margins have passed, at least for the time being.

Nevertheless, as discussed in section 2.3, revocation of the declaration will result in a high likelihood of further significant price increases at the Port of Newcastle, particularly given the that there is no credible threat of regulation, as discussed in section 2.3.4. Even if PNO does not immediately raise prices following revocation of the declaration, market participants will necessarily factor in the high likelihood of future significant price increases.

This will have substantial impact on the decision of existing miners and/or potential new entrants as to whether to invest in new or expanded mining projects in the Newcastle catchment area. The impact will be particularly significant for smaller or more marginal coal producers who, unlike some of the larger miners, may not be able to absorb the increased exposure to increased cost and risk.
Investment pipeline

PNO suggests that there are healthy growth and investment prospects for the Newcastle catchment coal sector, and in support of this, cites a number of proposals for new and expanded coal mines in the Hunter Valley. However, we are concerned that this may overstate the strength of the coal mining investment pipeline in NSW. Notwithstanding that coal prices have increased significantly since 2016, investment in coal production and exploration have remained weak.

With the exception of MACH Energy’s development of the Mt Pleasant mine, the majority of PNO’s identified proposals for increased coal production relate to previously committed mine developments (e.g. Whitehaven’s Maules Creek project) or minor expansions of existing mines aimed at ‘sweating’ the existing assets in order to maximise production while prices remain high.

Reflecting this, of the 19 current proposals to expand coal mines listed by PNO, Wood Mackenzie forecasts that two thirds of these will be producing at or near PNO’s cited expanded volume in 2018. Further, this additional production has largely been based on established proven reserves. Limited exploration expenditure, as discussed in section 3.3.3 below, means that the pipeline for further mine development is becoming increasingly uncertain.

A recent study into the competitiveness of Australia’s coal sector by National Energy Resources Australia (NERA) identified that Australia now performs poorly in the exploration and development phase of the industry value chain, when compared with international peers. Specifically, NERA noted that:

Development is a key weakness for the Australian coal industry. Capital costs for projects built over the last 5 years averaged US$7.2/t, the highest in the world, and almost 50% above average. While excessive demand during the boom saw significant cost inflation and project delays, this does not fully explain Australia’s poor performance; instead, structural factors; such as the high cost of labour, are a major cause of this weakness. In the past two years, construction and labour costs have been falling; however, they are still among the highest in the world, and further labour cost reductions are unlikely to provide the step change in costs required. The country’s current poor development capability is a severe barrier to investment.

Accordingly, NERA identifies international cost competitiveness as a major concern for further exploration and development of Australia’s coal reserves. In the absence of a

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70 PNO (2018), p.24
significant cost advantage over international competitors, the viability of developing new and expanded coal projects is now far more marginal than has historically been the case. Commitment to further investments in coal production will be subject to final decisions regarding project viability, and will depend on the level of investor confidence in the NSW coal sector.

A measure of industry confidence in the mining sector, known as the annual Fraser Institute of Survey of Mining Companies, presents a policy perception index and ranks countries and states according to the extent to which public policy factors encourage or discourage investment.\textsuperscript{72} The results of the Fraser Institute’s 2016 survey for Australia are presented below.

\textbf{Figure 17 Policy perception index – Fraser Institute – Australia (2016)}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Fraser_Institute_Survey_of_Mining_Companies_Policy_Perception_Index.png}
\caption{Fraser Institute Survey of Mining Companies Policy Perception Index}
\end{figure}

\textit{Source:} Australian Institute of Geoscientists (2017)

The figure shows between 2006 and 2016, the comparative attractiveness of NSW (along with Victoria) has sharply declined, in contrast to other states which have largely retained their comparative global ranking. This suggests that mining companies see government policy in NSW has having been discouraging of investment. A decision to

\textsuperscript{72} The Fraser Institute is a think-tank organisation based in Canada and has conducted annual surveys of mining and exploration companies since 1997 and assesses how mineral endowments and public policy factors such as taxation and regulation affect exploration investment. More information is available at \url{https://www.fraserinstitute.org/}
revoke the declaration will be seen as a further disincentive to coal mining investment in NSW.

Absent the declaration, the way in which increased costs and risks associated with new investment in coal mining projects would likely unfold, as previously outlined in Glencore’s 2015 application, still prevail today. In particular:

- faced with a lack of certainty around long term access to essential port infrastructure, combined with strong expectations of future significant price increases, financiers will build conservative assumptions into their financial models, which in turn will impact on the bankability of a project;

- uncertainty about port prices is likely to lead to:
  - reduced investor confidence and commitment to support new coal mining projects in the Newcastle catchment, which may increase the costs associating with obtaining finance; and
  - some pathways to securing financing no longer being available or only available at significantly higher cost (commensurate with the increased cost and increased exposure to risk) and on terms more favourable to the financier;

- the consequences of such a tighter investment environment will particularly impact smaller and more marginal coal producers, and result in them being unwilling or unable to enter the coal export market, as they are less well placed to withstand the consequences of a lack of investor confidence and a reduction in, or increased cost of, available financing for their projects; and

- the presence or absence of smaller coal producers is particularly significant, as it tends to be those smaller companies who carry out the more marginal coal projects which do not attract the attention of the major producers, because for example they are smaller in scale and do not provide sufficient scale for major producers to generate an acceptable return.

In considering these risks it is important to recognise that while there is uncertainty about the final price outcome, there is sufficient certainty that the access price will be substantially higher than the current price if the Service is not declared for it to influence reasonable future expectations of mine profitability. This is because of the profit maximising incentive and ability that PNO will clearly have if the Service is not declared.

The importance of smaller producers and more marginal coal projects to the investment pipeline in the Newcastle catchment area is clearly evident from the list, as identified by
PNO, of proposals to develop coal mines in the Newcastle catchment area.\textsuperscript{73} As shown in Table 4, these development proposals are largely either from new coal producers, or in the Gunnedah Basin, which is generally accepted to be a more marginal development area given the significantly higher transport cost to port.

<table>
<thead>
<tr>
<th>Mine</th>
<th>Operator</th>
<th>Forecast exports at full production</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mount Pleasant</td>
<td>MACH Energy</td>
<td>8 mtpa</td>
<td>Small company, new producer – MACH Energy was formed to develop Mt Pleasant, and the mine remains MACH Energy’s only coal asset.</td>
</tr>
<tr>
<td>Vickery</td>
<td>Whitehaven</td>
<td>8.3 mtpa</td>
<td>Moderate size company – Whitehaven commenced operations in 1999, and remained a relatively small producer until quite recently. Whitehaven has primarily grown organically through new mine development. Project is located in the Gunnedah basin – high marginal freight costs.</td>
</tr>
<tr>
<td>Dartbrook</td>
<td>Australian Pacific Coal</td>
<td>4 mtpa</td>
<td>Small company, new producer – Australian Pacific Coal does not have any producing coal assets. Dartbrook is its only NSW project.</td>
</tr>
<tr>
<td>Watermark</td>
<td>Shenhua</td>
<td>6 mtpa</td>
<td>New producer – if the project proceeds, Shenhua will be a new entrant to the Australian mining industry. Project is located in the Gunnedah basin – high marginal freight costs.</td>
</tr>
<tr>
<td>Wallarah 2</td>
<td>Korea Resources Sojitz Corp</td>
<td>4 mtpa</td>
<td>Small producers – Korea Resources only other Australian coal interest is a share in Centennial Coal’s Springvale project near Lithgow. Sojitz has interests in some small Queensland project’s, Wallarah 2 is its only NSW project.</td>
</tr>
<tr>
<td>Mitchell Flat</td>
<td>Glencore</td>
<td>TBA</td>
<td></td>
</tr>
<tr>
<td>Bylong</td>
<td>KEPCO</td>
<td>4.6 mtpa</td>
<td>New producer – Bylong is KEPCO’s only Australian coal asset</td>
</tr>
<tr>
<td>Ferndale</td>
<td>Whitehaven</td>
<td>3 mtpa</td>
<td>Moderate size company – Whitehaven commenced operations in 1999, and remained a relatively small producer until quite recently. Whitehaven has primarily grown organically through new mine development. Project is located in the Gunnedah basin – high marginal freight costs.</td>
</tr>
</tbody>
</table>

Source: PNO, Company and project websites

Given that smaller coal producers and those holding tenements with relatively higher marginal costs are likely to be the most substantially affected by the higher costs and

\textsuperscript{73} PNO (2018), p.24
risks associated with increased access charges for use of the Service, the investment pipeline appears particularly vulnerable to a revocation of the declaration.

Based on this review of the risks that revocation of the declaration poses to the investment pipeline, Synergies concludes that:

- there is a high probability (and in turn a reasonable expectation amongst those affected) that revocation will lead to reduced investor confidence and a higher cost of capital for new coal mining projects in the Newcastle catchment area, which in turn would be reflected in a commensurately lower investment in coal exploration and development of new and expanded coal projects;

- smaller coal producers or producers with relatively high marginal costs would likely be most affected, with the majority of identified new projects in the Newcastle catchment area falling into these categories; and

- as a consequence of the generally lower investment in coal exploration and development, together with the adverse impacts on smaller coal producers, there would be a consolidation of the number of coal firms involved in coal production that in turn would limit the scope for effective competition in local, dependent markets.

**Materiality of port charges to coal producer’s decisions on output and investment**

PNO has sought to illustrate the costs, and therefore the margin, faced by a Newcastle coal producer in order to demonstrate the limited relevance of PNO’s charges to their decisions. However, in doing so, it has estimated the producer cash costs as being AU$43/t, giving a producer margin of AU$45 at current prices.

From an examination of the cost curves provided by Wood Mackenzie, as shown in Figure 18, PNO’s illustration appears to approximate the cost structure of the lowest cost Newcastle coal producer (whose cash costs Wood Mackenzie has estimated as being just over US$30, or just over AU$40/t). If we were to instead consider the situation faced by the producer of the marginal volume, being the highest cost current Newcastle producer (which is the most relevant miner when assessing the impact of higher access charges) Wood Mackenzie reports cash costs of just under US$70/t, or just under AU$95/t. At PNO’s identified thermal coal spot price of AU$88/t, the marginal Newcastle producer will have a negative cash margin. At the medium term (2020) forecast coal price of

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74 PNO (2018), p.26
US$74/t, the marginal Newcastle producer will have a positive cash margin of US$4/t. Noting NERA’s estimate that capital costs for Australian projects built over the last 5 years averaged US$7.2/t, this may still be insufficient for the marginal Newcastle producer to recover all costs, including capital costs.

Figure 18 Current global seaborne Energy Adjusted (6,322) Thermal Coal FOB supply curve (2018, US$/t, nominal)

Further, if we consider planned projects, it is important to recognise that the lowest cost and most easily accessed resources are usually developed first. Therefore, as a general rule, the undeveloped resources are likely to be more marginal, in terms of either coal quality or cost of production, than many existing mines.

Wood Mackenzie also maintains cost curves for known, but yet to be developed, projects. Wood Mackenzie estimates that, in 2025, the cash cost for several of these projects will range from US$70-75/t or AU$95-100/t (2018$s) as shown in Figure 19. Given a coal price forecast in 2025 of US$75/t (2018$s), these projects would have a cash margin of less than $US5/t to contribute to the capital costs of the projects, which is less than NERA’s estimate of capital costs of US$7.2/t. In this context, the perceived risk of a change in input cost of up to $2/t would appear likely to have a material impact on whether or not these projects will be considered viable.

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75 Office of Chief Economist (2018), Resources Quarterly, June 2018, p.36
76 National Energy Resources Australia (2016), Coal Industry Competitiveness Assessment, December 2016, p.14
77 Wood Mackenzie forecast for ‘FOB Newcastle @ 6,000 kcal/kg NAR, market’
PNO has claimed that port charges, and any uncertainty about future port charges absent declaration, are ‘dwarfed’ by other factors that participants in the dependent markets must manage, and which will not be affected by declaration. PNO identified these other factors as including: (i) highly volatile market conditions in the global coal export market; (ii) changing landside and sea freight costs; and (iii) changing mine operating costs.

We note that the risks identified by PNO are general market risks that are faced by coal producers regardless of location and will be faced irrespective of whether investing in the Newcastle catchment area or elsewhere. However, it is the increased risk that arises as a result of the uncertainty over future port price increases that is the valid consideration when assessing the impact of revocation of the declaration.

In this regard, it should be noted that a number of the risks to input costs identified by PNO (e.g. shipping rates, labour costs) may be correlated with demand (and therefore with price), such that higher costs are incurred when demand (and prices) are high. To the extent that some costs are correlated with higher coal export prices, the risks are diminished.

The risk caused by PNO’s ability to increase prices absent the declaration will be specific to coal exporters in the Newcastle catchment area and is not correlated with demand (and therefore price). To reiterate, the critical issue is that, in the face of significant industry wide risks, an additional risk specific to the Newcastle catchment area will detract from the attractiveness of investing in that area, in comparison to other projects.

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78 PNO (2018), p.29
79 PNO (2018), p.29
3.3.2 Impact on competition in the coal export markets

As discussed in section 3.2, it is not necessarily the case that there is a single world coal market for the purposes of analysing impacts on competition. Synergies considers that it is likely that there are separate product markets for thermal coal and metallurgical coal, separate seaborne and landborne markets and a separate Asia-Pacific market for thermal and metallurgical coal products.

We note that, when using the test of access versus no access rather than declaration versus no declaration, the Tribunal found that access ‘would promote a material increase in competition in the market for the export of coal from the Hunter Valley’. Although not specifically discussed, this implies that, on the assumption of complete withdrawal of coal supplied by the Newcastle catchment area from ‘the market for the export of coal from the Hunter Valley’ (that is, the no access scenario) the Tribunal concluded there would be a material reduction in competition. While the exact dimension of the export coal market was not discussed by the Tribunal, its decision suggests that export coal sourced from the Newcastle catchment area, in sufficient volumes, may be able to influence competition outcomes in that coal export market. However, this contention depends on there being a material change in export volumes sourced from the Newcastle catchment area.

The impact on competition in relevant export markets will therefore depend on the extent to which coal supply from the Newcastle catchment area will be affected. As explained in the foregoing sections, it is not possible to definitively establish that coal export volumes would be significantly adversely affected in relevant coal export markets such that there would be a reduction in competition, on the whole, in those markets.

However, we consider that marginal supply will be materially affected in the future such that the detrimental effects will be more significant in other dependent markets, most significantly those that rely upon continued investment in the development of coal resources (such as the coal tenements market). In the following section, we discuss the likely impacts on competition in the coal tenements market where we show the potential for the detrimental effects on competition to be sufficient to meet criterion (a).

3.3.3 Impact on competition in the coal tenements market

Synergies considers that the revocation of the declaration will result in investors in the coal sector in the Newcastle catchment facing a material risk of substantially higher port charges that will most likely reduce their incentive to invest in the exploration and

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80 Australian Competition Tribunal (2016), Application by Glencore Coal Pty Ltd [2016] ACompT 6, p.25
development of future coal reserves in the Newcastle catchment. We consider that this will be likely to have a material adverse impact on effective competition in the tenements market.

**Extent of competition in the tenements market**

In recent years there have been significant concerns raised about the extent of competition in the exploration tenements market in NSW. Prior to 2014, the NSW Government directly allocated tenements to companies, with the process often marred by corruption. For example, in 2015, the ACCC commenced proceedings in the Federal Court against eleven respondents for alleged bid rigging conduct in 2009 involving mining exploration licences in the Bylong Valley, NSW (in 2016, one of the parties admitted to breaching the competition law).\(^{81}\) \(^{82}\)

However, in 2014, the NSW Government commenced a major reform program aiming at improving transparency in the process by which licences are allocated and promoting competition in the sector for access to and commercialisation of the state’s coal assets.\(^{83}\) As a result, the NSW Government introduced changes to the Mining Act in 2017 to provide for competitive tendering for coal exploration permits. While the NSW Government is yet to release new exploration permits under this process, it is anticipated that the market will evolve similarly to that in Queensland, where the Queensland Government periodically releases exploration areas for tender. A competitive process is held for the allocation of those permits, with allocations based on established criteria including the bidder’s technical credibility and planned exploration program.\(^{84}\)

Within this same timeframe, actual investment in coal exploration in NSW has declined substantially, notwithstanding that the output of Newcastle coal mines has doubled in the last ten years. While coal prices have increased significantly since 2016, coal companies have largely used this price increase to restore profitability, and there has been only limited commensurate increase in investment in coal production (as discussed in section 3.3.1) and even less commensurate increase in coal exploration. It is only in 2018 that there have been reports that investment in coal exploration may have

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\(^{81}\) ACCC (2015), Media release – ACCC takes action for alleged cartel conduct in the NSW Government’s Mount Penny coal exploration licence tender process, 25 May 2015

\(^{82}\) ACCC (2016), Media release – Loyal Coal Pty Ltd admits breaching competition law in relation to Mount Penny coal exploration licence tender process, 5 April 2016

\(^{83}\) NSW Government (2014), Strategic Statement on NSW Coal, August 2014, p.2

‘bottomed out’. This can be seen in Figure 20 below which shows the trend in coal exploration expenditure levels in NSW.

Figure 20  NSW coal exploration expenditure, coal price (AU$/t)

Note: December 2015 exploration expenditure data was not available for publication.
Source: Australian Bureau of Statistics, Catalogue 8412.0, Mineral and Petroleum Exploration, New South Wales

Because future supply of coal exports from the region will rely on the development of new reserves, it is important that appropriate incentives for investment in coal exploration are maintained. This can be seen from Figure 21, which shows the production outlook from operating coal mines in Australia, based on existing knowledge of available reserves.

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As discussed in section 3.3.1, Australia performs poorly in the coal resource exploration and development compared to its international peers, and the country’s poor development capability already forms a severe barrier to investment. Revocation of the declaration will add to the lack of competitiveness in the exploration and development phase for coal producers in the Newcastle catchment area, and will directly impact on the exploration market, including the tenements market and the market for specialist services. As the Minerals Council of Australia has previously commented:

> Private sector investment in exploration will not occur if the prospects of developing an operational mine are poor …

**Impact of declaration on incentives for participation in the tenements market**

Importantly, in the absence of the declaration, this loss of competitiveness will not be felt evenly across the industry. As was established in section 3.3.1, smaller coal producers will be at a comparative disadvantage to the major operators, as they are less well placed to withstand the consequences of a lack of investor confidence and a reduction in, or increased cost of, available financing for their projects.

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However, at the other end of the scale, the largest coal producer in the region – Glencore – will be at a comparative advantage relative to all other producers. As has previously been noted, the ACCC is currently arbitrating a dispute between PNO and Glencore on the terms on conditions of access. Upon resolution of this dispute, an agreement will be established which will stand for its defined term regardless of the future status of the declaration. Therefore, Glencore will not be subject to the same risk of port price increases as will other coal producers, leading to a distinct advantage over other coal producers in future mine development.

We note that the only new mine currently under development in the Hunter Valley, Mt Pleasant, is owned by MACH Energy, a small producer established to buy the Mt Pleasant tenement from Rio Tinto in 2015. Further, as shown in section 3.3.1, of the proposals to develop coal mines identified by PNO, in most cases the proponents are not existing major coal producers. However, these are exactly the types of companies that will be most disadvantaged through the revocation of the Port of Newcastle declaration. The comparative disadvantage for smaller companies, and the relative advantage for Glencore, is likely to lead to further consolidation within the sector.

We also consider that a revocation of the declaration will not impact evenly across the geographic regions within the Newcastle catchment area. While interest in bidding for tenements for development purposes as a whole will be reduced (because such tenements are marginal by their very nature), the level of interest in tenements that are located in the most marginal areas is likely to be more severely affected, as this is where the impact of increased cost and risk associated with port access is most likely to result in mine viability being compromised.

As was discussed in section 3.2.2, while we consider the maximum geographic scope of the coal tenements market to be the broader Newcastle catchment area, we also consider that the geographic market may be more accurately described as comprising two regional catchment markets, focused around the Hunter Valley/Western Basins and the Gunnedah Basin.

In particular, we consider the reduction in incentive for bidders to participate and vigorously compete in the tenements market is likely to be felt most significantly in the Gunnedah Basin for two reasons:

- the location of these deposits means that the transport costs that would be associated with mine development are significantly higher than for other tenements in the Newcastle catchment area, with the result that they are likely to be perceived as more marginal deposits; and
• based on a review of the ownership of tenements in this region as set out in Appendix B, these tenements are most typically purchased by smaller producers.

**Resulting impact of declaration on competition in the tenement markets**

The potential effect on competition in the tenements market depends on the extent to which revocation of the declaration will lead to a reduced incentive for expenditure on exploration and development, and the extent to which there are less independent operators interested in the tenements market.

The reasoning of the Tribunal in relation to the FMG matter sets out some relevant factors to consider as follows:

87 The two bases upon which it could be said that competition will increase are first, access to rail would encourage tenement holders to incur further expenditure in exploration and so improve what is known about the resource or second, if the quantity of tenements sold increases. Either outcome would result in an increase in competition, because it could produce a better quality or a greater quantity of traded tenements.

There is an important additional consideration relevant to declaration of the relevant Service of the Port of Newcastle that relates to consolidation of buying power in the market for tenements. As explained in section 3.2.2, the relevant market for tenements is constrained at its maximum to the region linked to supplying coal through the Port of Newcastle. This reflects the fact that the sellers of these tenements have to ultimately sell to buyers who will eventually use the tenements for the supply of coal through the Port of Newcastle. In this case a monopsony buyer of these tenements could buy at a price lower than would be realised in a workably competitive tenements market.

Also, as noted above, there is already concern about the effectiveness of existing competition in the coal tenements market (in relation to the initial allocation of exploration permits), with the NSW Government recently reforming its permit allocation process in order to promote competition for access to coal exploration areas. The prospect of competitive bidding for new authorities has the potential to improve competition in the tenements market but this potential is unlikely to be realised if higher port charges lead to materially lower interest in exploration and development and a limited number of bidders willing to vigorously compete in this market.

In summary, the prospect of materially higher port charges will impact adversely on investment exploration and development incentives and deter marginal producers and

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investment in marginal resources. This is likely to lead to less rivalry and greater concentration in the market for tenements with potential uncompetitive impacts on the quantity, quality and price of traded tenements.

We consider that revocation of the Port of Newcastle declaration will impact on companies’ incentives to participate in the tenements market in several ways:

• first, the higher cost and risk profile that emerges for the industry from the unregulated port monopolist means that the prospective economic viability of new mines deteriorates. This is significant because tenements will typically hold less attractive resources than existing coal production areas, even before the uncertainty surrounding future port charges emerged;

• second, as a consequence, there will be a reduction in the number of parties who are willing to bid on tenements, either at initial allocation or for subsequent sale, and less rivalrous behaviour amongst those that do bid. In particular:
  – small companies, as well as those with a relatively lower risk appetite, are less likely to be vigorous and effective competitors for the acquisition of these tenements;
  – the reduction in interest in tenements is likely to be felt most strongly in regions that are likely to have the highest incremental costs;
  – the combination of these factors is likely to particularly affect the tenements market in the Gunnedah basin, which is subject to the highest incremental transport cost and where tenements are generally held by smaller companies;
  – in terms of likely consolidation of the ownership of tenements, Glencore will have a particular advantage, as the only producer who will have long term certainty of access and price at Port of Newcastle;

• third, owners of tenements will have less incentive to invest in the exploration of their tenement, either for the purpose of developing the tenement itself or obtaining more information about the tenement to improve its prospective value. Again:
  – this impact is likely to be particularly strong in the Gunnedah basin, where the tenements are usually considered to be more marginal in nature and where they are generally held by smaller companies;

• fourth, there is a material risk that the sellers of tenements will face less competition amongst buyers when selling their tenements, thereby impacting adversely on price and activity in the tenements market. However, although the extent of trading in tenements may be less, suggesting a smaller market, there will be lost value from an economic efficiency perspective;
fifth, the NSW Government, as the originating seller of tenements (typically for more marginal deposits than those already held), faces the risk of less competition in the bidding for licences and a materially lower price than could be achieved in a workably competitive tenements market unaffected by the prospect of being undermined by future port price increases.

Collectively these effects mean there would be lower and less competitive prices for tenements and lower quality and quantity of traded tenements reflecting a material reduction in competition in the tenements market.

3.4 Conclusion on Criterion (a)

In Synergies’ view, criterion (a) is satisfied on the basis that removing the existing declaration will result in a return to access based on unreasonable (or at the least, comparatively adverse) terms and conditions where users of the Service will face the prospect of substantially higher access prices as a result of PNO’s unconstrained ability and incentive to adjust prices to maximise profit and impose price levels that far exceed efficient economic cost.

We consider that there is a material risk that this will reduce the incentive for exploration expenditure as well as leading to concentration on the buyer side of the market for tenements. The reduced exploration expenditure would likely reduce the incentive to improve the quality of traded tenements and separately less effective competition in buying tenements would likely occur and reduce the price for tenements below a competitive price for the seller. In addition, the quantity of traded tenements would also be likely to be reduced reflecting the impacts on quality and price. The effects are likely to be particularly significant in the Gunnedah Basin, where average costs are already relatively higher than elsewhere in the Newcastle catchment area (i.e. Hunter Valley and Western basins).

These outcomes would in turn have the effect of materially reducing competition in the accepted dependent market for coal tenements, thereby satisfying criterion (a).
4  Assessment of Criterion (d)

4.1  Approach to assessing public benefit

Criterion (d), as recently amended, requires that ‘access (or increased access) to the service, on reasonable conditions as a result of declaration of the service would promote the public interest.’

This varies from the public interest assessment that was conducted in the original declaration assessment, as the previous version of this criterion (criterion (f)) required only that access (or increased access) to the service would not be contrary to the public interest.

‘Public interest’ is not a term defined in the CCA. The NCC has, however, previously identified that the central question associated with this criterion is whether the declaration is likely to generate overall gains to the community. The NCC and the Minister may have regard to a very wide range of matters when considering this criterion. The NCC has also indicated that issues of economic efficiency and competition to be important in the context of promoting the public interest.

In approaching this assessment, we have also had regard to mandatory public interest considerations pursuant to s 44CA(3) of the CCA, in which the NCC must consider:

- the effect that declaring the service would have on investment in:
  - infrastructure services; and
  - markets that depend on access to the service; and

- the administrative and compliance costs that would be incurred by the provider of the service if the service is declared.

We note that PNO contends that criterion (d) is not satisfied because it asserts that there is no basis to presume that the terms and conditions upon which it offers access will vary materially as between the future with declaration and the future without declaration. As a result, it concludes that there is no evidence that declaration will have a positive

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88 NCC (2018), p.42
89 Treasurer 2016-17, House of Representatives, Competition and Consumer Amendment (Competition Policy Review) Bill 2017 – Explanatory Memorandum, p.103
90 NCC (2018) p.45
91 NCC (2018), p.43
impact in markets that depend on access to the Service and that, in contrast, continued declaration will impose significant administrative and compliance costs on PNO.92

Synergies disagrees with PNO’s position on the basis that, by providing an effective constraint on PNO increasing its prices to capture monopoly rents, declaration will promote the efficient use of infrastructure and create improved conditions for investment in exploration and development of coal reserves.

The additional benefits associated with improved access based on reasonable terms and conditions (compared to access on PNO’s imposed terms) and which have not already been identified in criterion (a) fall into two broad categories as follows:

- the gains arising from increased productive, allocative and dynamic efficiency in markets other than the coal tenements market (which has already been considered in relation to criterion (a)); and

- the additional economic growth in the NSW and Australian economies associated with increased mining production (i.e. where increased investment attractiveness because of the declaration leads to deposits being proven and ultimately mined).

Having regard to the fact that the Service is already declared, we have also specifically considered whether there are any public detriments that are likely to arise from revocation of the declaration. Revoking the declaration will be detrimental to the public interest where:

- there is no other credible constraint on PNO engaging in monopoly pricing which would mean that the application of the Part IIIA regulatory framework is redundant;

- revocation of the declaration will cause a reduction in the value of investments made by coal producers who legitimately expected that PNO’s ability to engage in monopoly pricing would be constrained; and

- it establishes a precedent for undeclared ports, across Australia, to raise prices where they perceive the threat of regulation is similarly weak.

4.2 Promoting economic efficiency

The NCC, in its declaration guidance, considers issues of promoting economic efficiency and promoting competition to be important in the context of promoting the public

92 PNO (2018), p.41
interest. The NCC notes that, where access promotes workable or effective competition, it is also likely to result in efficiency gains. However, it also recognises that access may lead to efficiency losses in certain circumstances.

While PNO’s application submits that criterion (d) is not met because there is no public benefit associated with access, PNO’s application fails to acknowledge any circumstance in which the existence of the declaration results in a loss of economic efficiency or competition in any of the relevant dependent markets.

Using the NCC’s guidance, our assessment of criterion (a) concluded that revocation of the declaration is likely to lead to a material loss of competition in the coal tenements market, which will result in allocative efficiency losses in that market, noting that time constraints have prevented a more detailed examination of other dependent markets.

However, allocative economic efficiency losses can also occur in the other dependent markets without there being a material adverse impact on competition in those markets. This is because allocative economic efficiency effects arise wherever the pattern and associated value of economic activity differs between a status quo factual position and a counter factual position following a policy or parameter change (in this case, where the counter factual results in materially higher access prices where declaration is revoked).

Furthermore, these effects are not necessarily dependent on there being a material reduction in workable competition in any dependent market. For example, where coal exported from the Newcastle catchment is less competitive in relevant export markets and volumes decline, there could be an efficiency loss for coal mines where the access prices exceed the efficient costs of supply through the Port of Newcastle.

This can be demonstrated using the figure below, which we have reproduced from previous analysis presented by the ACCC to the PC’s 2013 review of the national access regime.

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93 NCC (2018), p.45
In presenting this diagram, the ACCC used the example of a miner exporting its output into a global market to show that there can be efficiency losses without there being a material reduction in workable competition, by noting that:\(^94\)

Even if the railway operator is able to expropriate some or all of the miner’s rents (the area ADF) without affecting the miners’ marginal costs of supply (for example, by imposing a two-part tariff for rail services), there may still be negative efficiency consequences from the expropriation of the miner’s economic rents. Mining exploration is inherently risky as many prospects will be found not to be viable after substantial exploration and initial development expenditures have been incurred. The economic rents made on commercially viable mines allow miners to recover losses on prospects that prove unviable and to achieve at least a commercially-acceptable risk-adjusted rate of return across their entire operations (including losses on unviable prospects). Expropriation of these economic rents may discourage investments in prospecting for, and developing, new mines—with negative implications for allocative and dynamic efficiency, productivity and export earnings, and, in turn, for community welfare.

Synergies considers that declaration will clearly promote enhanced efficiency in the provision of supply chain infrastructure in the present circumstances. As was established in section 2.3, absent the declaration PNO has a strong incentive to increase

\(^{94}\) ACCC (2013), Productivity Commission Review of the National Access Regime – ACCC submission to issues paper, February 2013, p.77
prices, even where this will constrain output. Although demand for the Service is inelastic at current price levels, increased port prices will increase the cash costs of coal producers in the Newcastle catchment area, and at times of low coal prices, this is likely to lead to some loss in coal throughput. Further, as has then been discussed in section 3.3.1, the strong expectation of higher port charges is likely to undermine the incentive of coal producers to invest in new and expanded coal production, with a particularly strong impact on small coal producers and marginal production areas. This is because, small producers, unlike some of the larger miners, may not be able to absorb the increased exposure to cost and risk. As a result, it is likely that, over time, Newcastle coal exports will be lower than would be the case where the Service is declared.

Declaration, by leading to higher throughput volumes, will therefore generate more efficient use of, and investment in, the Hunter Valley Coal Chain infrastructure, including rail infrastructure, coal terminal infrastructure and port infrastructure. By maximising throughput, the productive efficiency of the existing supply chain infrastructure will be increased (particularly where there is existing spare capacity), as the supply chain responds to increasing demand. These are incremental efficiency effects not considered in the competition assessment for the tenements market.

We can similarly consider the markets for services supplying coal mines in the Newcastle catchment area such as geological and drilling services, construction, operation and maintenance. If there is a longer term decline in mining exploration, investment and production as a result of access charges that reflect the application of monopoly power, and the factors of production in those markets are allocated to other sectors and regions, then there would be allocative efficiency losses (those resources will be applied to less valuable activities) and also associated productive efficiency losses reflecting adjustment and transactions costs.

Economic regulation aims to achieve the efficiency benefits of a single infrastructure operator while preventing the allocative and dynamic efficiency losses that result from a monopolist’s use of its market power. This is consistent with the ACCC’s view about the purpose of economic regulation, which is to prevent efficiency losses arising from a monopolist’s market position.95

PNO’s ability to charge higher prices absent the declaration is likely to distort price signals for investment and dampen incentives for innovation in dependent markets, irrespective of the impact on competition, and is therefore not in the public interest.

4.3 Economic benefit of increased investment in mining

In its originating application for declaration, Glencore identified public benefits associated with increased access to the Service on reasonable terms and conditions in terms of the resulting economic growth and efficiencies that were anticipated from stimulated investment in mining development. These continue to be valid reasons, consistent with maintaining the declaration.

As we have established in our examination of criterion (a), continued declaration, giving rise to the continued ability of users to access the Service on reasonable terms and conditions over the long term, is expected to increase the competitiveness of the Newcastle catchment region for exploration and investment in coal mining. By facilitating such investment, this will lead to enhanced growth, with associated benefits for the NSW economy and the Australian economy, more broadly.

Coal comprises the largest export from the NSW minerals and fuels sector, accounting for 80% of the total value of mineral and fuel exports in 2017. This is shown in Figure 23 below.

Figure 23 Value of exports ($bn), NSW minerals and fuels sector

The NSW Government has publicly stated that ‘a strong mining industry generates employment in regional NSW, drives investment in regional communities and increases

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96 Glencore (2015), Application for a declaration recommendation in relation to the Port of Newcastle, May 2015, p.32
export growth. It further indicates that coal’s ‘most significant’ contribution to the economy comes from exports, valued at $13.2b in 2015-16 and was ‘easily the State’s biggest single export earner and makes NSW one of the world’s major exporters of coal.’

The Centre for International Economics (CIE) has previously assessed the economic benefit generated by the NSW mining industry, including employment and valued added in NSW. The results are re-produced in the table below.

Table 5  Mining value added 2012-13

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Central West</th>
<th>Illawarra</th>
<th>Hunter region</th>
<th>New England and North West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value added</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>9.6b</td>
<td>1.4b</td>
<td>0.9b</td>
<td>6.3b</td>
<td>0.3b</td>
</tr>
<tr>
<td>Other metal ore</td>
<td>1.6b</td>
<td>0.8b</td>
<td>0.0b</td>
<td>0.0b</td>
<td>0.0b</td>
</tr>
<tr>
<td>Other mining</td>
<td>1.4b</td>
<td>0.2b</td>
<td>0.1b</td>
<td>0.4b</td>
<td>0.1b</td>
</tr>
<tr>
<td>Total</td>
<td>12.5b</td>
<td>2.4b</td>
<td>1.0b</td>
<td>6.6b</td>
<td>0.4b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment (FTE terms)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>27,988</td>
<td>4,183</td>
<td>2,734</td>
<td>18,312</td>
<td>897</td>
</tr>
<tr>
<td>Other metal ore</td>
<td>7,934</td>
<td>4,033</td>
<td>7</td>
<td>125</td>
<td>0</td>
</tr>
<tr>
<td>Other mining</td>
<td>7,861</td>
<td>902</td>
<td>391</td>
<td>2,055</td>
<td>342</td>
</tr>
<tr>
<td>Total</td>
<td>43,782</td>
<td>9,118</td>
<td>3,132</td>
<td>20,492</td>
<td>1,239</td>
</tr>
</tbody>
</table>

As shown in the table above, the CIE estimated that, in 2012-13 the direct contribution of the NSW coal mining industry was around $9.6bn per annum (accounting for 2.2% of the total industry value added in the NSW economy). At a regional level, coal mining

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99 Value add measures the value of output generated by factors of production (labour and capital) as measured in the income to those factors of production.
100 The Centre for International Economics (2014), The contribution of mining to the New South Wales economy – prepared for the NSW Minerals Taskforce, September 2014, p.21
was a significant contributor to the regional economies within the broader Newcastle catchment area, as follows:

- Hunter region – 16.6% of the total industry value add;
- Central West – 11.7% of the total industry value add; and
- New England and North West – 3.3% of the total industry value add.

Although this assessment was undertaken in 2014, overall coal production within the Newcastle catchment remains at a similar level. This, combined with increases in the export coal price since the study was undertaken, would be likely to suggest that these estimates are a reasonable (possibly conservative) estimate of the economic value of coal mining within the NSW economy.

As established in section 3.3.1, revocation of the declaration will lead to a loss in investor confidence, and poorer prospects for investment in coal exploration and mine development. Continued declaration will avoid this loss in investment attractiveness and create an improved environment for investment in new and expanded coal mining projects.

While the CIE assessment above provides a useful benchmark for the overall value that the coal mining sector adds to the NSW economy, in order to understand the public benefit associated with the declaration, it is necessary to consider the economic benefit of incremental investment in coal mining. This can be seen through the economic impact assessments prepared for recent mine developments. A summary of economic benefits for a sample of recent NSW mining proposals, including economic value added as well as direct and indirect employment, is shown in Table 6.
### Table 6  Economic impact assessments for recent NSW mine proposals

<table>
<thead>
<tr>
<th>Project</th>
<th>Mine Size</th>
<th>Details of economic benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt Arthur Coal Open Cut Modification (2012)</td>
<td>32mtpa</td>
<td>9,071 direct and indirect jobs (2,715 for the regional economy) $2.6 billion in annual direct and indirect regional value added (approximately $81 million per mtpa)</td>
</tr>
<tr>
<td>Mount Owen Continued Operations Project (2014)</td>
<td>14mtpa</td>
<td>1,200 direct and indirect jobs (1,091 employed in the Hunter region) Increase to Hunter economy of $1.3 billion over the life of the project ($1.9 billion for NSW as a whole)</td>
</tr>
<tr>
<td>Bylong Coal Project (2015)</td>
<td>6.5mtpa</td>
<td>1,496 direct and indirect jobs (830 local jobs) $492 million ($75 million per mtpa) annual direct and indirect value-added ($378 million in the local area)</td>
</tr>
<tr>
<td>Wallarah 2 Coal Project (2013)</td>
<td>5mtpa</td>
<td>$507 million in annual direct and indirect value added (approximately $100 million per mtpa). 1,711 direct and indirect jobs</td>
</tr>
<tr>
<td>Airly Mine Extension Project (2014)</td>
<td>1.8mtpa</td>
<td>155 full time equivalent jobs $259 million injection (net present value) into the local, regional, state and national economies.</td>
</tr>
<tr>
<td>Rocky Hill Coal Project (2016)</td>
<td>2mtpa</td>
<td>$89.5 million in net benefits to NSW of the life of the mine (including $63.4 million royalties payable to the NSW Government) 73 full time equivalent employees during ongoing operations</td>
</tr>
</tbody>
</table>

Source: Gillespie Economics, Deloitte Access Economics, Golder Associates, Umwelt, Hansen Bailey

These assessments clearly demonstrate the economic gains associated with investments in new and expanded coal mining projects in NSW.

In the absence of declaration, as established in section 2, PNO’s profit maximising incentive will drive it towards continuing to increase port charges, even where this creates a risk of reducing current or future port throughput. On this basis, it is reasonable to assume that PNO will likely increase prices over the long term, which will cause some reduction in volume throughput at Port of Newcastle. This will have consequential impacts on the NSW and Australian economy. In its 2014 assessment of the value of mining to the NSW economy, the CIE also assessed the impact of a fall in production from the coal mining sector, shown in the table below.
This demonstrates that a fall in production from the coal sector will have a magnified effect on Gross State Product/Gross Regional Product, with a $100m fall in coal mining production (which is equivalent to a volume reduction of 1.3mtpa\textsuperscript{101}) resulting in a $130.8m reduction in GSP/GRP. This is estimated to cause a corresponding fall in net employment of 472 people, and a reduction in household consumption of $51.1m.

### 4.3.1 Tax paid to NSW and Commonwealth Government

Coal production generates a range of taxes paid to both the NSW and Commonwealth Governments, including both royalties (to the NSW Government) and general taxes including payroll tax, land tax, company tax and, for those people employed in the coal sector, personal tax.

These payments are a component of the ‘value added’ or broader economic benefit described in section 4.3 above. However, we consider that it is useful to specifically identify these payments, as higher royalties and tax payments are able to be used by the NSW and/or Federal Governments to provide an increased level and/or quality of services to the community. Provided royalties and taxes are not set at a level that disincentivises investment, the collection of these revenues is in the public interest.

The increase in royalty and taxation revenue that is collected by the NSW and Commonwealth governments as a consequence of increased investment in exploration and development of coal mines will result in incremental public benefits as the additional revenues can be used to fund welfare enhancing services.

\textsuperscript{101} We have assumed a 2014 coal price of AU$70 per tonne in preparing this estimate.
Royalties and resource rents

Royalties are based on the principle that a payment to government for the exploitation of a natural resource, such as coal, should be derived from the economic rent which the resource produces. An economic rent is the excess of the return to a factor of production above the amount that is required to sustain the current use of the factor.\(^\text{102}\)

NSW mining royalty revenue since 2006 is shown in Figure 24. Royalty revenue generated by the NSW coal sector is significant. Although royalty revenue was not identified by mineral for 2016-17 and 2017-18, the share of coal royalties as a proportion of total revenue has been above 90% for the last 10 years, and there is no evidence to suggest that this share would have changed dramatically in the last two years. Therefore, conservatively assuming a 90% share of total royalty revenue, coal royalties were at least $1.4 billion in 2016-17, and are predicted to increase to at least $1.6 billion for 2017-18. As the large majority of NSW coal exports utilise the Port of Newcastle, the Newcastle catchment mines will account for most of the coal royalties collected by the NSW Government.

Figure 24 Royalty Revenue – NSW minerals sector

Note: A 90% share is assumed for coal royalties in 2016-17 and 2017-18, consistent with historical trends.

While the above royalty collections relate to the entirety of the NSW coal industry, the impact on royalty collections from incremental changes to coal production, facilitated by

\(^{102}\) Ken Henry (2009), Australia’s future tax system – Report to the Treasurer, December 2009, p.171
improved incentives for exploration and development of coal resources, can readily be estimated. The NSW Government applies royalties based on the following rates:

- 8.2% of value of open cut coal
- 7.2% of value of underground coal
- 6.2% of value of deep underground coal

Assuming an average royalty rate of 7.5%, each incremental 1mtpa of thermal coal (at the medium term forecast price of approximately AU$100) will raise approximately $7.5m per annum of additional royalty revenue for the NSW Government.

In addition, the sale of coal tenements by the NSW government also raises a form of resource rent which is based on the expected value of the underlying resource. An increase in competition for tenements (which we have previously identified under criterion (a), potentially including an increase in the willingness of participants to pay for these tenements, will result in public benefits where higher ‘resource rent’ payments to the NSW Government can be used to fund social welfare enhancing programs which benefit the broader community. Increased incentives to conduct exploration to further prove these reserves will increase the opportunity for future mine developments and, hence, royalty collections.

*Other tax payments*

In addition to royalties, coal production contributes substantially to tax collections in the form of company tax, personal income tax and, to a lesser degree other state based taxes such as payroll tax and land tax.

It follows that where there are the appropriate incentives to invest in the exploration and development of new coal projects, any future incremental production will promote the public interest where operations generate additional taxation income for governments.

### 4.4 Transfer of economic rents

As was established in section 2.3, absent the declaration PNO has a strong incentive to increase prices, earning monopoly rents through the provision of the Service. Such a material transfer in economic rents from miners to PNO is also contrary to the public

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interest, irrespective of any efficiency losses that might arise. Without these rents, miners will be less willing to undertake exploration activities.

As the ACCC Chairman has previously commented:\textsuperscript{104}

\begin{quote}
It concerns me when the argument is made that economic regulation is not required for such assets because any monopolistic pricing amounts to a pure transfer of economic rents between parties within the supply chain...This seems to suggest that policy makers should pay no attention to the ability of a bottleneck monopolist to extract rents from upstream or downstream firms in a commodity export supply chain. I take a different view...The threat of expropriation of rents by a monopoly service provider in such a situation does not merely result in a pure transfer. Rather, the threat of such expropriation can limit future investment and innovation by the upstream firms. What miner would invest in reducing its extraction costs if it knew that the lower extraction costs would simply be met by higher transportation charges? More generally, what miner would invest in its mines knowing that the benefits of that investment could be expropriated by a monopoly somewhere else in the supply chain?...Monopolies, therefore, generally require effective economic regulation.
\end{quote}

Continued declaration in the current circumstances will avoid the transfer of economic rents from coal producers to PNO and advance the public interest.

\section{4.5 Mandatory considerations}

\subsection{4.5.1 No impact on investment in infrastructure services}

PNO has claimed that declaration of the Service may have a chilling effect on investment in infrastructure services as declaration may curb the returns that would otherwise be achieved by those investing in infrastructure services.\textsuperscript{105}

We acknowledge that concerns have often been raised about the potential chilling effect on investment that regulation may cause, on the basis that regulators may err through underestimating the risks associated with infrastructure investment, and hence the returns that investors expect for such investments. However, we believe that in this instance, there is little prospect of regulation constraining investment in the Service.

\textsuperscript{104} ACCC (2015), Speech to Infrastructure Partnerships Australia Conference, Sydney – Competition key to restoring Australia’s productivity. A copy is available at https://www.accc.gov.au/speech/competition-key-to-restoring-australia%E2%80%99s-productivity

\textsuperscript{105} PNO (2018), p.41
This reflects that the concerns over investment typically relate to services where regulators hold a deterministic price setting role (i.e. through determining maximum allowable revenues and/or specific access charges). This is not the case under declaration which provides for a negotiate-arbitrate framework. While a price is determined and imposed in the event of an arbitration, the continued declaration does not of itself create this outcome. It is only where negotiations fail that arbitration is triggered. Parties to a dispute are able to continue private negotiations throughout the arbitration up until such time that the arbitrator makes a final decision. Because of the scope that still exists under declaration for parties to reach a commercial solution, it has lower risk of regulatory error compared with a more heavy handed regulatory model of direct price regulation. The Sydney Airport declaration process is an example of where declaration facilitated the commercial resolution of an access dispute.

However, in the particular case of PNO, there is little prospect that an arbitration outcome, even an adverse one, will affect investment relevant to the coal industry. Historic practice at the Port of Newcastle has been that users directly undertake the investments required to expand the capacity of the channel and related assets. This approach has been used for all of the channel extensions that were required to support the coal industry expansion since the 1990s, with all channel dredging directly provided by PWCS and NCIG. Further, PNO anticipates that this funding approach will continue to be used for future expansions, for example direct dredging would have been required for the previously proposed PWCS T4 project.

In any case, we note that PNO has modelled capacity of 328mtpa (as opposed to current throughput of around 170mtpa), which indicates that PNO may have significant

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106 In October 2002, Virgin Blue Airlines applied for declaration of airside services at Sydney Airport. The application sought declaration under Part IIIA of two services (1) airside services (take off and land using the runways and movement between the terminals) and (2) domestic terminal services. Virgin Blue withdrew its application for declaration of the domestic terminal service in December 2002 following commercial agreement with Sydney Airport Corporation Limited (SACL) on terminal access. For the airside service, the NCC made a recommendation (to which the Minister agreed) not to declare the services. Virgin Blue sought review of the decision and the Tribunal overturned the Minister’s decision and determined that the services be declared to December 2010. The Federal Court upheld the Tribunal’s determination in 2006. In 2007, Virgin Blue notified the ACCC of an access dispute with Sydney Airport, though the notification was withdrawn following a successful commercial settlement.


108 On 31 May 2018, PWCS issued a public statement indicating that it had advised the Port of Newcastle that it intends to allow the Terminal 4 Agreement for Lease to lapse when it expires in August 2019. This means that Port Waratah does not intend to proceed with the Terminal 4 development. See https://pwcs.com.au/news/latest-news/port-waratahs-terminal-4-announcement/. Prior to that announcement, PWCS had indicated that that the T4 project included the provision of a fourth berth to upgrade shiploading capacity and dredging to provide access to the berth. See https://pwcs.com.au/news/news-archive/port-waratahs-project-145-open-for-business/

109 PNO (2018), p.34
excess channel capacity. This suggests that little or no investment is likely to be required over the medium term, except to provide direct access to new terminal facilities which, as noted above, are expected to be financed by users.

As a result, there is no expectation that PNO will need to invest its own funds in order to provide capacity for future demand for the Service for the foreseeable future. In this context, the more significant risk to investment becomes whether continued declaration may affect the incentives for users to invest in extensions to the channel to provide access to new terminal facilities, such as the PWCS T4 facility.

In Glencore’s view, PNO’s stated value of trade assets of $2.398bn, does not appear to have recognised the substantial contribution that users have previously made to the development of the channel asset.\textsuperscript{110} Therefore, in the absence of declaration, we consider that there is a material risk that PNO will not acknowledge the contributions made by users (or terminals) to the development of the channel asset, and will seek to incorporate a return on such investments in its channel usage charges. Access on reasonable terms and conditions, as facilitated by declaration, will ensure that users are not charged twice for such investments. As a result, we consider that it is likely that declaration will improve the incentive for users to invest in future required channel works, as they will be confident that they will not be charged twice for these works.

4.5.2 Compliance costs

PNO has submitted that the declaration of the Service has led to it incurring significant administrative and compliance costs and that it will continue to incur these costs if the declaration is not revoked.\textsuperscript{111} PNO’s application does not provide detailed information about the nature or scale of these costs but simply notes them to be ‘significant’. PNO further notes that Aurizon’s recent submission to the QCA estimates their cost of access regulation at $15m per annum.\textsuperscript{112}

Synergies considers that while there is a degree of administrative and compliance costs that will be incurred as a result of declaration (and which will extend beyond the owner of the declared Service, to include the access seeker as well as the regulator), Aurizon Network is unlikely to be a relevant comparator for PNO and that, in PNO’s particular circumstances, there is no reason for these costs to be significant in the future in the event that the declaration is not revoked.

\textsuperscript{110} Port of Newcastle (2014), Annual trade report, p.3
\textsuperscript{111} PNO (2018), p.41
\textsuperscript{112} PNO (2018), p.41
Aurizon Network is subject to a regulatory regime that requires it to develop and maintain an access undertaking establishing how it will provide access to its declared services, including the specification of a range of reference tariffs. Further, these arrangements are required to be fully re-evaluated on a regular basis. Moreover, in addition to the access undertaking, there are a range of instruments that Aurizon Network is required to develop and maintain, including a range of standard agreements, system rules, capacity assessments, network condition assessments and so on.

In contrast, as a result of declaration, PNO is simply required to negotiate with users for access to its Service. In the event that negotiations fail, and recourse to arbitration is required, we acknowledge that this can be administratively expensive. In this regard, it is likely that PNO will have borne substantial costs associated with the current arbitration between PNO and Glencore. However, any subsequent arbitrations (if they occur) are likely to be materially less costly, given that the ACCC will have reached a clear position on the reasonable approach to many of the issues. As a result, the costs associated with the Glencore arbitration are likely to be largely one off costs, and, in a forward looking sense, to the extent they have been incurred are now sunk.

Perhaps most importantly, in the event that the terms of the current arbitration were publicly known and PNO offered all users similar terms of access, there is a high likelihood that PNO would be able to avoid future arbitrations.

Accordingly, in future negotiations, it would be reasonable to expect that the costs can be managed and minimised by PNO, particularly as the methodology for a reasonable access charge for coal users will have been established. Further, to the extent that additional costs are incurred as a result of declaration, we would expect that an arbitrator would recognise the reasonable level of these costs as part of the efficient cost of providing the Service and would allow these costs to be recovered in a reasonable price.

The NCC’s guidance expressly indicates that any service provider opposing an application for declaration should provide clear evidence why the protections under the CCA would not adequately deal with the issues addressed by the CCA. This would include, for example, explaining why potential costs, either generally or in the context of the particular service to which access is sought, would not be taken into account by the ACCC in setting prices in an arbitration in appropriate circumstances.\(^{113}\) PNO’s application for revocation does not demonstrate this.

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\(^{113}\) NCC (2018), p.45
4.6 Public detriments associated with revocation of the declaration

We believe that, absent the declaration, the integrity of Part IIIA will be undermined and the public interest will be diminished. Without a credible threat of regulation, PNO will have substantial ability and incentive to increase prices. Users of the Service will not have any established rights to access the channel Service on reasonable terms and conditions, and nor will they have any expectation of ever being able to negotiate and obtain access on such terms. While we acknowledge that Part IIIA was not established as a mechanism for resolving what are essentially price disputes, we consider that that the revocation of regulation under Part IIIA in circumstances where there is such a strong expectation of monopoly pricing in the absence of such regulation, is clearly contrary to the public interest.

The public detriments associated with revocation fall into four broad categories:

- efficiency losses in all dependent markets (previously discussed in section 4.4);
- the loss of any credible constraint on PNO’s prices for the Service;
- losses incurred by businesses who have invested on the basis of the declaration being in place; and
- losses associated with negative precedent effects.

Importantly, these public detriments resulting from revocation of the declaration are additional to the public benefits associated with continuing the declaration, as described above.

4.6.1 No other credible constraint on monopoly pricing

As has been established in section 2.3.2, notwithstanding that PNO is heavily reliant on coal throughput for its revenue and profit, PNO’s profits will be most effectively maximised through increasing prices and accepting the likely consequential impact on existing coal volumes. Further, absent the declaration, there has been shown to be no effective commercial, contractual or regulatory fetter on PNO’s ability to impose further significant price increases on coal users. The Service declaration that is currently in place provides the only credible means of restraining PNO from such price increases.

While we acknowledge that the Part IIIA framework is established as an access regime, and is not designed primarily as a price regulation mechanism, as noted by the ACCC,
it has the capacity to deal with both access and pricing issues. Further, there are numerous examples of access regulation frameworks being applied to infrastructure services, notwithstanding that they are not vertically integrated (and hence do not have an incentive to deny access based on favouring part of the vertically integrated business), recognising that there is potential for these businesses to misuse their market power leading to negative impacts on competition and/or economic efficiency. Examples include:

- ARTC Hunter Valley access undertaking and Interstate access undertakings, regulated under Part IIA;
- WA Rail Access Regime, insofar that it applies to the vertically separated rail network held by Arc Infrastructure;
- Dalrymple Bay Coal Terminal and Queensland Rail, regulated under the *Queensland Competition Authority Act* (1997) (Qld) (QCA Act); and
- numerous gas pipelines, regulated under the National Gas Law (NGL).

We have examined the history of revocation of declaration matters pursuant to Part IIA. We have also examined revocation matters under the NGL for the regulation of national gas pipelines in Australia dating back to the beginning of 2005.

In preparing this analysis, we recognise that gas pipeline infrastructure is subject to an ‘upfront’ declaration process which is different to that applied to the services provided by other infrastructure assets, such as PNO channels (including rail infrastructure, ports, airports).

The initial national gas pipelines access regime (provided in the former *Natural Gas Pipelines Access Code*) established the concept of covered and non-covered pipelines. The Code provided for pipelines to be covered from the access regime’s commencement by their inclusion in Schedule A to the Code. By this mechanism, the Code automatically covered twenty-two transmission pipelines and fourteen distribution networks.\(^{115}\)

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114 ACCC (2017), Guidelines relating to deferral of arbitrations and backdating of determinations under Part IIIA of the Competition and Consumer Act 2010, August 2017. The Guideline notes that the ACCC may conduct arbitrations on both price and non-price issues and that there may be instances where the ACCC may be given an undertaking that only deals with price.

115 There are covered and uncovered pipelines. Covered pipelines are subject to economic regulation. Some pipelines are not covered as they are subject to greenfields exemptions. Pipelines that are covered are subject to either full or light regulation. Light regulated pipelines must have an access regime, disclose certain information and provide reports to the regulator. They are not subject to price or revenue regulation. Fully regulated pipelines must submit an access arrangement to the Australian Energy Regulator for approval.
However, the regime provided for pipeline owners to apply to the NCC for revocation of coverage. The NCC’s role in assessing revocation applications in relation to gas pipeline networks under the NGL is similar to its role under Part IIIA of the CCA where the legislative criteria for assessing revocation is broadly consistent between both access regimes.

A summary of these cases is presented in the following table. A more detailed summary is presented at Appendix C.

\[116\] The National Gas Access (WA) Act 2009 (WA) applies the NGL and the National Gas Rules in Western Australia except that the relevant regulator is the Economic Regulation Authority of Western Australia rather than the Australian Energy Regulator.
### Table 8 Incidence of revocations of access regulation

<table>
<thead>
<tr>
<th>Matter</th>
<th>Basis for revoking access regulation</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to infrastructure (revocation of declaration)</strong>&lt;sup&gt;117&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declared sewerage transmission and interconnection services by Sydney Network Sewerage (2009)</td>
<td>Revoked due to certification of a state access regime. The NSW Premier was deemed to have made a decision not to declare the services. Services Sydney appealed the decision and the Tribunal handed down its decision to declare the services. In August 2009, the NSW Water Industry Access Regime was certified as effective for a period of 10 years. On 1 October 2009, the declaration was revoked on the basis that the declaration criteria were no longer satisfied due to a certified access regime being in place.</td>
<td>No state access regime in place NCC and Tribunal noted that the existing NSW monitoring regime would be unlikely to satisfy the threshold for certification</td>
</tr>
<tr>
<td><strong>Access to gas pipelines (revocation of coverage)</strong>&lt;sup&gt;118&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage of the Dawson Valley Pipeline (2014)</td>
<td>Revoked due to imminent threat of competition. The Minister was not satisfied criterion (a) was met. He found that the possibility of another pipeline being developed to offer similar services lessened the necessity for access to maintain or enhance competition</td>
<td>No prospect of the shipping channel services being duplicated at the Port of Newcastle</td>
</tr>
<tr>
<td>Coverage of the Wagga Wagga gas distribution system (2013)</td>
<td>Revoked with some ongoing regulatory constraint. The NCC had recommended that coverage not be revoked. The designated Minister’s decision to revoke was made following the NSW Government’s decision to continue with retail price regulation.</td>
<td>No existing regulatory constraint other than declaration is currently available at Newcastle</td>
</tr>
<tr>
<td>Coverage of the Tubridgi Pipeline and the Griffin Pipeline (2005)</td>
<td>Revoked due to lack of foreseeable demand. The Minister believed that there were no tangible benefits from continued coverage primarily because there was not enough evidence to conclude that there would be sufficient gas demand over the long term to require the services of the Tubridgi and Griffin Pipelines.</td>
<td>Demand outlook is strong at the Port of Newcastle</td>
</tr>
<tr>
<td>Coverage on the Moomba to Adelaide system (2005)</td>
<td>Revoked but with some prevailing market constraint. In making his decision to revoke, the Minister was not satisfied that the declaration would promote competition in the dependent markets. In reaching this decision, the Minister noted that although Epic Energy had monopoly market power, its ability and incentive to abuse this was constrained (due to substitution of other gas reserves).</td>
<td>No substitutability exists at the Port of Newcastle</td>
</tr>
</tbody>
</table>

**Source:** Information compiled from matters listed on the National Competition Council website at www.ncc.gov.au

The table above shows that there has been only one instance where revocation has occurred in relation to infrastructure matters under Part IIIA. For third party access to gas pipeline infrastructure, there has only been four instances since 2005 where

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<sup>117</sup> There were three instances in which declaration was applied to airport infrastructure involving Sydney airport and Melbourne airport. These declarations expired. For more information, see Appendix C.

<sup>118</sup> According to the NCC’s website, there are additional regulatory gas decisions which have been made since 2005. These are not listed in the table as they reflect exemptions relating to greenfield projects and/or changes from full regulation to light regulation coverage. Furthermore, we have examined the NCC’s ‘Past Applications Register’ published on its website and note that there are numerous revocation decisions made between 1999 and 2004. Synergies has briefly examined these decisions and in the majority of these cases, the decision to revoke was made on the basis that the up-front declaration did not satisfy criterion (a) as there was either no ability for the infrastructure owner to exercise market power or there was no demand for third party access to the pipeline. These circumstances do not apply to the Port of Newcastle.
revocation has occurred (noting that, as identified earlier, gas pipelines were subject to ‘upfront’ declaration rather than being initially assessed against declaration criteria).

In the case of infrastructure, revocation did not proceed without the introduction of another regulatory constraint (i.e. certification of a state access regime). In the case of gas infrastructure, revocation did not proceed without there being changes in market circumstances which meant that commercial factors would effectively constrain access charges.

None of the circumstances in each of these matters exist at the Port of Newcastle today that would warrant revocation on similar grounds. While declaration (or coverage in the case of gas pipeline and networks) is intended to be a high threshold, equally, revocation is not a common occurrence (particularly after all appeal avenues for challenging the basis of the originating declaration have been exhausted).

4.6.2 Loss in value of investments made since declaration

Since the Service was declared in June 2016, numerous companies have committed to investments in the NSW coal sector, either through:

- acquiring an existing coal tenement or coal mine; and/or
- directly investing in new, extended or expanded coal production.

In each case, the investors will have assessed the value of those investments based on their expectations of the associated costs and revenues. These assessments will have been made in an environment where the Service was known to be declared under Part IIIA until mid 2031, and where there was therefore a reasonable expectation that PNO would be constrained from further significant increases in charges for the Service over that period.

However, as described above, absent the declaration, there will be no credible constraint on PNO increasing prices for the Service in a way that hypothecates margins that the investors had reasonably anticipated earning from coal production. This will reduce the value of the investments that these companies have made in the NSW coal mining sector.

4.6.3 Precedent implications

The pricing approach of most ports in Australia is one in which price increases have generally been in line with CPI adjustments. The recent pricing behaviour of PNO to aggressively increase its prices well above CPI in circumstances where that increase has not been associated with a significant investment has been the ‘exception to the rule’ and not generally aligned with the pricing practices at most other ports.
From a public interest perspective, revoking the declaration will set a poor precedent for undeclared ports across Australia, should it be perceived to allow clearly inefficient pricing behaviour to go unaddressed in an environment of a clearly deficient response from the relevant State Government to effectively constrain prices. Absent the declaration, port owners who are similarly incentivised to raise prices, will do so, with the full knowledge from this process that the threat of regulation under Part IIIA is weak (or, arguably, non-existent should the revocation proceed).

The constraint that potential regulation under Part IIIA provides for infrastructure businesses who hold market power will be undermined should the declaration be revoked. The mere act of revoking the declaration, notwithstanding that there has been no material change in market circumstances, and PNO continues to have the incentive and opportunity to set unreasonable terms and conditions, is likely to render any potential threat of Part IIIA to be, for all practical purposes, non-existent for firms that have market power, but are not vertically integrated. This lack of regulatory threat will be greater than in the situation where the Port of Newcastle was never first declared, as at that time there was an element of risk in terms of any untested applications for declaration. Revocation will confirm the risk of regulation for these firms is negligible.

This additional lack of confidence will create additional costs and risks which are likely to serve as further disincentives in the coal mining industry in NSW (and could, feasibly have spill over effects to other markets in other jurisdictions (and beyond ports).

Had the NSW Government responded to PNO’s price increase of between 40-60% following the privatisation of the Port of Newcastle with a regulatory response, such as a referral to Independent Pricing and Regulatory Tribunal, it is very unlikely that the declaration process would have been initiated.

In this context, there is a clear public interest in maintaining the declaration as it signals to governments seeking to privatise assets to do so in a transparent regulatory environment, having regard to the future pricing arrangements that would be applied to the privatised asset.

### 4.7 Conclusion on Criterion (d)

Beyond the competition benefits identified in section 3, there are strong efficiency benefits associated with maintaining the declaration. Access (or increased) access to the Service, based on reasonable terms and conditions, will also ensure that disincentives to future investment in coal mining and exploration are not introduced, thereby risking the economic gains associated with such investment.
Further, we consider that there would be significant public detriment associated with a revocation of the declaration, when there has been no change in market circumstances, and when all of Glencore’s (and other users) reasonable concerns about PNO’s ability to set unreasonable terms and conditions have neither diminished nor been dispelled, that would warrant the current regulatory framework becoming redundant. Continued declaration would maintain the integrity of Part IIIA as a credible threat to monopoly behaviour that offends the objects of Part IIIA, while still providing for alternative regulatory approaches to be applied to other ports as appropriate (in which case the public interest in applying Part IIIA may not be strong).

For these reasons Synergies considers criterion (d) to be satisfied to warrant the declaration remaining in place.
5 Objects of Part IIIA

5.1 Introduction

Pursuant to s 44AA of the CCA, the objects of Part IIIA are to:\(^{119}\)

(a) promote the economically efficient operation of, and use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets; and

(b) provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry.

This is based on the premise that competition provides an incentive for firms to improve economic efficiency. In our view, revocation of the declaration is not consistent with the objects of Part IIIA as it will lead to reduced efficiency in the operation, use of and investment in supply chain infrastructure, and will cause a reduction in competition in dependent markets, with the effect being material in at least the coal tenements market.

5.1.1 Economically efficient operation of, and use of and investment in infrastructure thereby promoting effective competition

Objects clause (a) essentially describes the desired gains to the economy through the operation of Part IIIA and incorporates two limbs – Part IIIA is intended to promote the efficient use of infrastructure, thereby promoting effective competition. In order to be consistent with Objects clause (a), both limbs need to be achieved.

In this regard, the first component of this clause refers to the need to promote the economically efficient operation of, and use of and investment in the infrastructure by which services are provided.

As was established in section 2.3, absent the declaration PNO has a strong incentive to increase prices, even where this will constrain output. Although demand for the Service is inelastic at current price levels, increased port prices will increase the cash costs of coal producers in the Newcastle catchment area, and at times of low coal prices, this is likely to lead to some loss in coal throughput. Further, as has then been discussed in section 3.3.1, the strong expectation of higher port charges is likely to undermine the incentive of coal producers to invest in new and expanded coal production, with a particularly strong impact on small coal producers and marginal production areas. This is because, small producers, unlike some of the larger miners, may not be able to absorb the

\(^{119}\) See s 44AA of the CCA
increased exposure to cost and risk. As a result, it is likely that, over time, Newcastle coal exports will be lower than would be the case where the Service is declared.

Revocation will therefore lead to lower throughput volumes than would be the case under continued declaration of the Service. These lower throughput volumes will result in less productively efficient use of the Hunter Valley Coal Chain infrastructure, including rail infrastructure, coal terminal infrastructure and port infrastructure.

Furthermore, revocation will introduce disincentives for investment in mining exploration and production, given the increased cost and risk of port access. This, too, will distort the incentives for efficient investment in infrastructure necessary to support increased volumes for the NSW coal sector, with resources likely to be diverted to other, lower value, uses.

Hence, revocation of the declaration will be inconsistent with this first limb of Objects clause (a).

The second limb of Objects clause (a) is for the promotion of the economically efficient operation of, use of and investment in infrastructure to have the effect of promoting effective competition in upstream or downstream markets.

As we have established in clause 3.3, revocation of the declaration is likely to reduce investor confidence in obtaining reasonable terms and conditions of access (and in particular having the ability to have those terms and conditions determined by the ACCC as part of an access arbitration if unable to agree terms and conditions with PNO) and therefore increase the costs of capital for new coal mining projects in the Newcastle catchment, which in turn will result in lower investment in coal exploration and development of new and expanded coal projects. This will lead to a loss of competition in the coal export market, and more significantly in the coal tenements market.

Revocation will therefore lead to a reduction in the number of parties who are willing to bid on tenements, either at initial allocation or for subsequent sale, and less rivalrous behaviour amongst those that do bid. A further consequence is that there will be less incentive for tenement holders to invest in exploration to prove up their reserves, given the lower likelihood of mine development being viable.

Collectively these effects mean there would be lower and less competitive prices for tenements and lower quality and quantity of traded tenements reflecting a material reduction in competition in the tenements market.

By reducing competition in dependent markets, and materially so in the coal tenements market, revocation of the declaration will also be inconsistent with the second limb of Objects clause (a).
Revocation of the declaration is clearly inconsistent with Objects clause (a), as it will undermine both the efficient use of infrastructure and competition in dependent markets.

5.1.2 Consistent approach to access regulation in each industry

The goal in applying any form of access regulation (that is not without some costs) is to ensure economic efficiency, through the mechanism of fostering competition, is maximised across all sectors in an industry by applying a consistent form of access regulation. This is the purpose of Objects clause (b).

Revocation in this instance is not consistent with the objects of Part IIIA where it undermines the effectiveness of Part IIIA as a credible regulatory constraint. Absent the declaration, the effectiveness of Part IIIA is diminished not only for ports, but for all infrastructure sectors where competition is not deemed to be a sufficient constraint on monopoly behaviour and no other regulatory tool is available or adequate to address issues of access.

Revocation for a particular port whose pricing behaviour continues to draw strong criticisms from users of the Service, and absent the declaration, will in all likelihood go unchecked, has to potential to render the threat of Part IIIA ineffective in other industries and markets where similar concerns may arise.

Further, the current ACCC arbitration process between PNO and Glencore, once finalised, will be likely to provide a framework and guiding principles that will encourage and lead to consistent access principles in the coal export industry - provided the declaration is not revoked.

Therefore, we consider that revocation of the declaration will also be inconsistent with Objects clause (b).
A. Profit maximising derivations

The purpose of this Appendix is to provide algebraic derivations of the profit maximising conditions for a monopolist both with and without price discrimination.

A.1 The profit maximising price for a monopolist

The profit maximising output and price combination can be obtained from the condition of maximising profits which is found by differentiating the expression for profit with respect to a change in output.

Thus

\[ \text{Profit} = P \cdot Q - TC \]

where \( P = \text{price} \), \( Q = \text{output} \) and \( TC \) is total cost.

Differentiating (1) with respect to \( Q \)

\[ \frac{\delta \text{Profit}}{\delta Q} = P + \frac{\delta P}{\delta Q} \times Q - \frac{\delta TC}{\delta Q} \]

Using the definition of marginal cost (2) can be re-expressed as

\[ \frac{\delta \text{Profit}}{\delta Q} = P + \frac{\delta P}{\delta Q} \times Q - MC \]

where \( MC \) is marginal cost and \( P + \frac{\delta P}{\delta Q} \times Q \) is MR or marginal revenue.

So setting marginal profit to zero

\[ P = MC - \frac{\delta P}{\delta Q} \times Q \]

Using the formula for the price elasticity of demand \( \varepsilon_d = \frac{\delta Q}{\delta P} \times \frac{P}{Q} \), (4) can be re-expressed as

\[ \frac{(P - MC)}{P} = -\frac{1}{\varepsilon_d} \]

Where \( \varepsilon_d \) is negative.

This mark up equation shows that prices can exceed marginal cost depending on the elasticity of demand. The lower is the elasticity of demand in absolute terms the higher is the price mark up.

Equation 5 can be re-arranged to define the profit maximising price as follows

\[ P = MC/(1 + 1/\varepsilon_d) \]

Or

\[ \frac{(P - MC)}{P} = -\frac{1}{\varepsilon_d} \]

Note that the elasticity of demand must be less than -1 otherwise marginal revenue will be negative. This follows by setting MR=MC and rearranging (6) as
Assuming a positive price, MR is negative if the elasticity of demand, $\varepsilon_d$, is inelastic (less than 1 in absolute terms).

The intuition is as follows. Total revenue is maximised where the elasticity of demand is -1. If the firm moves into the inelastic part of the demand curve prices decline by a greater percentage than quantity increases. Alternatively suppose the starting point is where demand is inelastic, then revenue can be increased until the elasticity of demand is -1 by increasing prices, as the percentage increase in prices will be greater than the percentage reduction in demand. So a monopolist will always have an incentive to increase prices if demand is inelastic, even if marginal cost is near zero. Furthermore, the profit maximising price depends on marginal costs as well as the elasticity of demand as shown in equation (6).

Consider the potential impacts on prices consider a price elasticity of demand of -1.01 and -1.5.

For a price elasticity of demand of -1.01 using (6) the price would be 100 times marginal cost.

For a price elasticity of demand of -1.5 using (6) the price would be 3 times marginal cost.

### A.2 The profit maximising price for a monopolist that can price discriminate

Assume that there are two groups of customers and the monopolist can charge different prices to the two groups reflecting different responsiveness to price.

Also assume the monopolist’s marginal cost is the same when supplying the product to the two groups.

Then

\[
(1) \quad \text{Profit} = (P_1 - MC) Q_1 + (P_2 - MC) Q_2
\]

where 1 and 2 relate to the two groups.

Profits are maximised by maximising the profits for each group separately and the profit maximising prices can be found by differentiating the profit expression with respect to each output and setting marginal profit at zero.

This leads to the condition that the marginal revenues for each group will be equal and equal to marginal cost and the profit maximising prices as follows:
(2) \( P_1 = \frac{MC}{1 + 1/\varepsilon_{d1}} \)

(3) \( P_2 = \frac{MC}{1 + 1/\varepsilon_{d2}} \)

The results can be extended to more groups reflecting different demand elasticities.

### B. Coal exploration licences – Newcastle catchment

**Table 9 Ownership of coal exploration licences in NSW - July 2018**

<table>
<thead>
<tr>
<th>Title Holder</th>
<th>Parent company</th>
<th>No of titles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gunnedah Basin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aston Coal 2 Pty Ltd</td>
<td>Whitehaven</td>
<td>2</td>
</tr>
<tr>
<td>Boggabri Coal Pty Limited</td>
<td>Idemitsu</td>
<td>2</td>
</tr>
<tr>
<td>CoalWorks (Vickery South) Pty Ltd</td>
<td>Whitehaven</td>
<td>1</td>
</tr>
<tr>
<td>Curlewis Coal &amp; Coke Pty Limited</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Goonbri Coal Company Pty Limited</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Namoi Mining Pty Ltd</td>
<td>Yankuang Group Co Ltd</td>
<td>2</td>
</tr>
<tr>
<td>Narrabri Coal Pty Ltd</td>
<td>Whitehaven</td>
<td>1</td>
</tr>
<tr>
<td>Renison Coal Pty Ltd</td>
<td>Laneway Resources</td>
<td>1</td>
</tr>
<tr>
<td>Secretary of the Department of Planning and Environment</td>
<td>na</td>
<td>2</td>
</tr>
<tr>
<td>Shenhua Watermark Coal Pty Ltd</td>
<td>Shenhua Group (Chinese state-owned enterprise)</td>
<td>1</td>
</tr>
<tr>
<td>Whitehaven Coal Mining Limited</td>
<td>Whitehaven</td>
<td>5</td>
</tr>
<tr>
<td><strong>Hunter Valley Basin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AQC Dartbrook Pty Ltd</td>
<td>Australian Pacific Coal</td>
<td>4</td>
</tr>
<tr>
<td>Austar Coal Mine Pty Limited</td>
<td>Yancoal</td>
<td>1</td>
</tr>
<tr>
<td>Bloomfield Collieries Pty Ltd</td>
<td>Bloomfield Group</td>
<td>3</td>
</tr>
<tr>
<td>Callaghans Creek Holdings Pty Ltd</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Centennial Mandalong Pty Limited</td>
<td>Centennial Coal</td>
<td>5</td>
</tr>
<tr>
<td>Centennial Mannering Pty Ltd</td>
<td>Centennial Coal</td>
<td>1</td>
</tr>
<tr>
<td>Centennial Myuna Pty Limited</td>
<td>Centennial Coal</td>
<td>1</td>
</tr>
<tr>
<td>Centennial Newstan Pty Limited</td>
<td>Centennial Coal</td>
<td>1</td>
</tr>
<tr>
<td>Coal &amp; Allied Operations Pty Ltd</td>
<td>Yancoal (Yankuang) / Mistubishi</td>
<td>7</td>
</tr>
<tr>
<td>Construction Forestry Mining and Energy Union Mining and Energy Division</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Cumnock No. 1 Colliery Pty Limited</td>
<td>Glencore</td>
<td>1</td>
</tr>
<tr>
<td>Dellworth Pty Limited</td>
<td>NuCoal Resources</td>
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</tr>
<tr>
<td>Donaldson Coal Pty Ltd</td>
<td>Yancoal</td>
<td>2</td>
</tr>
<tr>
<td>Enviro-Mining Pty Ltd</td>
<td>no longer in operation – went into voluntary administration</td>
<td>1</td>
</tr>
<tr>
<td>Glencore Newpac Pty Ltd</td>
<td>Glencore</td>
<td>1</td>
</tr>
<tr>
<td>Glendell Tenements Pty Limited</td>
<td>Glencore</td>
<td>2</td>
</tr>
<tr>
<td>Hunter Valley Energy Coal Pty Ltd</td>
<td>BHP Billiton Group</td>
<td>1</td>
</tr>
<tr>
<td>Kores Australia Pty Limited</td>
<td>Korea Resources Corporation</td>
<td>4</td>
</tr>
<tr>
<td>Title Holder</td>
<td>Parent company</td>
<td>No of titles</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Mach Energy Australia Pty Ltd</td>
<td>Droxford International (Salim Group – Indonesian conglomerate)</td>
<td>1</td>
</tr>
<tr>
<td>Malabar Coal (Maxwell) Pty Ltd</td>
<td>Malabar Coal</td>
<td>1</td>
</tr>
<tr>
<td>Maxwell Ventures (Management) Pty Ltd</td>
<td>Malabar Coal</td>
<td>1</td>
</tr>
<tr>
<td>Monash Coal Pty Ltd</td>
<td>Yancoal (Yankuang)</td>
<td>2</td>
</tr>
<tr>
<td>Mount Thorley Operations Pty Limited</td>
<td>Yancoal (Yankuang) (80%) / PSCO Australia Pty Ltd (20%)</td>
<td>1</td>
</tr>
<tr>
<td>Mt Arthur Coal Pty Limited</td>
<td>BHP Billiton Group</td>
<td>2</td>
</tr>
<tr>
<td>Mt Owen Pty Limited</td>
<td>Glencore</td>
<td>5</td>
</tr>
<tr>
<td>Muswellbrook Coal Company Ltd</td>
<td>Idemitsu</td>
<td>1</td>
</tr>
<tr>
<td>Newcastle Coal Company Pty Ltd</td>
<td>Noble Group</td>
<td>2</td>
</tr>
<tr>
<td>Saxonvale Coal Pty Limited</td>
<td>Glencore</td>
<td>5</td>
</tr>
<tr>
<td>Secretary of the Department of Planning and Environment</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Spur Hill NO2 Pty Limited</td>
<td>Malabar Coal</td>
<td>1</td>
</tr>
<tr>
<td>United Collieries Pty Ltd</td>
<td>Glencore (95%) / CFMEU (5%)</td>
<td>1</td>
</tr>
<tr>
<td>Wambo Coal Pty Limited</td>
<td>Peabody</td>
<td>2</td>
</tr>
<tr>
<td>White Mining (NSW) Pty Limited</td>
<td>Yancoal (Yankuang)</td>
<td>1</td>
</tr>
</tbody>
</table>

### Western Basin

<table>
<thead>
<tr>
<th>Title Holder</th>
<th>Parent company</th>
<th>No of titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bickham Coal Company Pty Limited</td>
<td>Bickham Coal Company</td>
<td>2</td>
</tr>
<tr>
<td>Kepco Bylong Australia Pty Ltd</td>
<td>Korea Electric Power Corporation (KEPCO Korea)</td>
<td>2</td>
</tr>
<tr>
<td>Loyal Coal Pty Ltd</td>
<td>Whitehaven</td>
<td>1</td>
</tr>
<tr>
<td>Mangooal Coal Operations Pty Limited</td>
<td>Glencore</td>
<td>1</td>
</tr>
<tr>
<td>Moolarben Coal Mines Pty Limited</td>
<td>Yancoal (Yankuang)</td>
<td>3</td>
</tr>
<tr>
<td>Phoenix Vision Coal Pty Ltd</td>
<td>Deregistered 9 August 2016</td>
<td>1</td>
</tr>
<tr>
<td>Ridgelands Coal Resources Pty Limited</td>
<td>Ridgelands Resources Group (Hong Kong)</td>
<td>1</td>
</tr>
<tr>
<td>Secretary of the Department of Planning and Environment</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Ulan Coal Mines Ltd</td>
<td>Glencore</td>
<td>3</td>
</tr>
<tr>
<td>Wilpinjong Coal Pty Ltd</td>
<td>Peabody</td>
<td>2</td>
</tr>
</tbody>
</table>

### C. History of declaration applications

#### Table 10 History of declaration revocations and reasons

<table>
<thead>
<tr>
<th>Application Date</th>
<th>Matter</th>
<th>Outcome</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/08/2014</td>
<td>Tiger Airways Australia Pty Ltd applied for declaration of the Domestic Terminal Service at Terminal 2.</td>
<td>Withdrawn</td>
<td>The declaration was withdrawn as there was an agreement on access to infrastructure at the airport.</td>
</tr>
<tr>
<td>27/09/2011</td>
<td>The Board of Airline Representatives of Australia Inc (BARA) made 2 applications for declaration of jet fuel services from Sydney Airport and Caltex Pipelines for the Caltex Pipelines and Sydney JUHI Facility.</td>
<td>Not declared</td>
<td>Minister stated that sections 44H(4)(a) and 44H(4)(f) were not satisfied by either application.</td>
</tr>
<tr>
<td>19/05/2010</td>
<td>Pacific National applied for declaration of the Blackwater, Goonyella, Moura and Newlands Coal Railway.</td>
<td>Withdrawn</td>
<td>Certification of state rail access regime.</td>
</tr>
<tr>
<td>22/03/2010</td>
<td>North Queensland Bio-Energy Corporation Ltd applied for declaration of the narrow-gauge cane tram network operated by Sucrogen Pty Ltd (Herbert River tramway network).</td>
<td>Not declared</td>
<td>NCC was not satisfied that the application met all of the declaration criteria in s 44G(2). It also is not satisfied that the cane railway is of national significance nor access would not be contrary to public interest.</td>
</tr>
<tr>
<td>14/11/2008</td>
<td>Third party access to Pilbara Railways - Following the NCC’s recommendations and the Treasurers’ decisions regarding the Mt Newman, Goldsworthy, Hamersley and Robe Railway services in the Pilbara, the Treasurers’ four decisions were subject to reviews by the Australian Competition Tribunal.</td>
<td>Declared / not declared</td>
<td>Following the NCC’s recommendations and the Treasurers’ decisions regarding the Mt Newman, Goldsworthy, Hamersley and Robe Railway services in the Pilbara, the Treasurers’ four decisions were subject to reviews by the Australian Competition Tribunal. Two of the Competition Tribunal’s decisions were then the subject of appeals to the Full Court of the Federal Court and further appeals to the High Court. The High Court remitted the Hamersley and Robe River decisions back to the Tribunal to be re-determined. In doing so, the Tribunal set aside both the Hamersley declaration and the Robe River declaration, leaving only the services provided by the Goldsworthy railway declared.</td>
</tr>
<tr>
<td>18/01/2008</td>
<td>The Pilbara Infrastructure Pty Ltd applied for declaration of the Robe Railway.</td>
<td>Not declared</td>
<td>In the initial decision, declaration was implemented as the Minister deemed that they were satisfied with all the declaration criteria. In the first appeal, the tribunal deemed that it was uneconomical to develop another facility, so the declaration was reduced to a 10-year timeframe. The declaration was set aside by the Tribunal as it was deemed uneconomical for anyone to develop an alternative facility to the Robe line.</td>
</tr>
<tr>
<td>Application Date</td>
<td>Matter</td>
<td>Outcome</td>
<td>Additional information</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>17/11/2007</td>
<td>The Pilbara Infrastructure Pty Ltd applied for declaration of the Hamersley Railway.</td>
<td>Not declared</td>
<td>The Tribunal set aside the Minister’s decision to declare the Hamersley Railway service.</td>
</tr>
<tr>
<td>17/11/2007</td>
<td>TPI applied for declaration of the Goldsworthy Railway.</td>
<td>Declared (expires 2028)</td>
<td>The NCC considered access to the Goldsworthy line was not contrary to public interest therefore there was no reason to exercise discretion against declaration.</td>
</tr>
<tr>
<td>03/05/2007</td>
<td>The Tasmanian Department of Infrastructure, Energy and Resources applied for declaration of the Tasmanian Railway Network.</td>
<td>Declared (expired 2017)</td>
<td>The NCC and designated Minister was satisfied that all the criteria in subsection 44G(2) of the act were satisfied by the application.</td>
</tr>
<tr>
<td>08/10/2004</td>
<td>Lakes R Us P/L applied for declaration of the water storage and transport services offered by Snowy Hydro Limited and State Water Corporation.</td>
<td>Not declared</td>
<td>The NCC and designated Minister determined that the application did not satisfy the criteria in that declaration would not promote competition in a dependent market and would be contrary to public interest.</td>
</tr>
<tr>
<td>15/06/2004</td>
<td>Fortescue Metals Group Pty Ltd applied for declaration of the services provided by Mt Newman and Goldsworthy Railway lines.</td>
<td>Not declared</td>
<td>The Minister was deemed to have made a decision not to declare the service and this was upheld by the Tribunal upon appeal. Access was not in the public interest and therefore the services should not be declared. This is because in any event as a matter of discretion they would not declare the service.</td>
</tr>
<tr>
<td>03/03/2004</td>
<td>On 3 March 2004, Services Sydney applied to the council for the declaration of the services of Sydney Network Sewerage.</td>
<td>Revoked - due to certification of access regime</td>
<td>The Premier was deemed to have made a decision not to declare the services. Service Sydney appealed the decision and the Tribunal handed down its decision to declare the services. In August 2009, the NSW Water Industry Access Regime was certified as effective for a period of 10 years. Following certification, the NCC reviewed the declaration and recommended to the Minister it be revoked. On 1 October 2009, the declaration was revoked on the basis that the declaration criteria were no longer satisfied due to certification of these access regime.</td>
</tr>
<tr>
<td>01/10/2002</td>
<td>Virgin Blue Airlines applied for declaration for the airside services at Sydney Airport. This included the use of runways and passenger terminals</td>
<td>Declared (expired in 2010)</td>
<td>The designated Minister determined that airside services should not be declared. Virgin Blue successfully appealed the decision to the Tribunal. Sydney Airport sought Judicial review of the Tribunal’s decision but was unsuccessful.</td>
</tr>
<tr>
<td>06/11/1996</td>
<td>Australian Cargo Terminal Operators Pty Ltd (ACTO) applied for declaration of particular services at Sydney and Melbourne International Airports.</td>
<td>Declared Melbourne (expired 1998) Sydney (expired 2005)</td>
<td>The services for which declaration was sought were: • the service provided through the use of the freight aprons and hard stands to load and unload international aircraft at Sydney international airport (S1) and Melbourne international airport (M1) • the service provided by the use of an area at the airport to store equipment used to load/unload international aircraft, and to transfer freight from the loading/unloading equipment to/from</td>
</tr>
</tbody>
</table>
trucks at Sydney International Airport (S2) and Melbourne International Airport (M2), and
• the service provided by use of an area to construct a cargo terminal at Sydney International Airport (S3) and Melbourne International Airport (M3).

The NCC recommended (and the Treasurer accepted) that the services specified as S1, S2, M1 and M2 be declared and those specified as S3 and M3 should not.

The Melbourne airport services (M1 and M2) were declared from 1 August 1997 until 9 June 1998. The FAC appealed the decision in relation to Sydney airport. The Tribunal declared an amended scope of service for Sydney airport which came into effect on 1 March 2000 for 5 years.

24/04/1996 The Australian Union of Students applied for declaration of the ‘Austudy Payroll Deduction Service’. Not declared

The Minister was not satisfied that it would be uneconomical for anyone to develop another facility and that the DEETYA computer facility was not of national significance. It also deemed declaration would be contrary to the public interest.

Access to Gas Pipelines (2005+)

15/05/2014 WestSide Corporation applied for revocation of coverage in the Dawson Valley Pipeline. Revoked

The Minister was not satisfied criterion (a) was met. He found that the possibility of another pipeline being developed to offer similar services lessened the necessity for access to maintain or enhance competition.

01/05/2013 Envestra applied for revocation of coverage on the Wagga Wagga gas distribution system. Revoked but NSW retail price regulation for gas remained

The NCC had recommended the declaration not be revoked. The designated Minister’s decision to revoke was made following the NSW Government’s decision to continue with retail price regulation.

28/11/2012 Kimberly-Clarke Pty Ltd applied for coverage of the South Eastern Pipeline System

No coverage

The Minister was not satisfied the criteria were met.

04/11/2005 BHP Petroleum applied for revocation of coverage of the Tubridgi Pipeline and the Griffin Pipeline. Revoked

The Minister believed that there were no tangible benefits from continued coverage primarily because there was not enough evidence to conclude that there would be sufficient gas demand over the long term to require the services of the Tubridgi Pipeline.

16/03/2005 Molopo Australia Ltd applied for coverage of the Dawson Valley to Wallumbilla Pipeline. No coverage

The Minister was not satisfied the criteria were met.

15/03/2005 Epic Energy applied for revocation of coverage on the Moomba to Adelaide system Revoked

In making his decision to revoke, the Minister was not satisfied that the declaration would promote competition in the dependent markets. In reaching this decision, the Minister noted that although
<table>
<thead>
<tr>
<th>Application Date</th>
<th>Matter</th>
<th>Outcome</th>
<th>Additional information</th>
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<td>Epic Energy had monopoly market power, its ability and incentive to abuse this was constrained (due to substitution of other gas reserves).</td>
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Source: NCC website at [www.ncc.gov.au](http://www.ncc.gov.au)

Note: According to the NCC’s website, there are additional regulatory gas decisions which have been made since 2005. These are not listed in the table as they reflect exemptions relating to greenfield projects and/or changes from full regulation to light regulation coverage. Furthermore, we have examined the NCC’s ‘Past Applications Register’ published on its website and note that there are numerous revocation decisions made between 1999 and 2004. Synergies has briefly examined these decisions and in the majority of these cases, the decision to revoke was made on the basis that the up-front declaration did not satisfy criterion (a) as there was either no ability on the infrastructure owner to exercise market power or there was no demand for third party access to the pipeline. These circumstances do not apply to the Port of Newcastle.
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