

# Economic assessment of the supply of jet fuel at Sydney Airport

RBB Economics, 02 December 2011

# 1. Introduction

RBB Economics has been asked by Allens Arthur Robinson to prepare an expert report on competition for the supply of jet fuel at Sydney Airport. In particular, we have been asked to prepare a report assessing the state of competition in the “market” for the supply of jet fuel at Sydney Airport.

This report has been prepared on the basis of data provided by each of Caltex, BP and Shell through legal counsel. The data has not been shared amongst the participants of the JUHI joint venture. The participants who contributed data have verified RBB's treatment of their own individual data, but have not been provided with the figures in the aggregated tables presented in this confidential report. ExxonMobil and Qantas have not provided any data to this report. ExxonMobil has not been provided with any of the aggregated data presented in this report.

The Board of Airline Representatives of Australia (hereafter “BARA”) has submitted an application for declaration of the Joint User Hydrant Installation (hereafter “JUHI”) at Sydney Airport, which is the facility used to store and distribute jet fuel at the airport premises. The facility is currently owned and operated by a joint venture between four major oil companies and Qantas. Only equity holders of the JV have the ability to use the facility for the storage and distribution of fuel at Sydney Airport.

BARA argues that competition for the supply of jet fuel at Sydney Airport is currently limited. It refers to the small number of suppliers and high levels of concentration in the market.<sup>1</sup> In addition, BARA is of the opinion that the necessity to purchase equity in the JUHI JV to gain access to the storage and distribution facility is an unreasonable requirement, which effectively increases barriers to entry for third party jet fuel suppliers at Sydney Airport. According to BARA, high concentration and these alleged entry barriers imply that the current market participants hold considerable market power, which is reflected by the alleged ability of the parties to charge excessive prices.

Our assessment of the state of competition in the “market” for the supply of jet fuel at Sydney Airport has focussed on two arguments that BARA has made in their submission. First, we present evidence to test BARA's analysis that a comparison of jet fuel differentials across different airports demonstrates “that the Sydney JUHI takes advantage of its monopoly supply and limited access arrangements in setting the fees paid by the Participants”.<sup>2</sup> Second, we present a critique of the arguments made by BARA around concentration and entry barriers.

This report has been prepared by Simon Bishop, a Founding Partner with RBB Economics. Simon has been assisted by George Siolis, a Partner in Melbourne and Tania van den Brande, a Senior Associate in London. Details of our experience and qualifications are presented in the annex to this report. We are familiar with the Practice Note for Expert Witnesses in Proceedings in the Federal Court of Australia dated 2 December 2011. We have read, understood, and complied with this Practice Notice.

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<sup>1</sup> Of course, these two points are intrinsically related.

<sup>2</sup> Board of Airlines Representatives of Australia, Application for Declaration, Jet Fuel Supply Infrastructure to Sydney Airport, Service No 1: provided by the JUHI Facility, 26 September 2011, p 53.

## 2. Summary of Main Findings

Our assessment shows that BARA has not presented any valid evidence to support its allegation that jet fuel suppliers currently exercise considerable market power. We have used aggregated data based on data provided independently by each of Caltex, Shell and BP, and found that the price differential put forward by BARA can be explained by cost elements, rather than differences in competitive conditions. We find that BARA's evidence can be disregarded according to the following conclusions:

- **Price differentials are not evidence of excessive prices at Sydney Airport:** The price differentials presented by BARA provide no meaningful insights into the level of competition at the various international airports considered. Such price differentials do not reflect differences in the margins earned by suppliers of jet fuel. The price differentials presented by BARA largely reflect differentials in transport costs; it is relatively costly to transport fuel to Sydney. If price differentials would not compensate importers for these additional costs incurred, they would not have the incentive to import jet fuel into Sydney. Rather than inform on the competitive conditions that prevail at a particular airport, price differentials primarily reflect geographic variation of costs associated with the delivery of jet fuel.
- **The number of jet fuel suppliers relative to other airports is not evidence of excessive pricing at Sydney Airport:** Following BARA's own faulty reasoning, we ought to observe that airports with a larger number of suppliers would necessarily have a lower price differential. However, using BARA's own analysis, we show that airports with a large number of suppliers can have a similar price differential as Sydney. This illustrates that competitor count provides little or no insights into the effectiveness of competition at an airport. Indeed, the number of suppliers at a given airport is more likely to reflect the level of demand at that airport.
- **Equity is not a barrier to entry:** Entry through equity purchases cannot be considered a barrier to entry. As BARA recognised itself, there are a number of international jet fuel suppliers with both the technical knowledge and financial ability to purchase equity. Moreover, any purchase of equity can be restricted to the international terminal only, as such limiting the upfront investment cost. In any case, the amount of contracted volumes is not required to be particularly big to justify entry, as is evidenced by the fact that [REDACTED] for example, holds equity in the JUHI and currently supplies less than [REDACTED] per cent of volumes, and [REDACTED] holds equity in the JUHI and currently supplies less than [REDACTED] per cent of volumes.
- **Regulated access is likely to decrease incentive to invest and thereby increase the likelihood of future capacity constraints:** In addition, there are important dynamic considerations when evaluating the benefits of regulated access. After all, the JV parties incurred a significant investment cost to ensure the JUHI facility will have the necessary capacity to satisfy growing demand at Sydney Airport, which also comes with considerable risks. Since regulated access may not adequately reward the JV JUHI parties for the investment and risk taken, JV parties may either decide to invest less in the future or find it more profitable to drop out of the equity agreement and call upon

“open access” instead. This will harm incentives to invest, and the JUHI facility is likely to become increasingly capacity constrained.

- ***Current suppliers of jet fuel have the ability and incentive to compete effectively with each other:*** Jet fuel supplied by all JV JUHI parties is stored and transported in the same JUHI facility, where it is extracted at the same distribution point satisfying the same quality conditions. As a result, jet fuel supplied at Sydney Airport can be considered as a homogeneous product. Moreover, the JUHI JV does not constrain the volumes a particular JV Party can supply through the facility. The absence of such volume restrictions (other than obviously that the total volumes supplied by all suppliers cannot exceed the capacity of the JUHI) enables each supplier to bid for a jet fuel contract without any constraints on its use of the facility. Suppliers therefore have the incentive to compete vigorously, as customers largely distinguish between competitors on price, and seeking to charge prices higher than its competitors for a particular tender will imply that that a supplier will lose the contract.

These industry characteristics suggest regulated access is unlikely to materially affect competitive outcomes for airlines (including in terms of prices) for the supply of jet fuel at Sydney airport. BARA has presented no valid evidence to the contrary.

### 3. BARA’s “analysis” provides no meaningful insights into the nature of competition

In this section we consider the analysis presented by BARA in support of its conclusion that competition in the supply of jet fuel is limited, and that the parties to the JUHI JV have considerable market power which allows them to charge excessive prices and prevent competitive entry.

We find that the analysis reported by BARA provides no insights whatsoever as to the nature of current competitive conditions for the supply of jet fuel. In effect, BARA provides no evidence that the supply of jet fuel at Sydney Airport is not characterised by effective competition, and therefore has failed to establish the necessary condition for regulatory intervention.

#### 3.1. Price differentials are not a measure of competition

To support the claim that competition is currently limited, BARA has submitted analysis which compares jet fuel prices by airport to the Mean of Platts Singapore (henceforth “MOPS”). According to BARA’s analysis, the price differentials in Sydney and Melbourne are amongst the highest of all airports considered. The hypothesis of BARA appears to be that the purportedly high price differential at Sydney Airport provides direct evidence that prices for jet fuel in Sydney are excessive.

However, such comparisons are not meaningful in light of the question at hand; namely whether competition for the supply of jet fuel is ineffective at Sydney Airport. Indeed, using aggregated data based on data provided independently by each of Caltex, Shell and BP, we find that the

price differential put forward by BARA can be explained by cost elements, rather than differences in competitive conditions.

### 3.1.1. Import Parity Pricing

As for petroleum, imports of jet fuel imports represent the marginal source of supply. This implies that the marginal cost for jet fuel in Australia is determined by the import cost of jet fuel, rather than the marginal cost of local production. As importers determine the marginal cost of jet fuel supply in Australia, pricing will reflect these costs associated with the import of jet fuel.

However, it should be noted that the foreign price for jet fuel is not the only cost incurred by the importers. If the price in Australia does not cover the additional costs associated with import, importers will not have the incentive to supply petroleum in Australia. The price at which importers are willing to supply jet fuel to Australia should therefore also cover these additional costs such as transport, insurance and wharfage.<sup>3</sup>

To determine the price at which importers will have the incentive to supply jet fuel in Australia, the benchmark price for jet fuel products must be adjusted to account for the above costs. For Australia, this benchmark price is the MOPS for refinery products, which is quoted on a FOB basis.<sup>4</sup> This benchmark price is then augmented with sea freight, wharfage, insurance and loss and any remaining import costs to arrive at the price which is termed “Import Parity Price” (henceforth “IPP”). This IPP can then be thought of as the price at which importers have the incentive to transport fuel to Australia to supplement local supply.

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<sup>3</sup> The price of Australian traded petroleum including import cost might not be directly comparable to the prices charged in other countries. In order to make meaningful comparisons, it is therefore necessary to adjust the price of Australia to account for any particular quality difference. Since Australia has stringent requirements regarding petroleum products, prices might be higher to reflect the associated inflated cost of refinement. However, we note that jet fuel is a relatively standardised product, such that no quality adjustments are required.

<sup>4</sup> FOB stands for “Free On Board”, and it refers to the liability of the seller to pay for transportation to the port of shipment, augmented with shipping costs. The buyer is then liable for the costs incurred for delivery of the goods to the final destination; such costs include marine freight, insurance, unloading, demurrage and transportation between port of arrival and final destination.

Figure 1: Components of Import Parity Price other than MOPS for jet fuel, Sydney, August 2010 – July 2011



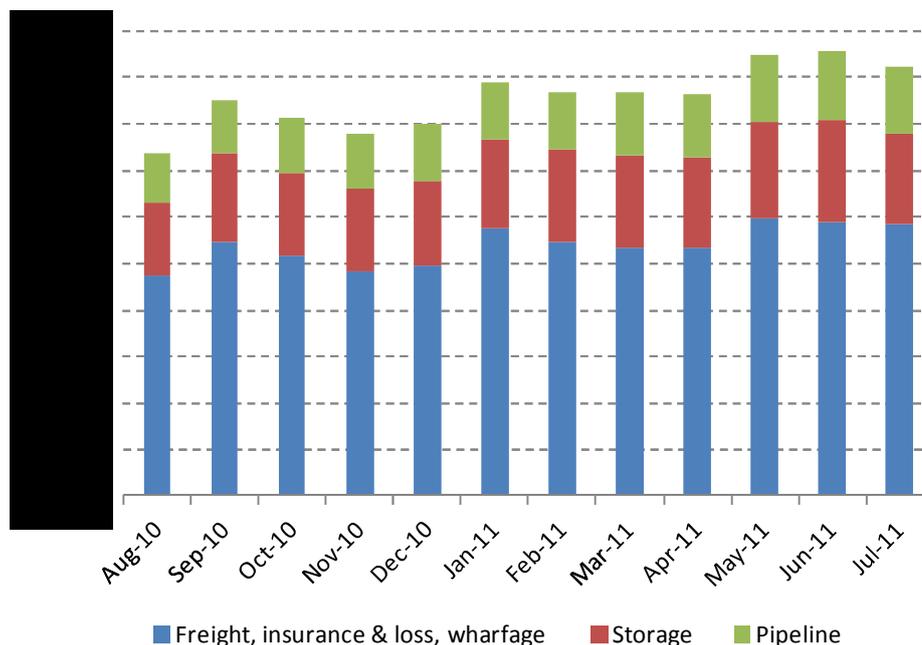
Source: Aggregated data based on data provided independently by each of Caltex, Shell and BP.

The relevant cost components included in the IPP for jet fuel are illustrated for the period August 2010 – July 2011 in Figure 1. To arrive at the IPP for jet fuel, the benchmark price expressed in MOPS ought to be augmented with freight costs, insurance and loss, wharfage and other import cost elements.

### 3.1.2. Price differentials are irrelevant for competition assessment

It should be noted that the costs reported at Figure 1 are not the only costs incurred when importing jet fuel from Singapore to Sydney Airport. In addition to these import costs, suppliers will generally incur costs for storage, transport from the arrival port to the final destination and any costs specifically related to the final usage of the product. As a result, any price differential between jet fuel in Singapore and a jet fuel product in Australia will largely reflect the significant import costs and any additional costs incurred along the supply chain from Singapore to the final consumer. Price differentials between fuel products and their benchmark price therefore cannot be interpreted as margin information; they primarily reflect the costs incurred when delivering a product from a foreign location to its final destination. Consequently the price differentials presented by BARA provide no meaningful evidence on the nature of competition for jet fuel supply at Sydney Airport.

**Figure 2: Components of average monthly costs of jet fuel, Sydney Airport, August 2010 – July 2011**



Source: Aggregated data based on data provided independently by each of Caltex, Shell and BP. Note: For BP the pipeline cost includes an element of trucking costs, these costs are incurred for the volumes which are transported from the import terminal to the JUHI via truck rather than pipeline.

Figure 2 depicts some of the actual costs incurred by BP, Caltex and Shell across the supply chain, and aims to identify some of the important costs that are included in the “price differential” used by BARA in their submission. We have analysed these costs in a consistent manner across the three parties and presented the costs as a weighted average for each of the major costs categories incurred by the suppliers. As illustrated by Figure 2, significant additional costs are incurred over and above the MOPS when importing jet fuel to Sydney Airport. These costs include the elements indicated at Figure 1, augmented with the transport and storage costs incurred when transporting the fuel from the import terminal to Sydney Airport. Figure 2 shows how the price differential is primarily comprised from supply chain costs.

In addition to the costs shown in Figure 2, suppliers incur further costs to store and transport jet fuel through the JUHI facility, they also incur costs associated with the transfer of fuel from the JUHI into the plane. Finally, there are a number of more general costs such as inventory holding, credit, and corporate overheads. This figure therefore demonstrates that importers are required to receive a considerable additional contribution over and above the Singapore FOB Platts price, before they are able and willing to import petroleum into Australia.

This implies that the jet fuel price differentials presented by BARA are primarily determined by these additional costs incurred when transporting, storing and handling jet fuel to the relevant airports shown. As a result, BARA’s price differential analysis does not compare margins earned at each of the respective airports. Indeed, the variation in price differentials are largely driven by geographic differences in cost, rather than profitability associated with supply at these

airports. As a result, the price differential for airports in Australia is not a reflection of lacking competition, but rather a reflection of the high costs involved when importing jet fuel into Australia. If the price would not compensate for the high costs incurred when providing jet fuel at Sydney Airport, suppliers would become unprofitable and be forced to exit until price would become high enough to compensate for these costs.

Australia's price differential can then be explained by the considerable costs associated with the import of jet fuel, the significance of which are explained as follows:

- **Transport to country of destination:** imported petroleum will not travel the same distance for each airport included in the price differential analysis presented by BARA. Since import of jet fuel to Sydney is characterised by long haulage distance for which little back freight is possible, sea freight is particularly expensive and an important driver of import costs. Moreover, strict environmental concerns, limited port capacity and infrastructural restrictions imply sea freight to Sydney is only available for smaller vessels which are often kept waiting before they can unload. As a result, the price difference between jet fuel in Sydney and the benchmark price will be inflated by transport costs which are considerably higher than freight costs incurred for alternative airports, which can be serviced by larger vessels that travel for a shorter distance and for which greater opportunities for back freight exist.
- **Transportation method to airport and within airport:** Costs can vary considerably according to the type of transport vehicle used to supply jet fuel to a particular airport. Variations of such transport could include rail, truck or pipeline transport, each of which imply the product is delivered at varying costs.
- **Wharfage, terminal storage and handling costs:** these pre and on-airport costs can vary widely between the airports included in the price differential analysis presented by BARA, which can be driven for example by labour costs. Indeed, as indicated by the JUHI parties, labour costs at Asian airports are generally considerably lower than those at Australian airports, explaining partly why the price differential at Sydney airport is higher than at Asian airports such as Kuala Lumpur or Singapore.<sup>5</sup>
- **Volumes supplied:** Import costs can be considerably higher when transporting smaller volumes. Variation in customer sizes across airports can therefore influence the transport cost and final price differentials measured at different airports.

### 3.1.3. Price differentials are not compared on a consistent basis

Apart from the fact that the price differential analysis presented by BARA provides no insights into the nature of competition at Sydney Airport, there are also a number of methodological shortcomings that makes such a comparison problematic.

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<sup>5</sup> JUHI Sydney, Submission by Sydney Airport JUHI Joint Venture regarding the BARA application for 'Service No 1: provided by the Sydney JUHI facility, 21 November 2011, p. 39.

First, not all airports use the MOPS as their international benchmark price. This implies that the price differential reported by BARA for an airport which uses an alternative benchmark price will partly depend on the difference between MOPS and this other benchmark. In contrast, the price differentials for airports which use the MOPS do not contain any such difference. Therefore the comparison of price differentials using a MOPS benchmark for all airports included at BARA's price differential analysis will not be consistent, as it will contain different components for airports that do and do not use MOPS as their benchmark price.

In Table 1, we report for each airport included at BARA's price differential the relevant benchmark price.

**Table 1: Comparison of airport specific price difference contribution as measured by BARA**

| Airport        | Benchmark Price           |
|----------------|---------------------------|
| Singapore      | MOPS                      |
| Kuala Lumpur   | MOPS                      |
| New York (JFK) | New York harbor barges    |
| Tokyo (NRT)    | MOPS                      |
| Hong Kong      | MOPS                      |
| Los Angeles    | US West Coast LA Pipeline |
| Bangkok        | MOPS                      |
| Osaka          | MOPS                      |
| Frankfurt      | FOB Rotterdam Barge Jet   |
| Taipei         | MOPS                      |
| Amsterdam      | FOB Rotterdam Barge       |
| Dubai          | MOPAG                     |
| London (LHR)   | CIF NWE                   |
| Paris (CDG)    | CIF NW Europe Jet         |
| Sydney         | MOPS                      |
| Melbourne      | MOPS                      |

*Source: Data provided by various JUHI JV parties.*

From this table, it can be seen that there are several airports which do not use MOPS as their benchmark price. As these airports do not use MOPS as a benchmark, their price differential reported in BARA's price differential analysis will include the difference between MOPS and the local benchmark. As can be seen from Table 1, both Sydney and Melbourne have no such element included in their price differential, as its local benchmark is the MOPS. As a result, the comparison of their price differentials with that of airports with a different benchmark price is therefore not consistent.

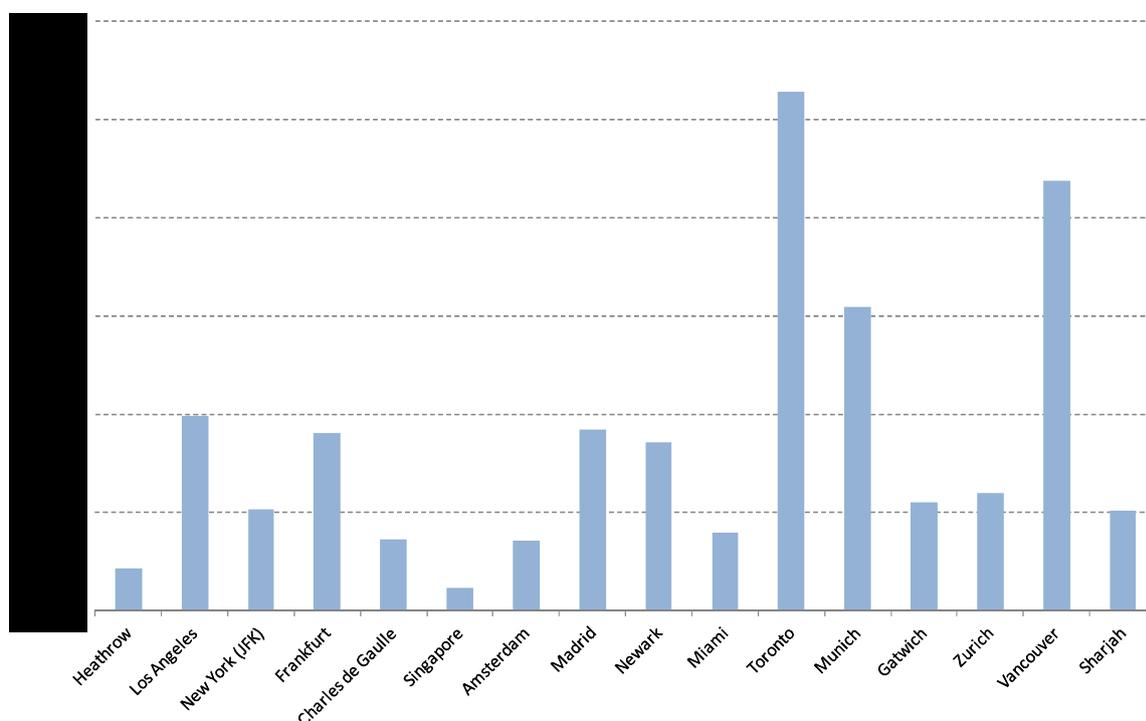
On a similar note, comparing jet fuel prices to local benchmark prices for all airports instead would also remain problematic. Namely, some airports price relative to a CIF (delivered) benchmark price, whereas other airports rely on a FOB benchmark price. If one were to subtract the local benchmark price from the jet fuel price, the price differential will include transport costs for airports which use a FOB benchmark, for other airports this price differential would exclude transport cost. As a result, the comparison of price differentials would again be inconsistent. The only way to make the comparison consistent along this dimension would therefore be to compare the local FOB benchmark price to the jet fuel price.

Further, some airports charge customers directly for certain fees and taxes, whereas in other airports these costs are (partly) paid by jet fuel suppliers. As a result, price differentials based

on customer jet fuel prices might include an element of taxes and fees for some airports, whereas there might be no fees and taxes included for others. If not all customers pay the same set of fees, a consistent comparison ought to be based on prices which only include a common set of cost measures. As this is not the case, the comparison is not like for like and price differentials can be under or over stated.

Moreover, Figure 3 illustrates how airports taxes and fees can vary considerably across airports. This suggests that not all airports impose the same set of taxes and fees, such that price differentials might also represent different cost elements at different airports. This finding provides further evidence that the price differentials presented by BARA are not compared on a consistent basis.

**Figure 3: Airport fees and charges across airports, July 2010**



*Source: Best estimates provided by various JUHI JV parties. Note: Data assumes an average uplift of 5000 usg for European locations and 10,000 usg for US locations. The fees costs at the higher end are driven by uplift fees.*

In addition, it should be noted that the BARA analysis is presented for one particular month only. This can be very misleading, as several factors other than competitive conditions can result in considerable fluctuations of these price differentials as illustrated by Figure 1 and Figure 2. Examples of such factors are fluctuations in the exchange rate or temporary shocks due to unexpected demand growth and supply shortfalls. If this is the case, the price differentials shown might be quite different from those on average. Therefore a comparison for one particular month only cannot be indicative of the average price differentials present at a particular airport.

Further, for some of the airports included in the comparison, one or multiple aspects of the supply chain are state owned. Since state owned facilities generally do not charge prices consistent with a competitive market, but are rather motivated by e.g. political choice,

comparing price differentials between these different airports does not constitute a consistent and like for like analysis.

Finally, risk exposure in the airports included at the price differential analysis presented by BARA can vary considerably. For example, when travel time of imported jet fuel is long, the importer will be exposed to a greater exchange rate risk. Moreover, jet fuel prices will differ across customers according to the risk profile they represent. If risk profiles of customers vary for the airports included at BARA's analysis, then the prices and therefore price differentials might partially represent differences in risk exposure rather than variations in competitive conditions.

### 3.2. Competitor count does not dictate the intensity of competition

BARA submitted a table detailing the number of competitors and volumes supplied at a range of different airports. From this table, BARA concluded that Sydney has one of the lowest number of jet fuel suppliers compared to a number of alternative airports. This observation is claimed to show there is scope for a larger number of competitors at Sydney Airport, which in turn will allow for greater levels of competition.

However, the conclusions of BARA based on this volume table and the analyses of price differentials discussed in the previous section are internally inconsistent. Namely, BARA effectively assumes that a greater number of suppliers implies stronger competition and therefore lower price differentials. However, Table 2 clearly illustrates that this relation is not apparent in the data. Indeed, for a given number of suppliers the price differential across airports often exhibits a wide range. For example, the BARA reported price differentials for airports with six suppliers can range from 1.43 to 16.43 usc/usg.

**Table 2 : Count of jet fuel suppliers, volumes and price differential**

| <b>Airport</b> | <b>Number of suppliers</b> | <b>2010 fuel volume<br/>(millions of US gallon)</b> | <b>Price<br/>differential</b> | <b>Volume per<br/>supplier</b> |
|----------------|----------------------------|---|-------------------------------|--------------------------------|
| Los Angeles    | 10                         | 1466  | 6.43                          | 147                            |
| London         | 9                          | 1839  | 17.99                         | 204                            |
| Hong Kong      | 9                          | 1708  | 6.00                          | 190                            |
| Tokyo          | 9                          | 1269  | 5.20                          | 141                            |
| Seoul          | 7                          | 1158  |                               | 165                            |
| New York       | 6                          | 1305  | 4.18                          | 218                            |
| Singapore      | 6                          | 1251  | 1.43                          | 209                            |
| Bangkok        | 6                          | 1139  | 6.61                          | 190                            |
| Amsterdam      | 6                          | 1004  | 16.43                         | 167                            |
| Taipei         | 6                          | 622   | 15.99                         | 104                            |
| Osaka          | 6                          | 309   | 14.04                         | 52                             |
| Frankfurt      | 5                          | 1453  | 14.41                         | 291                            |
| Dubai          | 5                          | 1423  | 16.59                         | 285                            |
| Paris          | 5                          | 1374  | 18.82                         | 275                            |
| Sydney         | 4                          | 720   | 18.91                         | 180                            |
| Kuala Lumpur   | 3                          | 608   | 3.83                          | 203                            |

Source: BARA.

Moreover, in the graph of price differentials reported by BARA there are a number of airports with a similar price differential as Sydney Airport (according to BARA's flawed analysis of price differentials), but which have a considerably greater number of suppliers. Examples of these include London where currently nine suppliers are active and the price differential is at 17.99 usc/usg, and Amsterdam where six suppliers compete but the price differentials are still 16.42 usc/usg.

Likewise, all airports with more than six suppliers have a price differential which is significantly higher than the price differential at Singapore airport, which has only six suppliers. This includes Los Angeles, which has ten suppliers. The same can be concluded for Kuala Lumpur, which has the fewest suppliers of jet fuel, and yet according to BARA's analysis has one of the lowest price differentials of all airports shown. Therefore, the conclusion of BARA which implicitly relies on a strict negative relation between the number of suppliers and the price differential is not supported even by its own analysis.

In fact, the number of suppliers is better explained by the magnitude of volumes sold at a particular airport. Namely, twelve of the fourteen airports with five or more jet fuel suppliers are also the airports where total volumes supplied are at least 40% higher than the volumes supplied at Sydney Airport. In addition, it should be noted that the average volume per supplier is one of the lowest at Sydney Airport. If the current suppliers at Sydney Airport were truly successful at constraining entry, one might expect to find average volumes supplied by suppliers in Sydney to be significantly higher compared to airports with a larger number of suppliers. However, airports which have a greater number of suppliers – such as New York, London, Singapore and Paris – often also have a considerably higher average volume per supplier. As a result, the number of suppliers at Sydney Airport is more likely to be determined by the relatively small number of aggregate volumes demanded at the airport when compared to the larger airports.

In any case, it should be noted that the significant import costs associated with the supply of jet fuel at Sydney Airport implies that import of small volumes will not be profitable. Indeed, small scale imports are often more expensive as associated sea-freight costs have to be spread across a smaller number of volumes. Alternatively, importers of small volumes will be required to arrange multi-product shipments with several loading and discharge points, which come with a significant inflation of sea-freight costs. Therefore one would not expect to see small suppliers of jet fuel at Sydney airport, as cost to supply such small volumes do not allow such suppliers to compete. This is in contrast with other airports, for which transport costs might be significantly lower due to the use alternative cheaper transport options which allow smaller suppliers to compete effectively.

### **3.3. No evidence of barriers to entry for the supply of jet fuel at Sydney Airport**

BARA has suggested that the requirement to purchase an equity stake in the JUHI JV to supply jet fuel at Sydney Airport is a barrier to entry. Namely, it argues that the purchase of equity is a large upfront cost which can discourage entry of suppliers which wish to supply smaller volumes, or which aim to establish a build a larger volume supply from an initial smaller position.

BARA also concludes that the only reason for imposing entry through equity is to limit competition. We address these assertions in the sections below.

### **3.3.1. Equity is not a significant barrier to entry**

However, there are a number of reasons for which the assertions presented by BARA are not consistent with industry facts. Firstly, it should be noticed that BARA itself recognises that there are a number of potential entrants, which each have the technical and considerable financial capability to supply jet fuel at Sydney Airport<sup>6</sup>. Therefore entry for these entities is unlikely to be limited by the requirement to purchase an equity interest in the JUHI JV.

Moreover, it is unclear why BARA believes that small scale entry is necessary for successful competition to supply jet fuel supply at Sydney Airport. Indeed, suppliers are unlikely to have an incentive to enter on a small scale even if regulated access was available. After all, importing larger volumes can often be done at a lower unit cost, suggesting small volume import of jet fuel is unlikely to be profitable.

In any case, even for a relatively small number of contracts and volumes supplied, such entry or investment should be considered a profitable entry strategy. A prime example is ██████████ which is a party to the JUHI JV agreement even though it currently supplies only relatively small volumes of jet fuel at Sydney Airport, and ██████████ which holds equity and currently supplies less than ██████ per cent of volumes.

Furthermore, the JUHI JV agreement does not require a potential entrant to invest in the entire facility at once. Namely, entrants have the opportunity to purchase an equity stake for the international terminal only. As a result, the cost of entry is reduced, and potential entrants who do not wish to enter on large scale can limit their upfront investment.

In short, the requirement for equity purchase does not impose anti-competitive entry barriers, and the parties to the JV agreement in no way have the ability to protect themselves from competitive entry. The assertion of BARA that the parties currently enjoy market power which is reflected (and protected) by artificial entry barriers is therefore inconsistent with industry facts.

### **3.3.2. Equity participation can be a more efficient solution than regulated access**

Investment in JUHI facilities requires significant capital expenditure and involves significant regulatory, environmental and safety risks.

If the throughput fee for regulated access does not properly account for these costs and risks, JV participants will have the incentive to exit from the JV and supply jet fuel through the regulated access agreement. This will leave the facility underinvested, which would imply increasing capacity constraints and associated restrictions on competition and reliability. This complexity can be minimised through equity participation, which implies it is the most

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<sup>6</sup> BARA, Application for Declaration, Part IIIA of the Competition and Consumer Act 2010, Jet Fuel Supply Infrastructure to Sydney Airport, 26 September 2011, p. 44 paragraph 11.7.

transparent and least complex way to correctly allocate the investment costs and risk associated with running such a facility.

Furthermore, given that regulated access would be provided to third party suppliers that directly compete with the JUHI JV owners, it would likely be necessary to regulate the prices at which throughput is allowed. Establishing the correct costs would be time and resource consuming, suggesting that the regulatory costs of such an agreement would be considerable - especially against the potential risk of regulatory failure if the fee does not sufficiently reward JV parties for risk and investments made.

### **3.3.3. The product characteristics and existing equity arrangements mean that current suppliers of jet fuel have the ability and incentive to compete effectively with each other**

Jet fuel supplied at Sydney Airport can be considered as a homogeneous product. Moreover, the JUHI JV does not constrain the volumes a particular JV Party can supply through the facility. The absence of such volume restrictions (other than obviously that the total volumes supplied by all suppliers cannot exceed the capacity of the JUHI) enables each supplier to bid for a jet fuel contract without any constraints on its use of the facility. Suppliers therefore have the incentive to compete vigorously, as customers largely distinguish between competitors on price, and pricing higher than a competitor implies a supplier will be priced out of the market.

## **4. Conclusion**

This report has looked at the actual costs incurred by BP, Caltex and Shell across the supply chain, and identified the costs that make up the “price differential” used by BARA in their submission. We have analysed these costs in a consistent manner across the three parties and presented the costs as a weighted average for each of the major costs categories incurred by the suppliers.

Our analysis illustrated how the price differential is primarily determined by these significant costs sustained across the supply chain and that a comparison of price differentials across airports cannot inform in any meaningful way the analysis of price competition for the supply of jet fuel at Sydney Airport. Even if the analysis was indicative of price competition, which it is not, great variations in risk and structural organisation of airports imply any such comparison would be impossible on a like for like basis. In addition, we show that comparing the count of jet fuel suppliers at multiple airports cannot provide any insight in the competitive conditions that prevail at each of these airports. Rather the number of competitors is broadly consistent with total volumes throughput at a given airport.

We also note that entry through equity purchases cannot be considered a barrier to entry. As BARA recognised itself, there are a number of international jet fuel suppliers with both the technical knowledge and financial ability to purchase equity. Moreover, any purchase of equity can be restricted to the international terminal only, as such limiting the upfront investment cost. In any case, the amount of contracted volumes is not required to be particularly big to justify entry, as is evidenced by the fact that [REDACTED] holds equity in the JUHI and currently

supplies less than [REDACTED] per cent of volumes and [REDACTED] holds equity in the JUHI and currently supplies less than [REDACTED] per cent of volumes.

Finally, the existing arrangements do encourage jet fuel suppliers to compete vigorously. There are no volume restrictions on the use of JUHI and customers largely distinguish between competitors on price, and pricing higher than a competitor implies a supplier will be priced out of the market.

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Simon Bishop has made all the inquiries that he believes is desirable and appropriate and no matters of significance that he regards as relevant has, to his knowledge, been withheld from the NCC.

A handwritten signature in blue ink, appearing to read "Simon Bishop".

## Annex: Project team

This report has been prepared by Simon Bishop, a Founding Partner with RBB Economics based in London. Simon has been assisted by George Siolis, a Partner in Melbourne and Tania van den Brande, a Senior Associate in London. A short statement of their experience and qualifications is included below.

## SIMON BISHOP

Simon Bishop is a Partner and co-founder of RBB Economics. He has been advising clients on competition policy issues since 1991 and has particular expertise in applying empirical techniques in the context of merger investigations.

Simon has published widely on virtually all aspects of competition law economics and is a regular speaker at competition law conferences. He is the co-author of *The Economics of EC Competition Law* published by Sweet & Maxwell (Third edition published 2010).

Simon has worked extensively on the analysis of mergers before the EC Commission and various national competition authorities, particularly those in the UK. Cases on which he has taken a leading role include Microsoft/Telewest, Mitsui/CVRD/Caemi, Telia/Telenor, GE/Instrumentarium, GE/Amersham, Carlton/ Granada and British Airways/CityFlyer.

He has also advised numerous clients in connection with behavioural enquiries in areas such as abuse of dominance and vertical restraints. He has been involved in several of the leading cases in this area, including work on BA/Virgin for British Airways and on behalf of Northcliffe Newspapers during the Chapter II investigation into the pricing behaviour of Aberdeen Journals.

In the field of cartels and restrictive agreements, he has advised on numerous projects before the EC Commission, national competition authorities and the courts. His work in this area has covered both the theoretical analysis of pro- competitive and anti-competitive effects of restrictive agreements, and also the empirical analysis of the impact of actual and alleged infringements. Clients who he has advised on the competitive effects of alleged restrictive agreements include Heineken, UEFA, Canal+ and the FA Premier League. In the context of cartel proceedings, his clients include BPB, Arjo Wiggins and Holcim.

In addition to his work before the EC Commission and the UK competition authorities, he has presented economic reports on behalf of clients to the German Federal Cartel Office, the Belgian competition authorities, the Polish Anti-Monopoly Office and utility regulators.

He has also appeared as an expert witness before national courts. Simon has worked on several hundred competition law matters spanning virtually all sectors of the economy. He has advised on major competition law investigations in a range of industries including television broadcasting (in particular, in the pay-TV sector), telecommunications, newspapers, airlines, banking, pharmaceuticals, sports, brewing, numerous industries with branded consumer products, steel, pharmaceuticals, medical equipment and devices, recorded music, electricity and water.

In addition to his private sector work, Simon was seconded for a short period to the German Federal Cartel Office where he gave a series of seminars on the use of economics in competition law. Prior to entering economic consultancy, Simon was an academic economist at the Centre for Economic Performance at the London School of Economics and Visiting Lecturer in Business Economics at City University Business School.

## GEORGE SIOLIS

George joined RBB Economics in July 2009 as a Partner in the Melbourne office. He has worked as a micro-economist for 20 years and has advised clients in Australia, Asia and Europe, including the European Commission on a wide range of policy issues. He has specialised in the application of economics to competition and regulatory issues across a range of industries including agriculture, manufacturing, telecommunications, and financial services.

George is listed in the GCR's *Who's Who Legal 2011 edition of Competition Lawyers and Economists* and has advised on many of the most contentious mergers before the ACCC since RBB Economics was established in Australia in 2009. Prior to joining RBB, George worked for Telstra where he helped determine prices both in regulated wholesale markets as well as in competitive retail markets. George was also an economic consultant in the UK for eight years where he developed and led the communications practice at Europe Economics.

George has an Economics Degree (Hons) from Monash University and began his career at the Productivity Commission (formerly the Industry Commission) in their Canberra and Melbourne offices and was awarded the Commission's first Overseas Development Award in 1995.

## TANIA VAN DEN BRANDE

Tania Van den Brande is an associate at RBB Economics with over three years' experience as a competition economist.

Since joining RBB, Tania has worked on mergers and acquisitions raising both horizontal and vertical issues falling within the European and UK merger control jurisdictions. She has also advised clients on cases raised under the UK and Dutch market investigation regime and other national cartel investigations. Tania also has experience and specialist expertise in the use of estimation and simulation methods to address complex competition questions.

Tania received a Bachelor's and Master's degree from the University of Antwerp, and Graduate Master's degrees from the University of British Columbia and the College of Europe.