ACIL ALLEN CONSULTING

REPORT TO
MOBIL OIL AUSTRALIA PTY LIMITED
2 NOVEMBER 2018

COMPETITION IN THE JET FUEL SUPPLY MARKET

SUBMISSION TO THE PRODUCTIVITY COMMISSION INQUIRY INTO AIRPORT COMPETITION

FINAL

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1 INTRODUCTION

1.1 This submission

This submission responds to the Productivity Commission's information request 14 (Productivity Commission, 2018, p. 25):

The Commission is seeking evidence on the extent of competition in the jet fuel market, the effects of the current level of competition on airlines, passengers, air freight users and other parties, and options for addressing any lack of competition in the market for jet fuel.

This submission is by ACIL Allen Consulting and was commissioned by Mobil Oil Australia Pty Limited.

1.2 The market is competitive

As discussed in this submission, the market for jet fuel in Australia is competitive. This can be seen by the fact that in nearly every step in the supply of delivery services, as well as the supply of fuel itself, sellers of jet fuel can choose to import or purchase from domestic suppliers; they can choose to transport jet fuel to airports via truck or pipeline investment; they can choose to access JUHIs as equity members of joint ventures or on a fee for service basis (at some locations); and they can choose among alternative service providers for into-plane services.

This is contrary to claims that barriers to entry exist.[1] In particular, the fact that sellers of jet fuel also own and operate elements of the supply chain, either singly or in joint ventures is not a barrier to entry to alternative sellers of jet fuel, and this ownership is not leveraged to exploit any market power; indeed, there is no market power to exploit.

The simplest and most compelling evidence for the lack of market power is that Australia's two largest airports, Sydney and Melbourne, have seen the emergence of a new competitor or a new supply route for jet fuel in the past 12 months (Mobil Oil in Sydney and Terminals Pty Ltd in Geelong respectively). In addition (as set out in BP's submission to this inquiry) there are many independent fuel terminals: Vopak at Port Botany (Sydney) and at the Port of Darwin; Terminals Pty Ltd at Port Botany, Port of Melbourne, and Port Adelaide; Stolthaven at Coode Island at the Port of Melbourne; Coogee Chemicals at the Port of Fremantle (near Perth); and Puma Energy at the Port of Fremantle (near Perth) and at the Port of Brisbane.

Furthermore, the large and growing market share of imported jet fuel also shows that jet fuel is readily available to potential sellers in Australia. It is also true that potential new seller entrants to the market

[1] E.g. in submissions to this inquiry by BARA and the ACCC.

can formally gain access to the JUHIs, which are the most important piece of jet fuel infrastructure at airports.

A critical fact about JUHIs is that they are not buyers or sellers of jet fuel and so are not participants in the market for jet fuel. JUHIs just receive and store jet fuel at airports and then make it available to relevant jet fuel seller into plane operators. Thus, JUHIs have no economic incentive to restrict access to sellers and potential sellers of jet fuel.

1.3 The structure of this submission

Chapter 2 of this submission describes the supply chain and access arrangements. **Chapter 3** provides economic arguments for why the market is competitive.

2 THE JET FUEL SUPPLY CHAIN

2.1 Introduction

The jet fuel supply chain involves multiple infrastructure elements that support the delivery of jet fuel, purchased under contract between airline operators and fuel sellers, to aircraft at airports in Australia. These infrastructure elements are separate to the commercial arrangements that are negotiated between the buyers (airlines) and the sellers (fuel marketers).

Australia consumed 9.313 ML of jet fuel in 2017-18 (APS, 2018). Of this amount, 40 per cent was produced from Australia's four refineries and 60 per cent was imported as shown in **Table 2.1**.

TABLE 2.1 PRODUCTION AND CONSUMPTION OF JET FUEL IN AUSTRALIA (2017-18)

Heading	Quantity	Share
	ML	Per cent
Refinery production	3,761	40%
Imports	5,552	60%
Total consumption	9,313	100%

SOURCE: (APS, 2018)

The four refineries producing jet fuel in Australia are:

- Caltex refinery at Bulwer Island in Brisbane (Queensland);
- ExxonMobil refinery at Altona in Melbourne (Victoria);
- Viva Energy refinery in Geelong (Victoria); and
- BP refinery in Kwinana (Western Australia).

All other jet fuel is imported through petroleum import terminals.

As measured by passenger volumes, the Sydney and Melbourne airports are the largest consumers of jet fuel in Australia. These markets will be looked at individually in **Sections 2.3 & 2.4**.

2.2 Jet Fuel Supply Chain Process

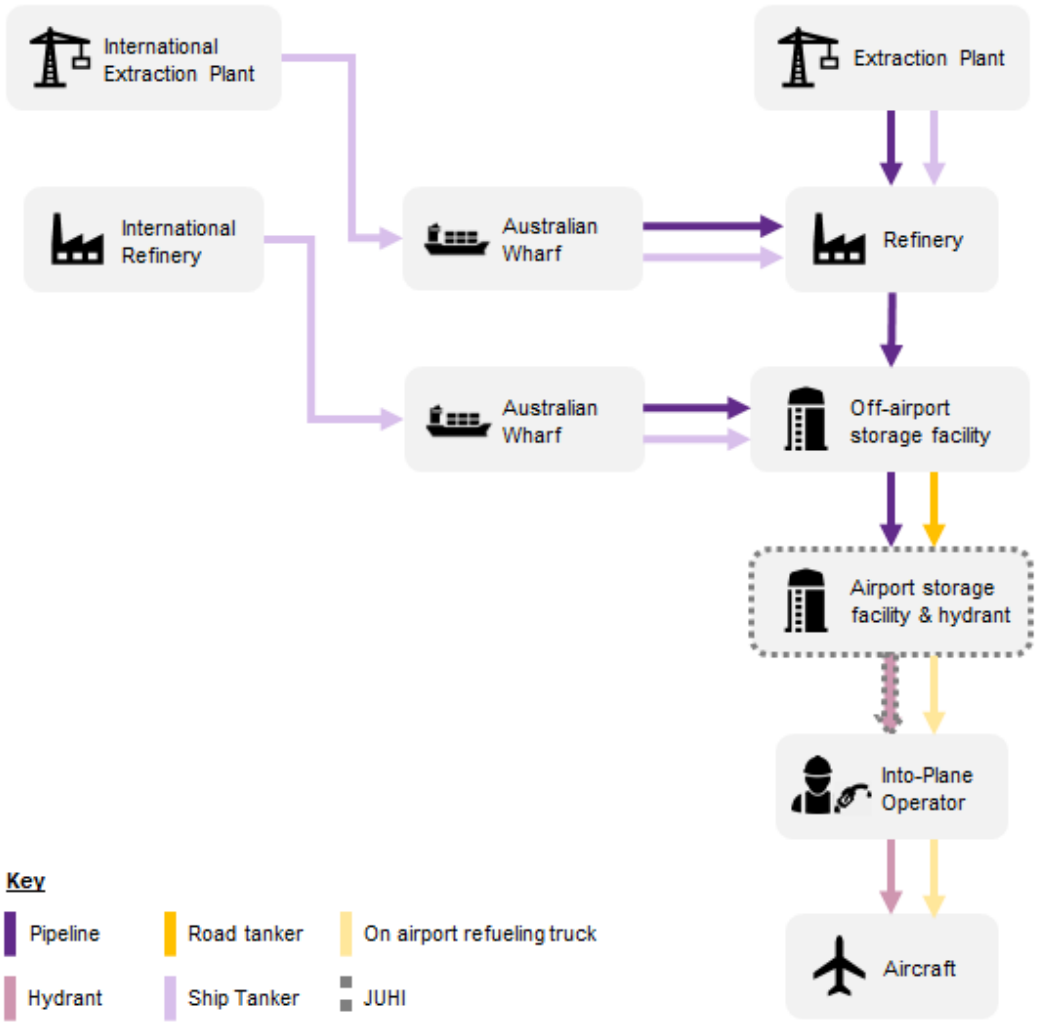
The jet fuel supply chain process is a series of steps, each involving infrastructure elements used to refine, store and transport oil / fuel. It follows the path of jet fuel from the extraction plant to the aircraft. This process typically follows 6 steps as outlined below and in **Figure 2.1**.

1. At an extraction plant, drilling operations are used to recover crude oil from the earth.

2. At an oil refinery, crude oil is transformed into a variety of petroleum products, including jet fuel.
3. Jet fuel is stored at an off-airport storage facility (inland / import terminal) where time is given to allow the fuel to settle and quality checks to be conducted by facility owners.
4. Jet fuel is transported to and stored at an airport storage facility where a final quality check is completed.
5. Ready for usage, jet fuel is made available to into plane operators for delivery. Fuel is predominantly made available via a hydrant system (a collection of pipes). Alternatively, fuel is made available for transportation via refuelling truck (a truck designed to carry fuel and transfer to aircraft directly).
6. Into-plane operators will transfer jet fuel into the aircraft tank.

The airport storage and hydrant distribution facilities (steps 4 & 5) are collectively referred to as a Joint User Hydrant Installation (JUHI). JUHIs, and other main infrastructure elements, are discussed further in succeeding sub-sections.

FIGURE 2.1 JET FUEL SUPPLY CHAIN PROCESS



Note: Multiple sellers utilise this supply chain. Accordingly, there may be multiple extraction plants, refineries, wharves and off-airport storage facilities involved in delivering fuel to a single aircraft. Additionally, there are multiple into-plane operators available to transfer fuel into the aircraft.

SOURCE: ACIL ALLEN

As demonstrated in the diagram, crude oil / jet fuel can be domestically or internationally sourced. The procurement of imported resources involves an additional process step where oil / fuel is transported to an Australian wharf. On arrival, the resource is distributed to follow the remaining supply chain steps.

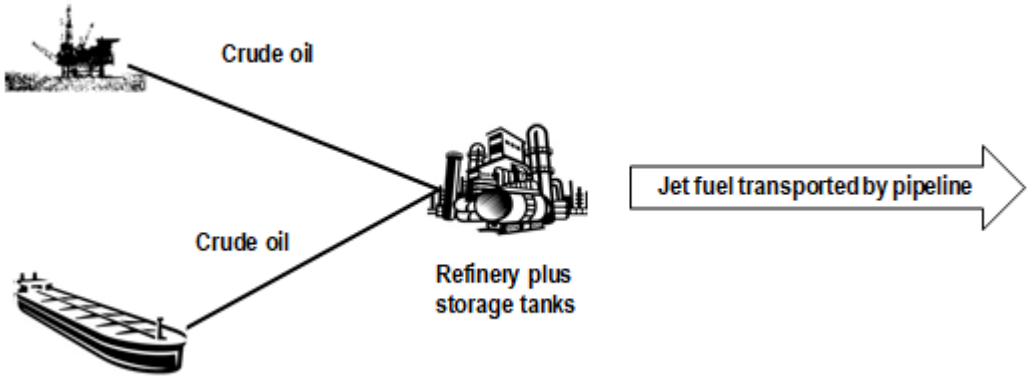
Evidently, jet fuel can move through the supply chain via different paths. For instance, one path involves supplying from a domestic refinery to an inland terminal and then to the JUHI. This is the case for Perth where jet fuel is transferred by pipeline from the Kwinana refinery to a terminal at Kewdale. Another path may involve directly supplying to the JUHI from an import terminal. This is the case for Darwin and Adelaide.

The diagram also demonstrates several modes of transport. Namely, resources can be moved via ship tanker, road tanker or underground / underwater pipelines. Pipelines are an efficient mode of transport given their ability to move large quantities. Nevertheless, the construction of pipelines is costly and can take several years to complete.

2.2.1 Refineries

Refineries use crude oil to produce jet fuel and other petroleum products. Crude oil can be imported or produced domestically. Initially, produced jet fuel will be stored in tanks at the refinery. Jet fuel is then dispatched by pipeline, to other inland terminals or to a Joint User Hydrant Facility (JUHI) at an airport. A general layout of the infrastructure arrangements for refineries is shown in **Figure 2.2**.

FIGURE 2.2 ARRANGEMENTS FOR REFINERIES



SOURCE: (ACIL TASMAN, 2008)

Refinery owners own and operate the refinery and storage tanks and, in most cases, own and operate the port line from the offloading jetty and the loading gantry for trucks. They may also own and operate the trucks themselves (ExxonMobil, 2018).

Generally, refinery owners will also own and operate product supply pipelines that convey fuel to either inland terminals or to storage at airports.

2.2.2 Import terminals (off-airport storage facility)

Import terminals store petroleum products that are offloaded from oil tankers. They are generally located within or adjacent to port precincts. A port line is used to connect the terminal to the port's discharge point. Generally larger tankers are more economic than smaller tankers. However, the size of a tanker depends on the draft at the point where the fuel is transferred to the port line and on the storage capacity at the import terminal. An illustration of an import terminal arrangement is shown in **Figure 2.3**.

FIGURE 2.3 GENERAL ARRANGEMENT FOR AN IMPORT TERMINAL

Note:

SOURCE: (ACIL TASMAN, 2008)

The storage required at terminals is determined by the economics of shipping cycles. A typical cycle involves a visit from an oil tanker about once a month to refill the tanks. The tanks smooth out the supply to the market between tanker visits. The intermittency of supply into import terminals means that import terminals require a higher ratio of storage capacity to throughput than finished product storage capacity at a refinery.

After leaving an import terminal, jet fuel is shipped to the next receipt point in the supply chain by pipeline or truck. If it is to be shipped by truck, the terminal will have a loading gantry where the trucks are filled. The next receipt point can be another inland terminal or storage at a JUHI located in or adjacent to the airport precinct.

Import terminals are typically owned by major oil companies or independent operators. For example, Vopak is an independent terminal owner that operates jet fuel terminals in Sydney and Darwin. There are other terminals in Sydney owned by major oil companies but Vopak is the only terminal operator in Darwin for jet fuel.

2.2.3 Joint User Hydrant Installation

Jet fuel delivered to airports by truck or by pipeline is received, stored and made available for delivery into an aircraft by a Joint User Hydrant Installation (JUHI). JUHI infrastructure consists of an extensive list of specialised assets.

Assets typically include (Sydney JUHI, 2011):

- Fuel farms (storage tanks);
- Hydrant infrastructure consisting of pumps, connection points and underground pipelines (connecting the storage tanks to fuel terminals);
- Control system to operate hydrant infrastructure;
- Truckfill bay and vehicle maintenance assets;
- Diesel generator and bowser;
- Auxiliary equipment;
- Test rig (to assess asset performance);
- Metering and filtering equipment;
- Leak detection systems; and
- Fire protection assets.

Other than the operation and maintenance of JUHI infrastructure, JUHI owners are also responsible for the provision of multiple services.

Services typically include (Sydney JUHI, 2011):

- Receipting; storing and injecting fuel into the hydrant network;
- Transporting fuel to domestic / international bays to enable larger aircraft to be serviced from hydrant points;
- Conducting product quality checks at multiple points in the process. Checks include appearance, density, water and conductivity checks;
- Processing fuel samples which are returned from the aircraft and can then be used in other non-aviation uses;

- Defueling aircrafts when necessary;
- Supplying diesel to refuelling trucks and tankers (via a diesel bowser);
- Calibrating vehicle meters;
- Providing vehicle workshop and truck washing bay to specialised aviation vehicles;
- Performing repairs, maintenance and quality checks on all JUHI infrastructure;
- Ensuring health and safety initiatives are in place;
- Maintaining operating manuals, and managing joint venture accounts and budgeting; and
- Monitoring fuel supplies, managing supplier stock positions and communicating any supply issues to the National Operating Committee.

Whilst the JUHI makes product available into aircraft, actual refuelling activity where product is drawn from JUHI hydrant pits is not a service provided by the JUHI. Refuelling activity is completed separately by into-plane operators.

Given the stringent specifications of jet fuel and the importance of air safety, it is crucial that JUHI services are delivered by professionals with operational expertise. Any off-specification jet fuel entering the supply chain can have consequences across the whole supply chain as occurred in 2016 in Melbourne. Therefore, rigorous quality control checks and other services performed at the JUHI stage of the supply chain are of utmost importance.

JUHIs are usually owned by multiple parties under a joint venture agreement. Joint ventures are common due to limited airport space and large capital investments associated with owning and operating JUHI infrastructure. Duplication of JUHI assets would not only be uneconomic but operationally impractical as only one hydrant system can supply an airport. However, this does not mean that JUHIs have monopoly power in an essential part of the jet fuel supply chain. JUHIs are not involved in sales arrangements and do not own the fuel that they are transferring. JUHI provides an efficient, safe and cost effective method of storing and handling the product on behalf of multiple sellers, including both equity and non-equity sellers (in some cases). The JUHIs at the major Australian airports operate as unincorporated joint ventures. In Darwin however, the airport is in the process of acquiring the JUHI shares of the current participants.

Marketing arrangements between fuel sellers and the airlines are arranged under contracts between the parties. The JUHI joint ventures do not take title to the fuel and do not contract as sellers to the airlines.

The main parties involved in JUHI ownership are summarised in **Table 2.2**.

TABLE 2.2 CURRENT JUHI OWNERSHIP AT A NUMBER OF AIRPORTS IN AUSTRALIA

Airport	JUHI parties
Brisbane	Caltex, Viva Energy, BP, Mobil Oil
Sydney	BP, Caltex, Mobil Oil, Qantas and Viva Energy
Melbourne	Mobil Oil, Viva Energy, Caltex, BP
Adelaide	Viva Energy, BP, Mobil Oil
Perth	BP, Viva Energy
Darwin	Darwin International Airport, Viva Energy, BP

SOURCE: (DIA, AUGUST 2017) (DARWIN INTERNATIONAL AIRPORT, 2018) (ADELAIDE AIRPORT, SEPTEMBER 2018) (BRISBANE AIRPORT CORPORATION, SEPTEMBER 2017) (DELOITTE ACCESS ECONOMICS, 2017) (BARA, 2018) (ACCC, 2018) (SYDNEY AIRPORTS CORPORATION, SEPTEBMER 2018)

2.2.4 Into-plane operators

Jet fuel is delivered by into-plane operators from the JUHI to airplanes. Typically, multiple into-plane operators service multiple fuel sellers in the delivery of fuel at commercially negotiated rates.

2.3 The Sydney Jet Fuel Supply Chain

After the closure of two Sydney refineries (Kurnell - Caltex; Clyde - Viva Energy), the Sydney jet fuel market is reliant on imported supply. With no refinery capability, the Sydney market only imports refined jet fuel (rather than crude oil). Imported jet fuel enters the Sydney market via three main terminals owned by Viva Energy, Caltex and Vopak. Two of these terminals have direct pipelines into the Sydney Airport. Fuel is mostly delivered to the airport via pipeline and a small portion via road tanker. Once arriving at the airport, fuel is stored in JUHI facilities and then transferred via into-plane operators into aircraft tanks.

2.3.1 Sydney JUHI

JUHI Ownership and Access

The Sydney JUHI operates as a joint venture in accordance with a joint venture agreement. Joint venture members consist of multiple fuel supply competitors and a consumer of jet fuel; namely Mobil Oil, Viva Energy, Caltex, BP and Qantas. (Qantas was not in the original JV, demonstrating that equity access is possible).

Sydney JUHI members affirm that the joint venture agreement was designed to allow future entry of third parties (Sydney JUHI, 2011). Thus, any potential new jet fuel seller can become an equity owner via the application process. To be successful, the potential new jet fuel seller must meet qualifying criteria as detailed in **Box 2.1**.

BOX 2.1 SYDNEY JUHI EQUITY OWNER QUALIFYING CRITERIA

- The Applicant shall acquire a shareholding in Component A (JUHI depot and international pipeline);
- If the Applicant requires a shareholding in Component C (domestic pipeline), a shareholding in Component B (cross runway pipeline which connects the international pipeline to the domestic pipeline) shall be required;
- If legally required, the Applicant shall establish that it has a Certificate of Approval from the Civil Aviation Authority for the distribution of aviation fluids and greases.
- The Applicant's demand upon the JUHI shall be such that it will not in any way prejudice the use of the JUHI by the Participants;
- The Applicant shall be able to deliver to the JUHI on a continuing basis compatible aviation fuels sufficient to supply its customers' and or its requirements in full, which meet the product specifications defined in this Agreement and have access to a National Association of Testing Authorities approved laboratory testing facilities consistently and promptly to confirm such quality;
- The Applicant shall be financially capable of fulfilling the obligation of a Participant, have sufficient qualified manpower to perform the obligations of a Participant, and have insurance coverage which is adequate to meet the indemnity obligations of a Participant. In particular, the Applicant shall be capable of providing an into-plane fuelling service to its own customers;
- The Applicant shall be technically capable of assuming the obligations and responsibilities of the JUHI Operator when required to do so in accordance with the provisions of this Agreement;
- The Applicant shall comply with any other entry criteria imposed by the Participants; and

The Applicant shall become a party to this Agreement, including all such supplementary amendments that have heretofore become part of this Agreement; and become a party to any related Agreements, including in particular the indemnification agreement relating to liabilities arising out of aircraft refuelling and including agreements with appropriate government authorities.

Note: All equity purchases made are based on the replacement value of JUHI assets as determined by an independent valuation. If the applicant is unsatisfied with the valuation, there is a process in place to revalue the assets.

SOURCE: (SYDNEY JUHI, 2011)

Sydney JUHI joint venture members maintain that the application process is fair and does not prohibit access of potential new jet fuel sellers:

The JUHI JV has been willing to engage with any potential applicants. It has dealt with each approach in good faith. At no time has the JUHI JV sought to apply the qualifying criteria in such a manner that might

constitute a barrier to entry. To date, no third party has expressed the view to the JUHI JV that the qualifying criteria or the manner in which they are implemented by the JUHI JV are inappropriate or overly burdensome (Sydney JUHI, 2011).

JUHI Access Fees

As described in **Box 2.1**, an equity purchase is required to become a joint venture member and in order to gain access to the Sydney JUHI. Aside from this equity fee, all joint venture members contribute towards operating costs. Operating costs are charged proportionally as per use of JUHI facilities.

JUHI Investment

JUHI joint venture members lease airport space from the Sydney Airport (Sydney JUHI, 2011). The lease agreement includes several stipulations including the joint venture's commitment to maintain good industry practice and fuel supply. To adhere to this commitment, the JUHI joint venture must continuously invest in assets for maintenance / updates.

This includes investments such as:

- Enhancing JUHI depot infrastructure (including pumps, tanks, buildings, and electrical and control systems) to ensure assets meet operational and regulatory requirements; and
- Creating / relocating pipelines and hydrant infrastructure on the airport's request due to changes in airport layout changes (including new gates) and aircraft model changes.

2.4 The Melbourne Supply Chain

Jet fuel in Melbourne is supplied by two domestic refineries and multiple import sources. The domestic refineries are located in Geelong and Altona and are owned by Viva Energy and ExxonMobil respectively. Locally produced and imported jet fuel is transported to one of multiple off-airport storage terminals (Yarraville, Newport, Geelong). Fuel is then transported by road tanker directly to the JUHI or via pipeline to the Somerton Jet Fuel Depot and from there through the Tullamarine pipeline to the Melbourne Airport. Melbourne JUH**I.**

2.4.1 Melbourne JUHI

JUHI Ownership and Access

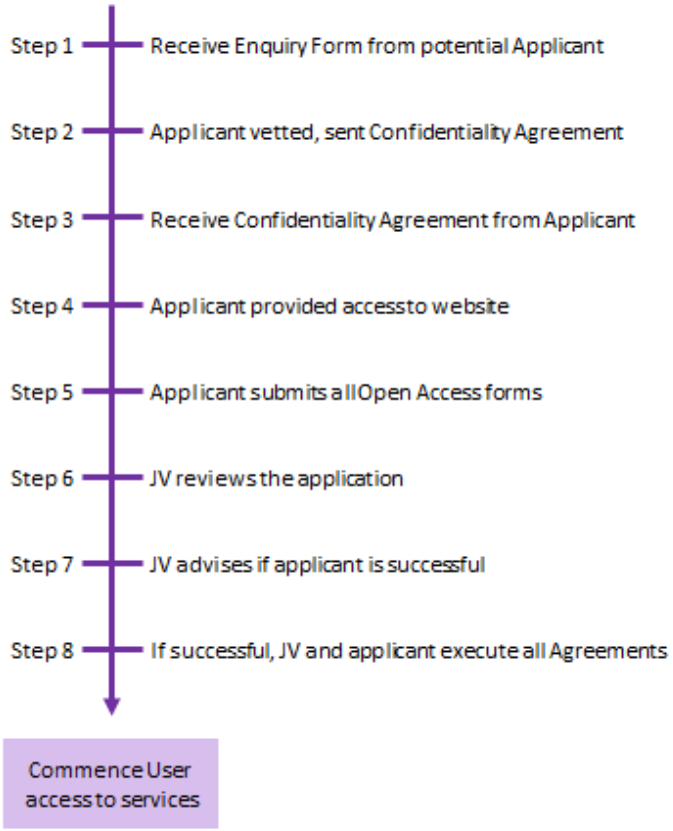
The Melbourne JUHI is collectively owned by Mobil Oil, Viva Energy, Caltex and BP. Given this joint venture arrangement, the JUHI is not monopolistically owned. The joint venture supports a competitive market. Namely, the JUHI arrangements include an open access regime that allows non-equity participants to access the facilities and services. The open access regime is designed to:

Facilitate additional competition in the Jet A-1[2] *market at Melbourne Airport* (Melbourne Airport, 2018).

A number of third parties have commenced the application process for JUHI access by making enquiries with the JUHI (Melbourne Airport, 2018). The application process is the same for each applicant. It follows the steps in **Figure 2.4**.

[2]Jet A-1 is a type of jet fuel. Jet A-1 is used in locations outside of the US (US aircraft predominantly use Jet A).

FIGURE 2.4 USER APPLICATION PROCESS AT MELBOURNE JUHI



SOURCE: (MELBOURNE JUHI, 2018) – reformatted by ACIL Allen

The application process is open to all potential jet fuel sellers, so long as they are a genuine applicant and aren't subject to international trade sanctions. Successful applicants will meet Qualifying Criteria. Qualifying Criteria and other documents are made available to the applicant after the Confidentiality Agreement is signed.

Documents for the applicant's review and / or completion are included in **Box 2.2**:

BOX 2.2 MELBOURNE JUHI APPLICATION DOCUMENTS

- Application Form;
- Qualifying Criteria;
- User Agreement, User Rules and Operating Principles;
- Aircraft Refuelling Indemnification Agreement;
- Core Principles;
- Disputes Regime;
- Reference Tariffs; and
- Application fee.

SOURCE: (MELBOURNE JUHI, 2018)

The Joint Venture will assess completed documents and inform the applicant of approval / rejection. If the application has been rejected, reasons for the rejection will be provided. The application process Disputes Regime allows an applicant to challenge a rejected application. The applicant also has the option to reapply.

JUHI Access Fees

All JUHI users (equity holders and non-equity holders) are charged reference tariffs for JUHI services (Melbourne JUHI, 2018). These tariffs are the same for both equity and non-equity JUHI users. Reference tariffs cover the operating costs of airport storage and distribution, a return on capital for investments into airport infrastructure, and off-airport to airport delivery fees if applicable (via pipeline or road trucker). Reference tariffs are set by joint venture members on an annual basis. They change with changes to operating costs and JUHI infrastructure.

JUHI users are also charged an application fee when applying for access. If granted access, the fee will be offset against reference tariffs in the first 12 months of use.

JUHI Investment

The renewed JUHI lease allows joint venture members to retain JUHI ownership for a 20-year period. Tenure is a strong driver of infrastructure investment as it allows investors to recover capital costs. Infrastructure investment is crucial in ensuring the ability of fuel facilities to serve increasing jet fuel demand without any shortages (further discussed in **Section 3.11**).

The JUHI's lease agreement stipulates a contractual commitment to invest in fuel facilities. Investments include (Melbourne Airport, 2018):

- Increasing storage capacity through the development of additional airport tanks;
- Additional input capacity; and
- Developing hydrant infrastructure.

These investments can now proceed given recently secured long-term tenure for the JUHI.

3 COMPETITION IN THE JET FUEL MARKET IS HIGHLY COMPETITIVE

3.1 Why the jet fuel market is competitive

The essence of a competitive market is that potential new suppliers are able to enter the market and act to discipline any latent tendency by incumbents to charge high prices and/or provide low quality services to buyers. In this respect it is important to conceptualise competition as a process rather than an outcome. Where a market is characterised by actual and potential suppliers engaging in a process of choosing productive efficient methods of getting their products to buyers, a process which lowers their costs and hence the prices that buyers pay, then the market is competitive.

The jet fuel market fits that description. Potential new sellers have the choice of entering the market at many points in the supply chain and buyers have the choice of alternative suppliers. In particular, sellers, both existing and potential, have the choice of

- importing jet fuel or purchasing it from local refineries
- transporting jet fuel to airports by pipeline or truck
- joining JUHIs as equity members or purchasing JUHI services on a fee for service basis (at some locations)
- different into-plane operators for final delivery to their customers, the airlines.

In addition, market dynamics (see Section 3.4) are such as to enhance competition and put downward pressure on prices.

These facts about the market are sufficient to demonstrate that it is competitive. Nonetheless, it is sometimes argued that the market for jet fuel is not efficient. In essence, the argument is that there is an 'oil company' or a couple of oil companies acting in tandem, which erect barriers to entry to potential competitors, which enable them to exercise market power at the expense of buyers and the economy as a whole.

The rest of this chapter shows why these arguments are erroneous.

3.2 The problem as alleged

The (alleged) problems with competition in the jet fuel market are stated in BARA's submission to this inquiry (BARA, 2018, p. 5):

The principal barriers to competition have been the difficulties in transporting jet fuel from Australia's ports to aircraft at the airports – known as the 'jet fuel infrastructure supply chain'. These supply chains are largely owned by existing jet fuel suppliers in the Australian market. This creates obvious incentive problems where suppliers also control access to the critical infrastructure required by competitors … At

a minimum, access arrangements for jet fuel importers to the on-airport storage and distribution facilities are needed.

The ACCC, in its submission to this inquiry *(ACCC, 2018, p. 58)* simply asserts (without accompanying evidence) that competition is lacking, for three similar reasons:

- Off-airport jet fuel storage facilities are typically owned and operated by existing suppliers of jet fuel;
- Pipelines that transport jet fuel are owned and controlled by existing suppliers of jet fuel, either individually or in joint ventures; and
- Storage and distribution at airports (the JUHIs) are typically operated by a joint venture of companies that are the existing suppliers of jet fuel.

In essence, BARA and the ACCC argue that the existing suppliers of jet fuel use their ownership and/or control of key infrastructure as a barrier which stops or hinders the entry of potential competitors. By implication, they also argue that the existing suppliers collectively exercise monopoly power (e.g. by charging higher prices for jet fuel than will otherwise prevail) to the detriment of jet fuel buyers (the airlines) which increases the cost of travel for people and freight.

This argument is incorrect. This chapter demonstrates that, for a variety of reasons, there is no problem with competition in the jet fuel market.

3.3 Counterargument #1: jet fuel prices

An obvious manifestation of the use of monopoly power is high prices. But jet fuel prices at Australian airports are not high. The National Competition Council (NCC), in its 2012 investigation of jet fuel supply infrastructure at Sydney Airport (to determine whether access to that infrastructure should be declared), examined jet fuel price differentials, the difference between the price of jet fuel paid by airlines and an international benchmark market price. This followed claims by airlines that the supply of jet fuel at Sydney was characterised by limited competition and as a consequence the differentials at Sydney were amongst the highest in the world.

The evidence presented to the NCC[3] was that price differentials do not reflect differences in margins earned by suppliers of jet fuel and that existing differentials were due to the costs of transporting fuel, in particular, imported fuel. Notwithstanding further claims by BARA disputing this evidence, the NCC found the argument that existing fuel differentials do not point to either excessive pricing or abuse of market power to be “compelling” (NCC, 2012, pp. 23, paragraph 4.29).

The Department of Infrastructure, Regional Development and Cities (a neutral observer) agrees with this assessment, stating in its submission to this inquiry that fuel differentials are higher in Australia because of transport costs, and what’s more Australian airports lack economies of scale due to lower consumption of fuel in the market (DIRDC, 2018, p. 25).

3.4 Counterargument #2: Competitive market dynamics

Typically, airlines will open tenders for purchase of jet fuel on a 12 or 24 month cycle. In addition, larger airlines will habitually segment their business into parcels of volume to tender their business on a more frequent basis. This creates opportunities for more frequent solicitation of bids. Furthermore, within their submission, BP maintains that bargaining usually follows the bidding process thereby allowing the airlines to negotiate a lower price for jet fuel (BP, 2018, p. 5).

These cycles and tender practices drive ongoing competitive bids from multiple jet fuel sellers and allows airlines to monitor competitive opportunities.

It is not uncommon for airlines to change their jet fuel sellers and there are no barriers to prevent such changes from taking place. This is a demonstration of a competitive, dynamic environment.

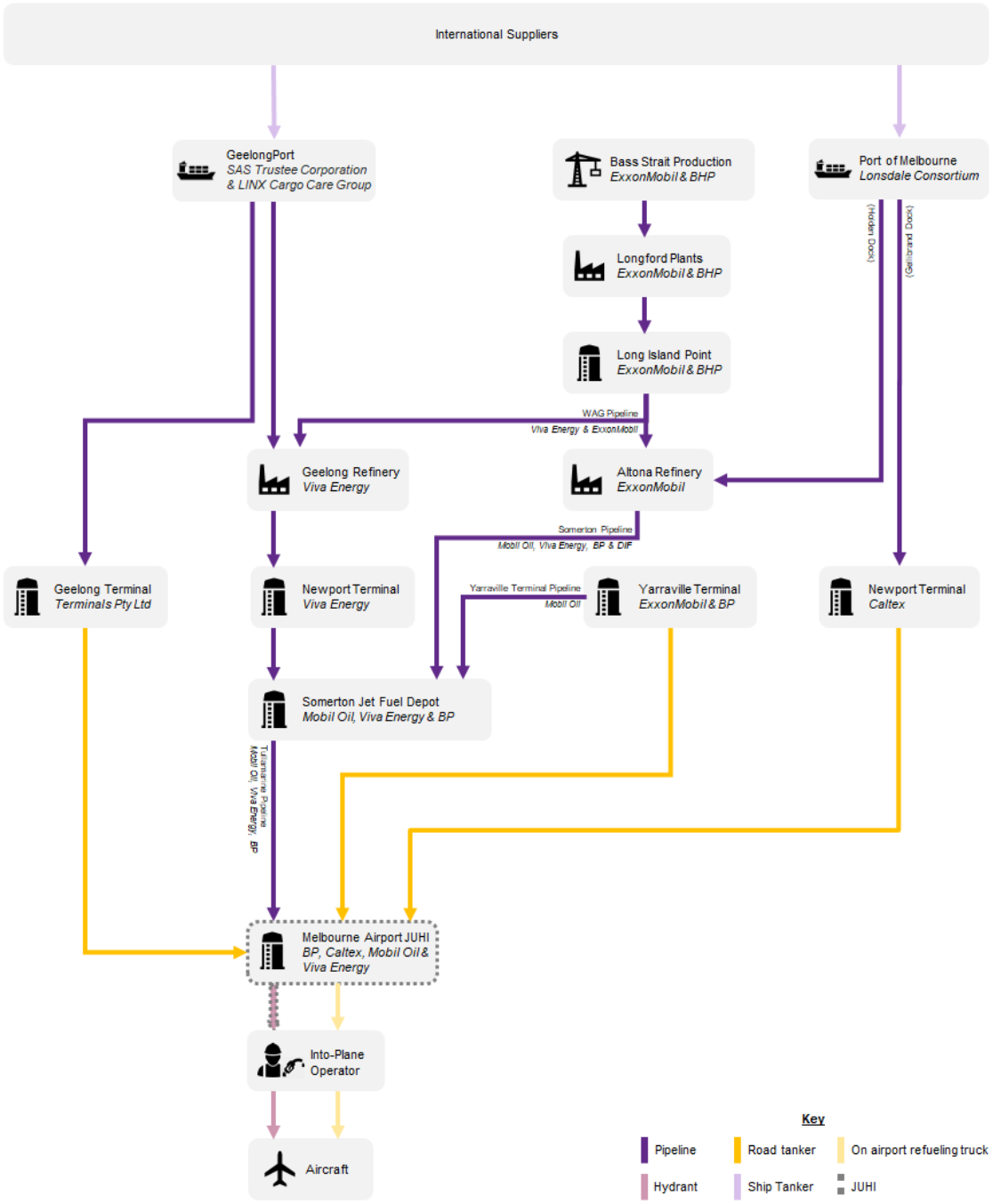
[3] By RBB Economics based on data provided by Caltex, BP and Shell.

3.5 Counterargument #3: variety of ownership

Implicit in the argument that domestic suppliers of jet fuel control the associated infrastructure is a premise that domestic supply of jet fuel and the infrastructure at each location is controlled by a single entity, or at best a couple of entities who tacitly co-operate to effectively create an upstream monopoly. This is the ACCC's premise and appears to be the basis for its assertion that the market is not competitive.

This is not true. In fact, different parts of the supply chains are owned by a variety of different companies and consortia. The following diagram illustrates the point with respect to Melbourne.

FIGURE 3.1 MELBOURNE JET FUEL SUPPLY CHAIN OWNERSHIP DIVERSITY (INDICATIVE)



Note: There are multiple into-plane operators available to transfer fuel into an aircraft.

SOURCE: ACIL ALLEN

It is simplistic and misleading to suggest that there is a monopoly owner of infrastructure that is also a supplier of jet fuel and therefore has an incentive to deny entry into to the jet fuel market of potential competitors.

3.6 Counterargument #4: jet fuel is a commodity

All actual and potential suppliers provide chemically identical jet fuel to airlines. This has to be so, for airline operational, safety and regulatory reasons. Indeed, the jet fuel from different suppliers all goes into the same tank(s) at each airport. While, say, Qantas, might have a contract to purchase a certain amount of jet fuel from a particular supplier, the actual jet fuel that goes into the tanks in the Qantas planes could have come from any supplier, or more likely a mix of suppliers.

The economic implication of this physical fact is that the market is more likely to be competitive. As is well known, competition in product markets for commodities i.e. undifferentiated products, is more likely to be on the basis of price than in markets for differentiated products, where competition can be on the basis of quality, and where each supplier is a monopolist of its own differentiated products. When competition among commodities is on the basis of price, then competition pressures are likely to drive price down to the marginal cost of production. This is so even when there are only two suppliers – the well-known case of a Bertrand oligopoly.

The NCC noted that airlines generally receive only one or two bids in jet fuel tenders, but erroneously concluded that this means that the jet fuel market is not vigorously competitive. As BP noted in its submission to this inquiry (BP, 2018):

Each airline periodically issues a call for tender that covers its anticipated fuel requirements for a particular airport or even on a regional basis. The airline solicits bids with two basic components: a price per unit of fuel delivered 'into plane', and the share of the overall volume requirements each oil company is willing to provide at that price. The initial round of bidding is normally followed by a bargaining process in which the airline seeks to negotiate a lower price from each bidder and to adjust shares so that accepted bids add up to 100 per cent of the airline's volume requirement.

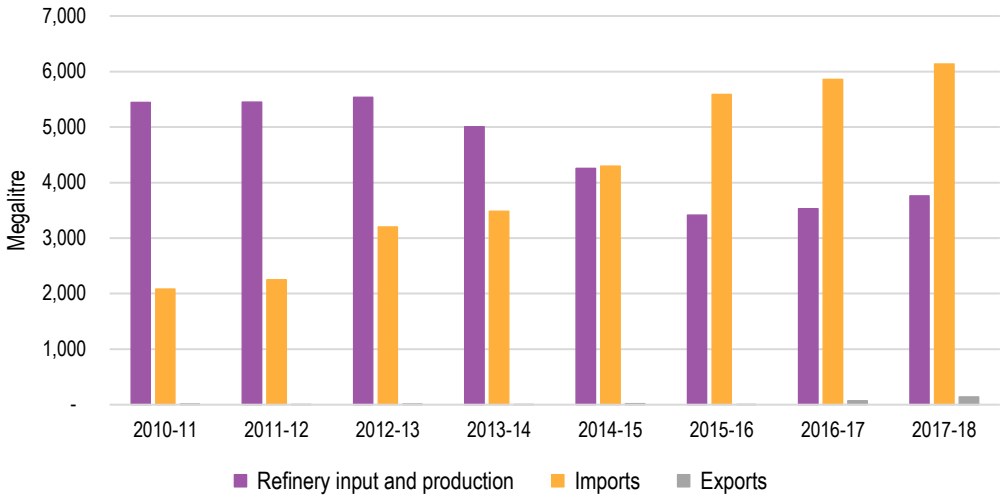
3.7 Counterargument #5: imports

Imports of jet fuel comprise around 60% of the Australian market.[4] If existing domestic suppliers are misusing their ownership agreements to control associated infrastructure, how could importers obtain such a large market share? The answer to this question is that existing domestic suppliers of jet fuel do not, in fact, use the associated infrastructure as a barrier to entry.

Indeed, as demonstrated in **Figure 3.2**, imports are strongly growing their market share.

[4] State by state data is difficult to source, but it is likely that the import share at each airport will depend on whether there is a nearby refinery.

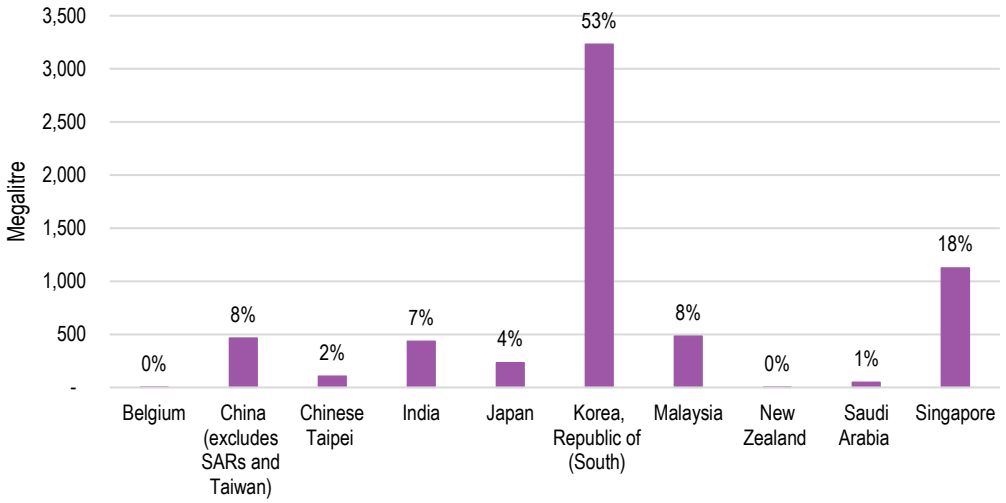
FIGURE 3.2 AUSTRALIAN JET FUEL MARKET



SOURCE: (APS, 2018)

And as shown in **Figure 3.3**, imports come from a variety of countries (though mainly South Korea).

FIGURE 3.3 ORIGIN OF JET FUEL IMPORTS



Note: Figures as at August 2018.

SOURCE: (APS, 2018)

The data on imports of jet fuel are completely inconsistent with the notion that infrastructure-based barriers to entry exist for jet fuel, and completely consistent with jet fuel being available to potential sellers as well as existing sellers and therefore the market for jet fuel being open and competitive.

Moreover, since Australia produces relatively little jet fuel by world standards, Australia can be presumed to be a price taker for jet fuel. Any attempt by domestic jet fuel producers to exploit any market power (if they had any) would be defeated in the marketplace by imports, which are priced at the world price of jet fuel, plus transport costs.

This role of imports demonstrates the irrelevance of the number of suppliers at each airport. According to the BARA submission to this inquiry, there are only two effective suppliers in Sydney and

Melbourne, three in Brisbane and one in Perth.[5] It is not clear what BARA means by "effective" suppliers, but it doesn't matter anyway. As long as imports can enter the market and discipline domestic suppliers– which they can – the number of domestic suppliers is immaterial.[6]

3.8 Counterargument #6: The JUHIs are not sellers or suppliers of jet fuel

A key weakness of arguments by BARA and the ACCC is the implicit assumption that JUHIs are themselves economic entities that participate in the market for jet fuel sales. But this is not so. JUHIs are merely passive, albeit complex, pieces of infrastructure to receive and store jet fuel at the airport and make it available to relevant seller into plane operators. As the Sydney JUHI JV participants put it in their submission to the NCC access inquiry in 2011 (Sydney JUHI, 2011, pp. 11, paragraph 38):

The JUHI JV is not involved in the supply of jet fuel into-plane. To the extent that a JV participant is involved in contracting with airlines for the supply of jet fuel, each participant manages its own customer relationships, invoicing and customer pricing. Each participant also arranges into-plan services to its customers.

The Melbourne JUHI makes clear, on its website, that it is not a seller or a supplier of jet fuel (Melbourne JUHI, 2018).

Q – Does the Infrastructure Provider also provide fuel at the Fuel Facilities? A – No. This is the responsibility of fuel suppliers.

A JUHI thus is not a monopoly piece of bottleneck infrastructure, in the classic sense, to which access is needed in order to service other markets. Arguments for access, based on this premise, are fundamentally misplaced.

3.9 Counterargument #7: Access can be gained to JUHIs

Access to JUHIs is readily available to potential entrants. As described in **Sections 2.3.1 & 2.4.1**, clear and ready processes for access to the Sydney and Melbourne JUHIs exist. Qantas is a case in point in that it was admitted as an equity partner in the Sydney JUHI joint venture and so, in effect, supplies itself.

Therefore, it cannot possibly be the case that absence of access to JUHIs is a feature that inhibits competition in the jet fuel market. This was also the conclusion of the NCC.

3.10 Counterargument #8: Conclusions by the NCC

The NCC investigated at length issues of competition in the jet fuel market as they applied to the declaration of access to jet fuel infrastructure at Sydney Airport. The NCC in its report *Jet Fuel Supply Infrastructure at Sydney Airport* (2012, pp. 34, paragraph 4.84) concluded:

… the Council does not consider that the Applicant has made out its position that jet fuel supply is characterised by excessive prices or other manifestations of market power. The Council accepts that the market for supply of jet fuel produces a high HHI [a measure of market concentration] but does not consider that statistic of itself lead to any relevant conclusions.

The NCC went on (2012, pp. 37, paragraph 4.97):

The Council notes that the key issues raised about entry and access to the Sydney JUHI concern the requirement for equity participation and the timing of completing the application process. The Council

[5] However, according to Sydney Airport's submission, there are four suppliers in Sydney.
[6] While it is true that imports do come from the international arms of the domestic suppliers, imports also come from independent suppliers. In Sydney, Qantas is a member of the Sydney JUHI, and as such can purchase jet fuel from any number of suppliers.

does not consider that either of these issues is likely to unreasonably frustrate access to the Sydney JUHI Service.

In the six years since the NCC's report, the jet fuel market has become more competitive. The share of imports has doubled, and access to JUHIs has become streamlined and easier for qualified applicants.

3.11 The future: what should not be done

In a report called *A Competitive Supply of Jet Fuel at Australia's Major International Airports* (BARA, 2014), BARA calls for "Strategic Reforms" of jet fuel supply which deserves comment, in the context of the PC's inquiry.

BARA says that because off-airport storage facilities in Melbourne, Brisbane and Perth are owned and operated by sellers of jet fuel, this is a barrier to competition. BARA's solution to this alleged problem is for airport operators to procure off-airport storage options and provide them to all potential jet fuel importers.

In response, the first thing that can be said is that the data on imports of jet fuel shows that importers have evidently no problem in supplying their product, so there is not a problem that needs to be fixed.

Much more importantly though, giving the airports a critical role in the supply chain would be a serious error. Unlike jet fuel suppliers, airports really are monopolies, and are willing to use to that monopoly power to their advantage. As the ACCC has shown time and again, this is most obvious in the case of airport parking services, but it also true with landside access services.

The airports are the landlords to the JUHIs. The JUHIs have nowhere else they can be. If the airports took up a key role in the supply chain by owning off-airport storage of jet fuel while at the same time determining the price and terms of the existing JUHIs' rental of space at the airports this would be a terrible outcome for competition. The airports could easily exploit this situation for the benefit of their own jet fuel supply businesses. The situation would be exactly like what used to happen when Telstra rented space in its exchanges to its competitors (who had nowhere else to go) so they could supply internet services, while at the same time supplying its own internet services. Telstra provided an extremely poor rental service to its competitors at great cost to competition and consumers. This situation became so intolerable that the Government created the NBN so that Telstra's competitors no longer had to use Telstra's exchanges.

In addition to these economic issues, is the very important point that the reliable and safe supply of jet fuel requires highly specialised skills that airport operators don't have.

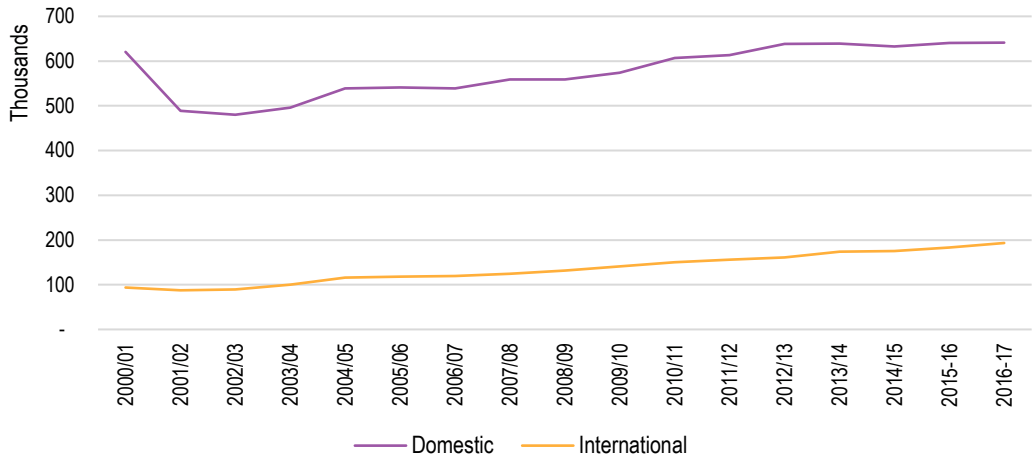
The airports are monopolies. They should not be let into the jet fuel supply chain where they can further leverage their monopoly power.

3.12 The future: what should be done

Jet fuel infrastructure is expensive to invest in and expensive to maintain. For example, ExxonMobil has made over $400 million investment into fuel-supply improvements at the Yarraville terminal and Altona refinery over the past seven years. Of that amount $75 million was invested to construct a new jet tank at Yarraville terminal, a new 2.6km pipeline from Yarraville terminal to the Somerton pipeline and an expansion project at the refinery to increase jet fuel production.

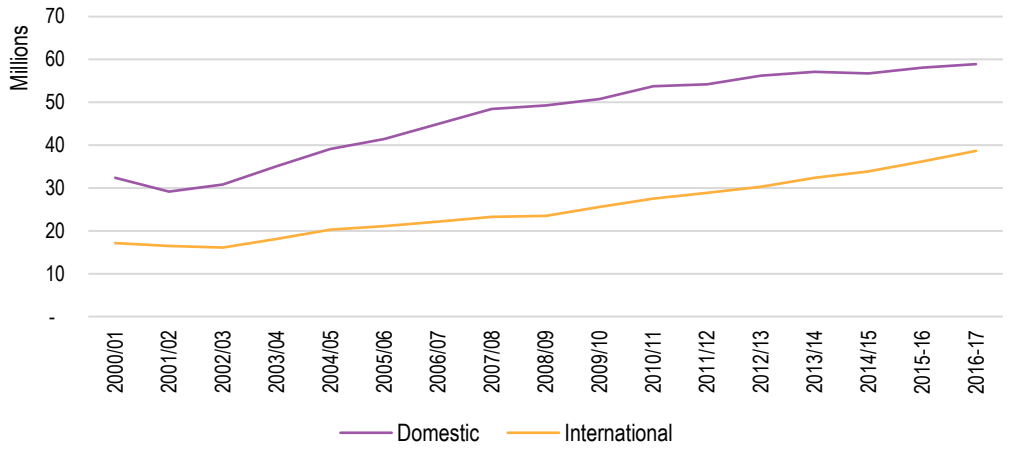
The high cost of investment is not a problem in itself provided the investment can be recouped with a reasonable expected rate of return over time. Amongst other things, this requires certainty of tenure of the JUHIs at airports over a long period of time. If airports offer only short-term leases, this will chill investment. Given the recent and prospective growth in passenger numbers and freight, more fuel will be needed and more investment in jet fuel infrastructure will be needed.

FIGURE 3.4 FLIGHT TOTALS



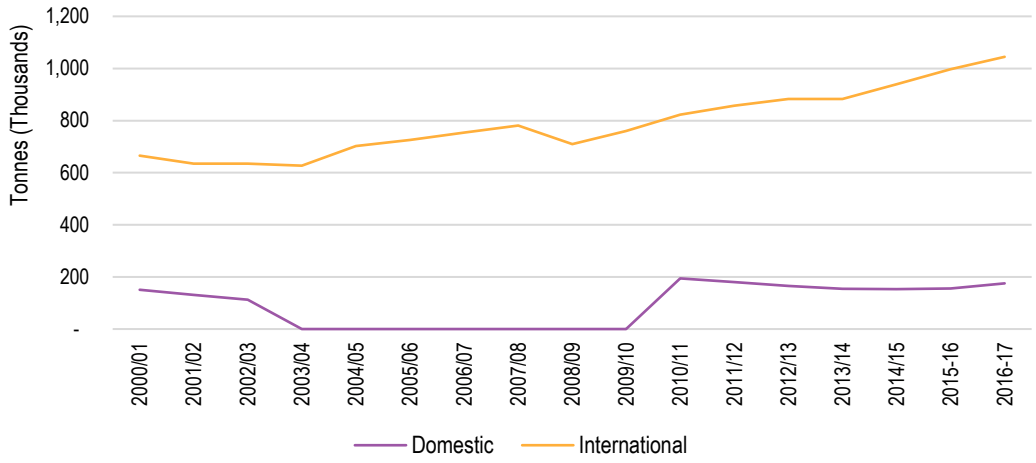
SOURCE: (BITRE, 2018)

FIGURE 3.5 PASSENGER TOTALS



SOURCE: (BITRE, 2018)

FIGURE 3.6 FREIGHT TOTALS



Note: No freight data available for years 2003/04 - 2009/10.

SOURCE: (BITRE, 2018)

The recently agreed 20-year lease at Melbourne was a step in the right direction.

3.13 Conclusions

The jet fuel market is competitive. The evidence supporting this conclusion is the existence of:

- Market dynamics that facilitate new entry and switching to alternative suppliers, and which put downward pressure on prices;
- Multiple import terminals and supply arrangements for storage and transport;
- Open access arrangements for JUHIs; and
- Multiple into-plane service providers.

In contrast, the insertion into the supply chain of airports, who have monopoly power and have shown they are prepared to use it, would be a retrograde step, as would regulation of the supply chain including forced consolidation.

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