3 September 2018

BARA
Board of Airline Representatives of Australia Inc

Submission to the Productivity Commission - the competitive supply of jet fuel

Overview of BARA

The Board of Airline Representatives of Australia (BARA) is the industry body that supports the safe and efficient operations of international airlines serving Australia for the benefit of consumers, businesses and tourism.

BARA's members include many of the world's largest airlines, providing 90% of all international passenger flights, and carrying most exports and imports of freight to and from Australia. The Australian Competition and Consumer Commission (ACCC) has authorised BARA to undertake voluntary, non-binding negotiations on behalf of its members for international flights with major international airports, Airservices Australia and other providers of essential aviation-related services to improve the efficiency and safety of the international aviation industry.

BARA's Vision and Outcomes

To guide BARA's work and clearly articulate its ideals, BARA's members have developed a Vision and outcomes for international aviation in Australia, available at www.bara.org.au. The vision for Australia's international aviation industry is 'High quality, adaptive and efficient'. Underpinning this vision, BARA has identified four key outcomes to boost the competitiveness and productivity of safe aircraft operations. These are:

Outcome 1: Timely and reasonably priced airport infrastructure

Outcome 2: Competitive supply of jet fuel

Outcome 3: Safe and efficient air navigation

Outcome 4: Environmentally sustainable growth

The Australian Government plays a critical role in shaping the international aviation environment and fostering BARA's identified industry outcomes.

BARA's member airlines

AIRASIA X
AIRCALIN
AIR CANADA
AIR MAURITIUS
AIR NEW ZEALAND
AIR VANUATU
ALL NIPPON AIRWAYS
AMERICAN AIRLINES
ASIANA AIRLINES
CATHAY PACIFIC AIRWAYS
CHINA EASTERN AIRLINES
CHINA SOUTHERN AIRLINES
DELTA AIR LINES
EMIRATES
ETIHAD AIRWAYS
EVA AIR
FIJI AIRWAYS
GARUDA INDONESIA
JAPAN AIRLINES
LATAM AIRLINES GROUP
MALAYSIA AIRLINES
PHILIPPINE AIRLINES
QANTAS AIRWAYS
QATAR AIRWAYS
ROYAL BRUNEI AIRLINES
SINGAPORE AIRLINES
SOUTH AFRICAN AIRWAYS
THAI AIRWAYS
TURKISH AIRLINES
UNITED AIRLINES
VIETNAM AIRLINES
VIRGIN AUSTRALIA

Executive Summary

BARA welcomes the opportunity to contribute to the Productivity Commission's inquiry into the economic regulation of airport services, including competition in the market for jet fuel and provision of jet fuel at the major Australian airports. This submission covers the provision and pricing of the jet fuel infrastructure supply chains that underpin the competitive and reliable supply of jet fuel to airlines. In this submission, BARA:

1. Describes the state of competition and reliability of jet fuel supply to international airlines operating from Sydney, Melbourne, Brisbane and Perth airports.
2. Links the constraints with competition to the institutional impediments to the access to, and long-term planning and investment in, the jet fuel infrastructure supply chains.
3. Outlines the reforms that should open the market for jet fuel importers, more efficient operations and a more competitive industry.
4. Provides a supporting appendix that describes sought-after arrangements covering access to, and the long-term planning and investment in, the on-airport storage and distribution facilities at overseas airports.

To help readers navigate through BARA's submission, each section is briefly summarised below together with a link to the section's content.

The market for jet fuel in Australia

International flights uplift some five billion litres of jet fuel annually, which can be expected to double over the next 20 years. International airlines seek a competitive and reliable supply of fuel to support cost-efficient opportunities in Australia.

Jet fuel infrastructure supply chains start from a refinery or port and end at the aircraft at the airport. Often, little information is available about whether the supply chains can support ongoing growth in jet fuel demands and the prospects for competitive supply. **> READ MORE**

Competition and reliability in jet fuel supply

In Australia, the markets for jet fuel at Sydney, Melbourne and Perth airports are usually dominated by only one or two effective suppliers. BARA's efforts on jet fuel issues in Australia reflect the ongoing concerns raised by member airlines.

Globally recognised importers of jet fuel have had their efforts to bring competition to the market at Australian airports frustrated. Fuel rationing disrupts passengers, is costly for airlines and reflects poorly on Australia. **> READ MORE**

Institutional impediments to good industry outcomes

The current suppliers of jet fuel also own most of the jet fuel infrastructure supply chains to the major international airports. These legacy arrangements do not promote effective competition in jet fuel supply, effective planning or timely investments.

There is a lack of transparency over the recently established access arrangements to Melbourne JUHI. BARA remains particularly concerned over the outcomes that need to be achieved at Sydney Airport, which also effectively taxes the flow of fuel to airlines. **> READ MORE**

Executive Summary

Enabling merit-based competition

Achieving access to the on-airport storage and distribution facilities remains the key outcome to permit the sustained entry of new jet fuel importers. This will not happen under existing arrangements.

An agreed infrastructure plan and access arrangements should be mandatory for the on-airport storage and distribution facilities. BARA also supports ongoing demand-supply market studies at Sydney, Melbourne, Brisbane and Perth airports. **> READ MORE**

Arrangements at Australian and overseas airports

Overseas examples highlight good industry arrangements and outcomes that should be pursued here in Australia. The European Ground Handling Directive, established in 1996, further supports competition in jet fuel supply.

Hong Kong International, Dublin and Warsaw Chopin are examples of airports covered. Arrangements at these airports all have common themes in proactively encouraging competition between jet fuel suppliers and reliability in supply. **> READ MORE**

The market for jet fuel in Australia

The demand for jet fuel by international airlines has averaged about 3.5% annual growth over the past seven years, reaching nearly five billion litres in 2016–17. Jet fuel represents up to 40% of an international flight's operating costs and the effective management of its supply is a point of focus for airlines. The current arrangements for jet fuel supply to international airlines at Australia's major international airports do not promote effective competition between suppliers, reliability of supply and timely investments in necessary infrastructure. Australia's international aviation industry has challenges to overcome in obtaining an efficient, competitive and reliable supply of jet fuel.

The efficiency of jet fuel supply is especially critical in Australia, with international aviation defined by very long distances between airports, leading to high fuel consumption. The airlines providing international flights from Australia buy some five billion litres of jet fuel annually in Australia, at a current cost of about $4 billion.[1]

The markets for jet fuel at Sydney, Melbourne and Perth airports are generally dominated by only one or two effective suppliers, defined as suppliers that can meet the jet fuel needs of a number of international airlines. To unlock competition, global fuel suppliers have invested millions of dollars in commercial contracts with existing infrastructure providers. BARA has previously sought infrastructure access declarations under the *Competition and Consumer Act 2010*. Efforts to date, however, have not proven successful, largely due to the lack of a viable reform path.

BARA released its policy paper, A competitive supply of jet fuel at Australia's major international airports, in December 2014. BARA was seeking a new era of cooperation between the airlines, airport operators and industry stakeholders in reforming the provision and pricing of jet fuel in Australia. BARA also covered the issue of jet fuel supply in its submission to the Competition Policy Review, available on the review's website. The panel's view was that competition in jet fuel supply should be a focus of further reform efforts in the aviation sector.[2]

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 when suppliers also control access to the critical infrastructure required by competitors.

The airport operators have a role in facilitating investment in jet fuel infrastructure at the airports. On balance, the efforts to date of the airport operators in relation to jet fuel competition matters has probably led to higher fuel costs for the airlines rather than any net benefits delivered. The level of cooperation between industry stakeholders also remains low at many airports.

At a minimum, access arrangements for jet fuel importers to the on-airport jet fuel storage and distribution facilities are needed. This would provide a starting point for the emergence of greater competition and timely investment in upstream supply infrastructure. The state of competition and possible further reform should be reviewed five years after the necessary initial reforms are implemented at Sydney, Melbourne, Brisbane and Perth airports.

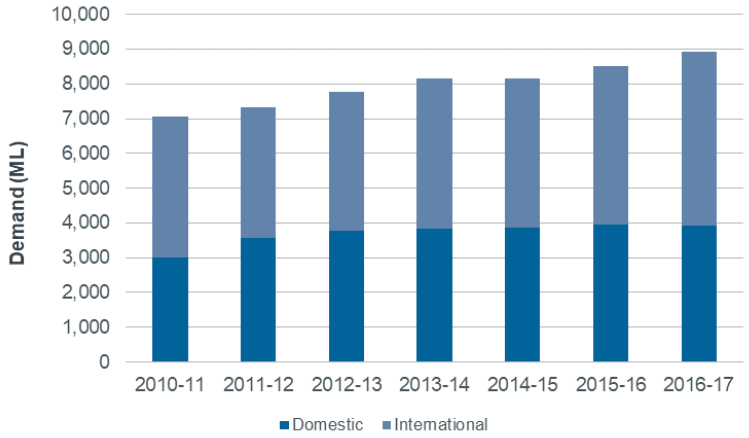
[1] Based on 5 billion litres of jet fuel, current jet fuel prices reported by IATA, estimate of average jet fuel differentials and the current US/AUD exchange rate.

[2] Competition Policy Review March 2015, Final Report, p.206.

Growing jet fuel demands

The demand for jet fuel by both domestic and international flights has increased from about seven billion litres in 2010–11 to nearly nine billion litres in 2016–17 (Figure 1). This growth is occurring because the annual increase in flights is exceeding ongoing improvements in the average fuel efficiency of aircraft. It also reflects the sustained growth in international flights, which on average uplift more fuel per flight.

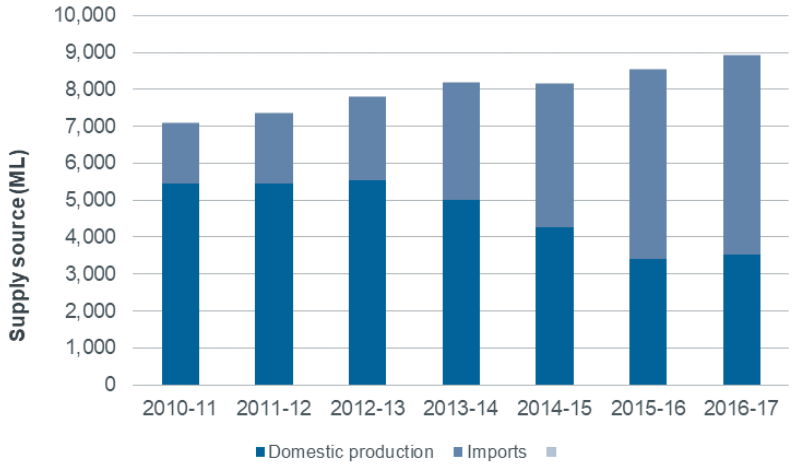
Figure 1. Jet fuel demand, domestic and international flights, ML



Source: Department of the Environment and Energy 2018, Australian Petroleum Statistics; www.energy.gov.au/government-priorities/energy-data/australian-petroleum-statistics

The supply of jet fuel is characterised by increasing reliance on imports (Figure 2). In 2010–11, Australia imported about 23% of its jet fuel needs. By 2016–17, the reliance on imported jet fuel had increased to some 60%. Australia's declining domestic production reflects the conversion of the Clyde and Kurnell refineries in Sydney and Bulwer Island refinery in Brisbane, to fuel import terminals. The conversion of the Clyde and Kurnell refineries means jet fuel supply to Sydney Airport and the new Western Sydney Airport will depend entirely on jet fuel imported into New South Wales. BARA is unaware of any plans to increase domestic production in other states, with the result that all future growth in jet fuel demand will be met through increased imports.

Figure 2. Domestic production and imports, ML



Source: Department of the Environment and Energy 2018, Australian Petroleum Statistics; www.energy.gov.au/government-priorities/energy-data/australian-petroleum-statistics

Jet fuel infrastructure supply chains

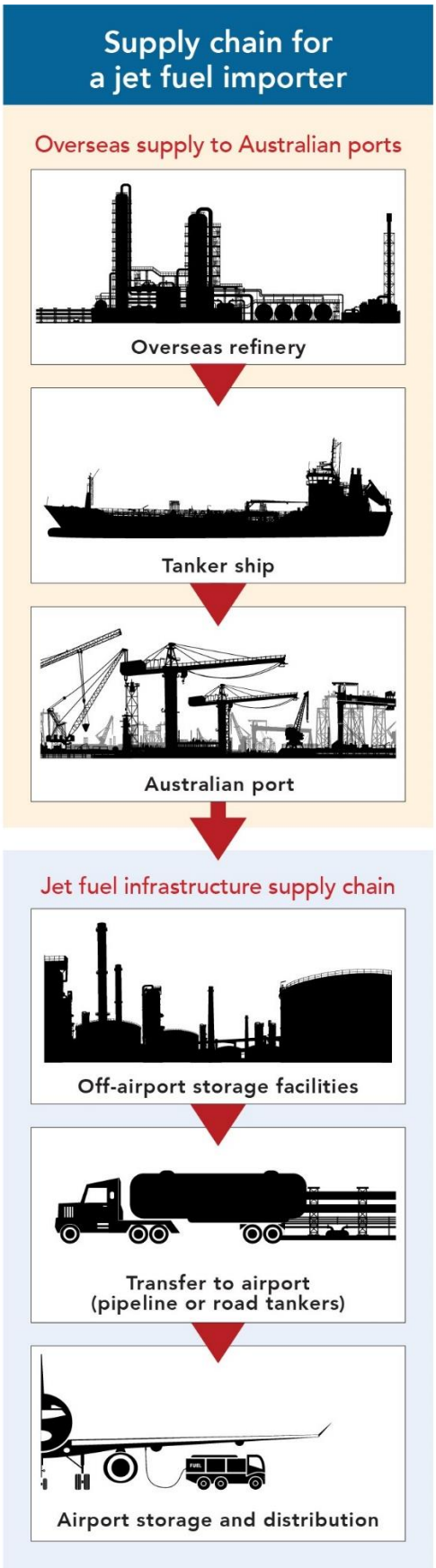
Supplying jet fuel to Australia's major international airports is a complex and costly business. A stylised diagram of the supply chain for a jet fuel importer is shown in the figure to the right.

The supply chain can be broken down into two parts for access and competition analysis. The first part transports fuel from the refinery to an Australian port. The costs here include sea freight, insurance and loss, and wharfage fees. BARA is unaware of any artificial constraints or barriers with this part of the supply chain.

The second part of the chain transports the jet fuel from the port to aircraft at the airport, generally referred to as the 'jet fuel infrastructure supply chain'. Jet fuel is generally first stored off-airport, then transported to storage tanks at the airport either by pipeline or road tanker. It is then transferred into aircraft via pipes and hydrants or refuelling trucks. In Australia, the storage and distribution infrastructure at the airport is usually referred to as a joint user hydrant installation (JUHI). Its name reflects the fact it is generally owned by various existing fuel suppliers through 'joint venture' arrangements.

Despite being a critical input into Australia's aviation industry, there is little publicly available information about the capacity and quality of the supply arrangements. As a result, significant problems in the supply chain may not be identified until after widespread jet fuel rationing occurs at an airport.

This lack of information contrasts with the other infrastructure service providers, including the major international airports and Airservices Australia, where Master Plans and corporate plans are required. This provides industry with some information in understanding the capacity and quality of services they intend to provide.



BARA's input into the Commission's inquiry

BARA has long advocated for improvements in the supply of jet fuel to member airlines at Australia's major international airports. This reflects ongoing concerns members have raised over the unsatisfactory outcomes they incur in purchasing jet fuel in Australia. Jet fuel rationing at Sydney and Melbourne airports over the years has also led to high-profile events, underpinning the need for international airlines to carefully monitor jet fuel supply conditions in Australia.

International airlines are well placed to assess the quality of the outcomes they experience in Australia relative to overseas countries. They would not be raising ongoing concerns with BARA if they were receiving satisfactory outcomes.

BARA's collective negotiation authorisation with the Australian Competition and Consumer Commission (ACCC) does not cover the contracts between airlines and jet fuel suppliers. As such, BARA does not have the same detailed information about the quality of the arrangements and outcomes as compared with the provision and pricing of airport services. Input from several industry stakeholders would provide the Commission with the evidence to allow an overall sound assessment of the existing supply arrangements.

BARA has discussed with airport operators, existing and potential jet fuel importers, governments and stakeholders the need to strengthen the competition and reliability of the supply of jet fuel. BARA's submission highlights the principal areas of concern and the most viable path to improved outcomes, and follows BARA's application to the National Competition Council (NCC) for declaration of the Sydney jet fuel supply infrastructure in September 2011 and its policy paper in 2014.

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Competition and reliability in jet fuel supply

Globally recognised importers of jet fuel that have not previously supplied large quantities of fuel to airlines at Australian airports have seen their efforts to bring competition and lower priced fuel to the market frustrated. BARA is unaware of any long-term material changes to the level of competition between suppliers at Australia's major international airports since 2011. The benefits of reform would include competitive pricing, improved non-price terms and greater reliability in supply through timely investment in the infrastructure supply chains and greater diversity in supply routes.

BARA's longstanding efforts in calling for reform in the arrangements that govern the provision and pricing of jet fuel stem from the ongoing concerns members have raised about the outcomes they experience in Australia. This includes both a lack of effective competition between suppliers and the need to carefully monitor the jet fuel supply situation at Australian airports given the problems with reliability in supply.

Lack of effective competition

BARA maintains an internal working group of member airlines in pursuing improved jet fuel supply outcomes for airlines at Australian airports. BARA relies on input from members in forming an overall position on the state of competition at Sydney, Melbourne, Brisbane and Perth airports. The consensus position of member airlines for these airports is presented in Table 1. BARA does not obtain commercially sensitive information from any airline in reaching this position.

Table 1. Analysis of competitive conditions (supply to wing tip)

	No. of effective suppliers	Rating
Sydney (Sept/2011)	2	Poor
Sydney [(a)] (2016)	2	Poor
Melbourne (2016)	2	**Very Poor**
Brisbane (2016)	3	Satisfactory
Perth (2016)	1	**Very Poor**

Note: (a) Some BARA members report recent improvements in the number of effective suppliers at Sydney Airport.
Source: BARA's Jet Fuel Working Group

While the outcome for an individual airline may improve or deteriorate at various times, the underlying average outcome is well below what should be expected. How international airlines assess the level of competition between jet fuel suppliers is explained in Box 1.

As part of its consideration of BARA's application for declaration of the jet fuel supply chain to Sydney Airport, the NCC examined the level of competition between suppliers. After assessing the opposing arguments, the NCC stated in its Final Recommendations:

> ...the Council does not consider the market associated with the supply of jet fuel is effectively competitive nor that there is a vigorously competitive tender market. (p.25)

The NCC's finding is consistent with the outcomes experienced by member airlines.

Box 1. Measuring competition in jet fuel supply

Airlines are likely to obtain prices for jet fuel consistent with effective competition when:

1. there are multiple existing suppliers able to meet the entire jet fuel needs of individual airlines; and/or
2. existing jet fuel suppliers consider that entry by new suppliers will occur if they seek to obtain excessive prices.

International airlines operating to an Australian airport generally source their fuel from one supplier. Given the 'winner take all' strategy often used, bids from suppliers that can only meet part of an airline's jet fuel needs arguably do not constitute an effective bid.

Reliability of supply and jet fuel rationing

Reliability problems are a feature of the Australian jet fuel supply industry.

Jet fuel rationing to airlines has included:

- Sydney Airport:
  - September 2003, causing disruptions to flights and passengers
  - August/September 2005, 100% allocations[3], no flight disruptions
  - October/November 2008, 100% allocations, no flight disruptions
  - December 2009, 100% allocations, no flight disruptions.
- Melbourne Airport:
  - January 2015, causing disruptions to flights and passengers
  - October 2015, 100% allocations, no flight disruptions
  - November 2016, causing disruptions to flights and passengers
  - July 2017, one fuel supplier subject to rationing, affecting some airlines.

[3] 100% allocation means an airline is allowed a defined amount of previously used jet fuel. Ad hoc operations and aircraft diversions are not supplied fuel. This means airlines cannot nominate airports subject to 100% allocations for diversions, meaning aircraft may have to carry more fuel in operating to other Australian airports.

Such continuing unreliability means airlines need to devote additional resources to monitoring jet fuel supply in Australia. How airlines seek to minimise the impacts of fuel rationing on flight schedules and passengers is explained in Box 2.

Box 2. Managing jet fuel rationing events

Airlines have strategies available to reduce their fuel uptakes at the affected airport in meeting fuel rationing targets, usually determined by the flight time between destinations and the aircraft types available. These strategies are costly for airlines, including greater total fuel burn, longer flight times and potentially cancelled flights. Severe rationing can unfortunately disrupt passenger journeys and potentially lead to the loss of high value perishable freight.

For shorter flights, the airline may have the option of carrying additional fuel for the flight to the affected airport to reduce the fuel required for the departing flight, known as 'fuel tankering'. An operating cost is associated with this practice because the aircraft burns more fuel compared with an ideal fuel load.

For international flights, opportunities for fuel tankering can be limited due to long flight times of up to 14 hours. In such instances, the aircraft cannot carry additional fuel. There are fuel tankering opportunities for international flights of up to around four hours' flight time.

A more expensive option involves 'technical stops', whereby the aircraft takes enough fuel at the affected airport to fly to an intermediate airport to uplift more fuel before proceeding to its final destination. Technical stops increase flight times and airline operating costs due to the requirement for an additional landing and take-off. It can be very costly if a change of crew is required at the intermediate airport. Technical stops also reduce the quality of service to passengers through the need to add an extra stop to the flight and missed onwards connections.

Airlines may also have to offload (not accept) freight and passengers to reduce fuel burn.

Finally, airlines may need to cancel some proportion of flights into the airport. This would most likely involve freight aircraft in the first instance, but may extend to passenger flights if the fuel shortage is severe enough.

The National Operating Committee on Jet Fuel Supply Assurance

The National Operating Committee on Jet Fuel Supply Assurance (NOC) was formed in 2004, after the major jet fuel supply disruption at Sydney Airport in 2003. NOC provides updates to airlines and stakeholders about supply issues at several Australian and overseas airports through a 'traffic light' system. The NOC includes one representative from each of the four major jet fuel suppliers in Australia and an independent person representing the Australian Government.

Airlines require prompt and accurate information about possible disruptions to the supply of jet fuel at individual airports. If little advance notification is provided, airlines can be severely restricted in their ability to quickly manage the supply shortage in its initial stages.

The NOC consolidates and relays the information provided to it via the JUHI owners at each airport. As such, BARA supports the current arrangements continuing as the NOC provides a useful information service to international airlines operating through Australian airports.

The benefits of competitive supply

As in all major markets, creating competitive markets for jet fuel will deliver substantial benefits to industry participants and the Australian economy more broadly. These benefits extend to lower prices for jet fuel, improved non-price commercial terms and an industry more resilient to unexpected changes in supply and demand. This would improve industry productivity and allow international airlines to capitalise on commercial opportunities in the Australian international air transport market.

Competitive pricing

Competitive priced jet fuel to international airlines at Australian airports will reduce overall industry costs to the benefit of airlines, passengers and freight forwarders. Even when jet fuel costs are rising, overall costs should still be lower under a scenario of competitive supply.

BARA notes that statistics produced by ICF International for airports in the United Kingdom demonstrate how increases in the number of effective suppliers is correlated with lower jet fuel prices, as evidenced through lower 'jet fuel differentials'.[4]

Improved non-price commercial terms

Effective competition will also encourage more flexibility on non-price commercial terms from suppliers, including:

- credit conditions
- exchange rates
- contract term length
- package deals where multiple locations are agreed in one tender, leading to overall lower pricing.

These improved commercial terms all contribute to lower operating costs for international airlines.

Improved efficiency and reliability

Sustained levels of competition will also encourage suppliers to make the entire industry supply chain more efficient. This will lead to innovation and investment in supply chain segments, including shipping logistics, to obtain competitive advantage. Effective competition between suppliers at the airport will reduce inefficiencies that currently exist further up the supply chain.

An increased number of potential suppliers can also reduce the impact of market shocks, which may lead to higher prices and airline operating costs. Such shocks can include supply restrictions and refinery maintenance. More suppliers with differing supply routes can support a more diversified and resilient supply chain for the airlines operating through Australian airports.

The benefits of a more competitive jet fuel supply in Australia therefore extend beyond the initial gains to be made through more competitive pricing. They include ongoing incentives for innovation and efficiencies in the supply chain, bringing productivity and reliability benefits.

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[4] ICF International June 2014, Planning of aviation fuel concessions, p.11

Institutional impediments to good industry outcomes

As it stands today, jet fuel importers are burdened with undue uncertainty and financial risk in relation to gaining access to the jet fuel infrastructure supply chain. There is uncertainty about whether they will be able to secure coordinated access to its various segments, coupled with financial risks that can include pre-purchasing access to individual elements without guaranteed access to other parts of the supply chain. This contrasts with the arrangements in place at many overseas airports, which proactively encourage competition and innovation between jet fuel suppliers. Specific comment on the current issues with the on-airport storage and distribution facilities at Sydney and Melbourne airports is also provided.

A major challenge for any jet fuel importer is to obtain access to all segments of the jet fuel infrastructure supply chain, at the appropriate time and in a way that ensures the efficient delivery of jet fuel to airlines. These supply chains in Australia are, however, largely under the ownership and/or control of the existing dominant players in the market – either individually or through joint venture arrangements. Over time, one expected outcome of a more competitive industry would be greater involvement of other parties, including jet fuel importers, in the supply chain.

The uncertainty around obtaining secure and coordinated access to the jet fuel infrastructure supply chains is a clear deterrent to new market entrants and increased competition.

Currently, BARA does not consider that a regulatory framework is required for the entire jet fuel infrastructure supply chain. This is because there might be various options available to jet fuel importers to transport the fuel from a port to the airport. For example, renting existing facilities, such as off-airport storage tanks, or establishing new facilities. If access to the on-airport storage and distribution facilities remains problematic, however, there is little prospect for greater competition and innovation in supply. The need for further reform to the supply chain can be evaluated once access arrangements to the on-airport storage and distribution facilities have been in place for some years.

The specific impediment that jet fuel importers have raised with BARA is access to the on-airport storage and distribution facilities, including into-plane services. Without some form of genuine access to the monopoly assets at the airport, the current suppliers and processes are likely to characterise supply into the future.

Access arrangements at the airports needs to extend to the receiving facilities, storage tanks, the distribution network and the availability of an independent provider of ‘into-plane’ services.[5] Access arrangements needs to include a non-equity form of pricing, where a jet fuel importer does not need to become a part-owner of the facilities. An independent provider of into-plane services needs to be available so jet fuel importers are not required to establish new companies in order to undertake the last step in delivering fuel to aircraft.

[5] For delivery of jet fuel into-plane, fuel is withdrawn out of the JUHI system by into-plane providers that then distribute the fuel into the aircraft. Into-plane providers use fuel distributed from either the hydrant system or bulk tankers.

Sydney Airport and Sydney JUHI

BARA is particularly concerned about the arrangements for the provision, pricing and access to the on-site storage and distribution facilities at Sydney Airport, which is the largest single market for jet fuel in Australia. BARA identified the importance of new lease arrangements between Sydney Airport and Sydney JUHI in 2014, but understands no new lease arrangements are in place. BARA wrote to Sydney Airport in March 2018 and provided a copy of the letter to Sydney JUHI, expressing its concerns and desired outcomes. The main themes of the letter are outlined below.

Service outcomes and infrastructure plan

The Sydney JUHI needs to support the efficient and reliable supply of jet fuel to the airport and the distribution of fuel to aircraft. As with all infrastructure services, the first step is to define the service outcomes that need to be achieved, which should be done in consultation with industry participants, including fuel companies, into-plane service providers, airlines and Sydney Airport.

Ability to receive jet fuel from off-airport storage facilities by either pipeline or road tanker

The ability to receive and store jet fuel is a core item of any refuelling service. Service outcomes must be established for the supply of jet fuel into the Sydney JUHI, including existing pipelines and the requirement to make it possible to connect future pipelines.

The service outcomes for receiving jet fuel by road tanker (bridger facility) at Sydney JUHI are inadequate. The infrastructure can only receive less than 0.5 ML per day, which is less than 5% of current daily average demand. It is also restricted to smaller road tankers and makes unloading fuel and road tanker operations inefficient.[6] While an adequate jet fuel supply to Sydney Airport should not depend on road tankers, suitable bridger facilities are necessary to:

- mitigate the impact of any disruption(s) to pipeline supply
- provide for extra transfer capacity during high demand periods
- offer initial market entry opportunities to new jet fuel importers.

The bridger facility should be upgraded so it can make a significant contribution to supply, through being capable of receiving at least 1.5 ML per day or over 15% daily average demand and supporting efficient road tanker operations. Improvement here would contribute to both the reliability of supply and opportunities for new jet fuel market participants.

Caltex Australia has already stated the service improvement to the bridger facility could occur quickly and the investment costs should be modest:

> Trucking capacity to Sydney Airport could be expanded relatively quickly and with only a modest investment in new infrastructure. Additional truck loading facilities could be installed at the various fuel storage facilities at Port Botany to enable additional jet fuel to be loaded into trucks. In addition, a new bridger facility could be installed at the Sydney JUHI to allow the receipt of additional jet fuel via trucking. The SJFIWG Report estimates that installing such a facility would cost approximately $460,000.[7]

This modest, value-adding investment initiative was recognised in 2011, yet no such investment has occurred. This signals to BARA there are underlying issues with the provision and pricing of aircraft refuelling infrastructure at Sydney Airport.

[6] See 2011 Submission by Caltex Australia to the National Competition Council re BARA access declaration, p.56, on the potential capacity of the bridger facility at Sydney Airport.

[7] 2011 Submission by Caltex Australia to the National Competition Council re BARA access declaration, p.24.

Standards should also be established for the minimum level of stock coverage, generally expressed as a function of average daily demand. At each airport, the stock coverage level should be established with reference to the capacity and reliability of the jet fuel supply chain to the airport and the capability of airlines to manage any supply disruptions. Again, it is necessary to consult industry participants to decide an appropriate jet fuel stock coverage for Sydney Airport.

Distribution of jet fuel to aircraft

The quality of services in distributing jet fuel to aircraft affects the efficiency of operations and opportunities for innovation and competition with into-plane services. As such, standards should be established that cover the:

- ability to efficiently refuel aircraft during peak time demands by airlines, for example, sufficient pressure at the hydrants
- quality of the facilities to support into-plane operators, both existing and potential new providers.

At Sydney Airport, hydrant facilities at the remote bays (Northern Ponds and South West Sector) are also being considered. The remote bays have become increasingly important for bussing operations for international flights as actual growth since 2015 has exceeded that forecast, and Sydney Airport's contact gate capacity cannot meet the higher demand.

These potential investments should be subject to a cost-benefit analysis and presented to airlines for their consideration and input, as they will ultimately benefit from such projects and will be expected to cover the associated cost. The cost-benefit analysis should consider any plans Sydney Airport has to increase contact gate capacity for international flights and/or reduce demands on the international terminal. Additional gate capacity and/or reduced demands may substantially reduce the level of bussing operations and therefore the need for hydrant refuelling services at the remote bays.

Infrastructure plan

Once clear service requirements are established, an infrastructure plan can then be developed to meet the service outcomes. BARA would expect such a plan to have a 5–10 year horizon, while recognising project delivery can vary depending on actual traffic volumes and jet fuel demands over the term of the lease agreement.

Any lease term over the facilities would likely exceed 10 years given the long-term basis of providing aircraft refuelling infrastructure. This means the infrastructure plan needs to be formally updated over the course of a new lease. Such updates should occur after consulting industry participants, with growth forecasts and demand requirements consistent with the overall planned developments at the airport. The long-term integration of the jet fuel supply infrastructure with the planned development of the airport must be a key outcome of any new arrangements in supporting efficient airline operations at Sydney Airport.

Access arrangements (including pricing and fuel throughput levies)

Establishing access to Sydney JUHI for potential jet fuel importers remains a vital component in encouraging improved industry outcomes. Progressively implementing arrangements to support 'competition on its merits' will improve the reliability and cost-competitiveness of jet fuel for airlines.

Pricing issues

BARA has a consistent position in relation to the pricing of infrastructure services, including airport services, air navigation services and jet fuel supply, premised on the fact that service providers should receive adequate compensation (returns) on the actual investments they have made provided this supports the delivery of acceptable service outcomes.

BARA would be concerned if the establishment of access arrangements at Sydney JUHI was designed to deliver a net increase in fuel costs to airlines without any corresponding increase in the capacity or quality of services delivered. This could happen if the Sydney JUHI were to base its access prices on revalued infrastructure assets, effectively requiring users to pay for past investments multiple times. BARA is concerned any new arrangements for Sydney JUHI will include extracting considerable economic rents from airlines through asset revaluations, which will then be shared between Sydney JUHI and Sydney Airport.

BARA also has a longstanding concern with Sydney Airport's fuel throughput levy (FTL). Indeed, BARA's 2016 Position Statement on the Western Sydney Airport states:

> Unfortunately, some airport operators in Australia currently boost their profits by effectively taxing the operations of third parties providing services to airlines, offering no value in return for these revenues. One prominent example is taxing the flow of jet fuel through the airport to aircraft through fuel throughput levies, increasing the cost of this essential input by millions of dollars each year (p.4)

Sydney Airport's FTL is a 'fee for no service', generating millions in annual windfall gains to Sydney Airport. The FTL cannot be commercially justified because Sydney Airport already:

1. recovers the full cost of, and earns generous profitability on, airport services through the landing and terminal prices paid by airlines, and
2. receives a market-based rent on the land occupied by Sydney JUHI, which provides sufficient financial compensation for its investment and costs in fuel-related matters.

Melbourne, Brisbane and Perth airports do not impose a FTL. They recognise that FTLs cannot be commercially justified given full cost recovery of airport services through the prices paid by airlines and a market-based rent on the land occupied by the JUHI. Sydney Airport, on the other hand, effectively taxes the flow of fuel to aircraft through the FTL. This continues to reinforce to member airlines that Sydney Airport cannot be considered a trusted partner in providing and pricing services to them.

Consultative arrangements and information transparency

Effective consultation and information sharing underpins the orderly and efficient delivery of infrastructure services. Little consultation or information sharing occurs between Sydney JUHI and international airlines. BARA is not aware of the level of consultation and information sharing occurring between Sydney JUHI and Sydney Airport.

Sydney JUHI should also establish consultative arrangements with industry participants, including fuel companies, into-plane service providers, airlines and Sydney Airport. They should include, for example, biannual meetings providing stakeholders with updates on actual and forecast jet fuel demands, service outcomes and planned investments. The information can be aggregated sufficiently to address any competition concerns between fuel suppliers.

The consultative arrangements should also extend to the provision of information that justifies the prices for the services delivered, especially for non-equity participation access (ie a throughput fee). It is reasonable that, as the 'sole provider' of services at the airport, Sydney JUHI be prepared to

justify the basis of its prices. Price justification models and information requirements are already well established across a range of infrastructure industries, including electricity, gas and telecommunications networks. Such models could be readily applied to the infrastructure services Sydney JUHI provides.

Competitive reform

BARA is concerned about the quality of the arrangements for the provision and pricing of the jet fuel storage and distribution facilities at Sydney Airport. They are not considered consistent with delivering good industry outcomes. The existing arrangements have not delivered innovation and sustained effective competition in supply, and jet fuel prices to airlines are also inflated by Sydney Airport extracting economic rent through its FTL. It could be expected that Sydney Airport has the incentive and market power to increase its rent extraction through the FTL, or other unjustified fees, as part of any new lease arrangements.

BARA encouraged Sydney Airport to capitalise on the opportunity to settle new lease arrangements with Sydney JUHI in 2014 to the benefit of industry. Based on the outcomes observed to date, however, BARA has little confidence that under the current industry landscape and regulatory framework, Sydney JUHI and Sydney Airport will voluntarily enter into new arrangements that are in the best interests of Australia's international aviation industry. Poorer outcomes than those delivered under the current arrangements remain a distinct possibility.

Melbourne Airport and Melbourne JUHI

Melbourne Airport appears to have achieved necessary improvements in relation to investment in the storage and distribution facilities at the airport, although no consultation with airlines is required under the new lease arrangements. BARA also appreciates that Melbourne Airport has not used the negotiations over the lease arrangements with Melbourne JUHI as an opportunity to extract economic rents through an FTL like Sydney Airport.

The access arrangements to Melbourne JUHI are unknown to BARA and are a source of concern.

Investment

Melbourne Airport has stated: 'In a deal brokered with the assistance of the Victorian State Government, fuel suppliers and Melbourne Airport agreed terms that would ensure both on-site storage and input supply capacity will cope with forecast growth in passenger numbers.'[8]

BARA has been provided with some high-level information on the new investment requirements as part of the Victorian Government's Aviation Industry Roundtable. Unfortunately, BARA understands there is no provision for consulting airlines, which ultimately pay for the services provided. Nor is there an independent provider of into-plane services at Melbourne Airport.

Transparency of access arrangements

BARA sought to obtain information on the access arrangements to Melbourne JUHI, namely:[9]

- application form
- qualifying criteria
- user agreement, user rules and operating principles

[8] Melbourne Airport 20 November 2017, 'New jet fuel infrastructure deal will support decades' worth of passenger growth', press release. www.melbourneairport.com.au/Corporate/News/New-jet-fuel-infrastructure-deal-will-support-deca

[9] See www.tullamarineairportfuelfacility.com.au/

- aircraft refuelling indemnification agreement
- core principles
- disputes regime
- reference tariffs.

BARA was not trying to access the information so as to become a potential supplier of jet fuel to airlines operating from Melbourne Airport. This is not within BARA's remit of activities.

BARA was seeking the information to allow it to assess, and in the first instance, provide feedback to Melbourne JUHI about the new arrangements. BARA was interested in understanding whether the arrangements are consistent with well-established principles and outcomes in providing access to such infrastructure. Given access provisions to jet fuel storage and distribution systems exist at many overseas airports, BARA is also interested in comparing the arrangements with those in place at other locations.

Unfortunately, the generic confidentiality agreement Melbourne JUHI expected BARA to sign was unreasonable to the extent that BARA was concerned it would prevent BARA from usefully participating in improving the reliability and competitive supply of jet fuel to airlines. On this basis, BARA did not sign the confidentiality agreement and has no access to the information.

Pricing

How Melbourne JUHI sets it access price(s) is unknown to BARA. It may be that the price for access to Melbourne JUHI is based on fair and reasonable terms for jet fuel importers, including appropriate levels of transparency. BARA, however, is concerned the pricing arrangements will restrict the market opportunities for new jet fuel importers.

The key concern is that Melbourne JUHI has set prices that discriminate against competitor jet fuel importers. Melbourne JUHI may also be able to increase prices at its own discretion to capture any efficiency benefits achieved by new jet fuel importers. The incentives for airlines to enter into contracts with new suppliers will be greatly diminished if it is known the efficiency benefits of the new supplier will be extracted by Melbourne JUHI. BARA remains concerned given the lack of transparency about the price setting arrangements.

For these reasons, it cannot be concluded that the access arrangements established by Melbourne JUHI support merit-based competition between jet fuel suppliers. Detailed review by the Productivity Commission is therefore warranted in assessing if Melbourne JUHI's access arrangements support competition and the efficiency of jet fuel supply to Melbourne Airport.

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Enabling merit-based competition

A new path, drawing on good overseas arrangements, is necessary to increase the efficiency of jet fuel supply and enable merit-based competition at Australia's major international airports. Providing access to the on-airport storage and distribution facilities should encourage new jet fuel importers to explore opportunities for entering Australia's jet fuel markets. Ongoing market studies sponsored by the Australian Government and state governments are also important in providing transparent information to industry stakeholders. The effectiveness of the new arrangements should be reviewed five years after their implementation to determine if any necessary refinements or modifications are required.

BARA is seeking the following reform outcomes to support the efficient and reliable supply of jet fuel to airlines at Australia's major international airports:

1. An agreed infrastructure plan for the provision of the on-airport storage and distribution facilities, including facilities for into-plane service providers.
2. Mandated, non-discriminatory access to the on-airport storage and distribution facilities.
3. Periodic jet fuel demand-supply studies at Sydney, Melbourne, Brisbane and Perth airports, sponsored by the Australian Government and state governments.

These reforms would deliver a substantial improvement in the efficiency of supply, transparency to industry stakeholders and opportunities for merit-based competition. The efficiency benefits of the new arrangements will support the commercial viability of existing and new international air services to and from Australia.

An agreed infrastructure plan – on-airport storage and distribution

While a basic outcome for the provision of a critical infrastructure service, an infrastructure plan developed with industry stakeholders remains largely absent for the on-airport storage and distribution facilities at Australia's major international airports.

These plans should be created by the facility owner/operator and be integrated with the overall planned development of the airport. Such plans must therefore be produced in consultation with industry stakeholders, including the airport operator, into-plane service providers, ground handlers and airlines. The consistent use of cost-benefit analysis, incorporating service level measurements, should underpin the development of each infrastructure plan.

BARA's suggests that each infrastructure plan is presented and discussed with industry stakeholders as part of the periodic jet fuel demand-supply study for the airport.

Off-airport storage and transport

The off-airport storage and transport facilities are owned and operated by a range of companies. New jet fuel importers may seek opportunities to negotiate terms for the use of existing facilities or invest in the development of new facilities. Existing suppliers will also be making commercial decisions about their level of ownership and investment in off-site storage and transport.

The capacity and quality of the off-airport storage and transport facilities are most usefully 'monitored' through the periodic jet fuel demand-supply studies for each airport. This would identify

any emerging capacity constraints in the supply chain and the possible role of the Australian Government and state government in facilitating major supply increases to the airport. For example, regulatory approvals for a new pipeline.

Access to the on-airport storage and distribution facilities

Jet fuel importers cannot be expected to spend millions of dollars over years in pursuing access to infrastructure through Part IIIA of the *Competition and Consumer Act 2010* simply to obtain the right to compete to supply jet fuel to airlines at Australia's major airports. Instead, as they do today, they will compete and supply fuel to airlines at airports in countries that proactively facilitate competition.

Evidence to date does not support the position that the airport operators can create suitable access arrangements to the on-airport storage and distribution facilities through their lease negotiations with JUHI participants. While some form of access is now in place at Melbourne Airport, it is not known if the arrangements encourage effective competition or restrain the market opportunities for new jet fuel importers. The lack of transparency over the arrangements remains a major problem.

BARA considers that access to the on-airport storage and distribution facilities must be more than only through 'equity participation' and also include a price for required services. This will remove the requirement for new suppliers to effectively become a part-owner of the facilities, which may act as a barrier to entry for some suppliers.

BARA proposes that, the Australian Government, through the Department of Infrastructure, Regional Development and Cities, should invite each of the existing owners of the on-airport storage and distribution facilities to establish a set of access arrangements to their facilities for industry stakeholders to review and comment upon. For Melbourne JUHI, this would involve providing industry stakeholders with details of the arrangements they have put in place.

After receiving and incorporating input from industry, the facility owner would submit the arrangements to the Department for review. If found satisfactory, no further action is required. If not, the facility owner should be directed by the Department to rectify any deficiencies.

If satisfactory outcomes cannot be established within a reasonable time, then the Department should recommend to the Minister an appropriate course of action. This could include 'deemed' declaration of the facilities or the immediate application of 'prices notification' under Part VIIA (Prices Surveillance) of the *Competition and Consumer Act 2010*. This should be sufficient to encourage the facility owner to establish appropriate access arrangements.

Finally, BARA considers Sydney Airport's FTL should be removed and not simply replaced with other unjustified fees. The FTL is a rent extraction from airlines and if Sydney Airport is not willing to forego these unjustified revenues, the pricing of the land occupied by Sydney JUHI should at least be subject to prices notification. This would provide airlines with some protection over continual increases in the economic rents extracted by Sydney Airport.

Ongoing jet fuel demand-supply studies

The Australian Government has initiated reviews of the demand and supply of jet fuel at Sydney and Melbourne airports in response to jet fuel rationing that disrupted flights and passengers in 2003 and 2016, respectively. The recent study completed for jet fuel demand and supply at Melbourne Airport was jointly sponsored by the Australian Government and Victorian Government, which was supported by BARA.

BARA sees merit in establishing a process for conducting jet fuel demand-supply studies for Sydney, Melbourne, Brisbane and Perth airports every five years. The approach used recently for Melbourne Airport could be applied to the other three airports. The outcome of the Melbourne Airport jet fuel demand-supply study has provided a clear understanding of current and emerging jet fuel supply issues.

BARA would also like to see an increase in the amount of material developed from the studies that is made publicly available or confidentially available on request. This would provide potential jet fuel importers with information about the jet fuel market at each airport, rather than this information be restricted to existing suppliers. This outcome would better support effective competition between existing and potential jet fuel suppliers.

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Arrangements at Australian and overseas airports

This appendix provides an overview of the arrangements for the provision and pricing of the on-airport storage and distribution facilities at selected Australian and overseas airports. The descriptions focus on the extent to which the arrangements in place are aligned with supporting effective competition between suppliers, including timely investment in necessary infrastructure. Information on the European Ground Handling directive as applied to the supply of jet fuel is also provided. The description of the overseas arrangements was prepared for BARA by eJet (ejetinternational.com), a specialised consulting firm for jet fuel supply.

The airports included are:

- Sydney Airport
- Melbourne Airport
- Hong Kong International Airport
- Dublin Airport
- Warsaw Chopin Airport.

Aspects of the on-airport and distribution facilities covered include:

- facilities description
- ownership and operation
- investment and pricing
- into-plane services
- environmental liabilities.

Sydney Airport

Summary of arrangements

Airlines are not satisfied that the arrangements for the provision and pricing of the on-airport storage and distribution facilities at Sydney Airport are aligned with supporting effective competition between jet fuel suppliers or timely investment in refuelling infrastructure. Little public information on the arrangements is available. It is known that Sydney Airport imposes an unjustified FTL on fuel volumes.

Table 2. Summary of arrangements – Sydney Airport

Annual flights	Annual passengers	Effective consultation	Cost/pricing transparency	Published tariffs	Non-equity access	Independent into-plane
316,800	44.0m	✗	✗	✗	✗	✓

Facilities description

The Sydney JUHI consisted of the following physical infrastructure in 2011:[10]

- five storage tanks with a total capacity of around 29 ML
- 10 hydrant pumps with a total capacity of 45,000 litres per minute at 1,000 kPa
- approximately 10 km of underground pipelines connecting the storage tanks to the international and domestic terminals and freight bays
- approximately 190 hydrant points at the aprons of the international and domestic terminal aircraft bays.

There were three providers of into-plane services in 2011. BARA is unaware of any publicly available information on the average or peak daily jet fuel use by airlines at Sydney Airport.

Ownership and operation

The Sydney JUHI is an unincorporated joint venture. Its operations are governed by a confidential joint venture agreement (JV Agreement) between Viva, BP, Caltex, ExxonMobil and Qantas.

Investment and pricing

Sydney JUHI has stated that 'the operating costs within the JUHI are largely allocated on a user-pays basis, ensuring that participants who supply and withdraw larger volumes through the JUHI are liable for a proportionally larger share of the costs'.[11]

Sydney JUHI also states, 'the JV Agreement governing the operation of the JUHI explicitly provides for a mechanism by which access can be obtained to the services provided by the JUHI. That mechanism is equity participation in the JUHI JV'.[12]

[10] Sydney JUHI 2011, Submission by Sydney Airport JUHI Joint Venture regarding the BARA application for 'Service No 1: provided by the Sydney JUHI Facility', p.10

[11] Sydney JUHI 2011, p.17

[12] Sydney JUHI 2011, p.25

Melbourne Airport

Summary of arrangements

BARA does not know if the provision and pricing of the on-airport storage and distribution facilities at Melbourne Airport are aligned with supporting effective competition between jet fuel suppliers. While a path to non-equity access is available, the terms and pricing of this access are unknown. All into-plane operations are owned by existing jet fuel suppliers.

Table 3. Summary of arrangements – Melbourne Airport

Annual flights	Annual passengers	Effective consultation	Cost/pricing transparency	Published tariffs	Non-equity access	Independent into-plane
238,300	36.7m	✗	✗	✗	✓	✗

Facilities description

The on-airport storage capacity is 6.8 ML with current daily demand of 6 ML, providing just over one days' average daily demand coverage.[13]

Ownership and operation

The on-airport storage and distribution facilities at Melbourne Airport (Melbourne JUHI) are owned by a joint venture of fuel suppliers, including ExxonMobil, Viva, BP and Caltex. Melbourne JUHI leases the land occupied by its facilities from Melbourne Airport.

Investment and pricing

BARA has received some high-level information on capacity and investment requirements. No consultation with airlines is required.

Melbourne Airport has stated: 'In a deal brokered with the assistance of the Victorian State Government, fuel suppliers and Melbourne Airport agreed terms that would ensure both on-site storage and input supply capacity will cope with forecast growth in passenger numbers.'[14]

A form of non-equity participation access is available, although the price, terms and conditions offered are commercial in confidence. The website for interested parties is www.tullamarineairportfuelfacility.com.au/

Melbourne Airport obtains a market-based rent on the land occupied by Melbourne JUHI and does not impose a FTL on the fuel delivered through the JUHI.

[13] Melbourne Airport 2018, Preliminary Draft Master Plan 2018, p.169.

[14] Melbourne Airport 20 November 2017, New jet fuel infrastructure deal will support decades' worth of passenger growth, press release.

Hong Kong International Airport

Summary of arrangements

The provision and pricing of the on-airport storage and distribution facilities at Hong Kong International Airport (HKIA) are aligned with supporting a competitive and reliable supply of jet fuel. The concept is for open access fuel supply. This means any fuel supplier, or airline which wishes to 'self-supply' either itself or alliance partners, that meets certain qualification requirements has the right to bring its fuel to the airport, and have it stored and handled towards its customers' aircraft in return for a transparent fee.

Table 4. Summary of arrangements – Hong Kong International Airport

Annual flights	Annual passengers	Effective consultation	Cost/pricing transparency	Published tariffs	Non-equity access	Independent into-plane
420,630	72.9m	✓	✓	✓	✓	✓

Facilities description

The aviation fuel facilities at HKIA comprise a large fuel facility capable of storing more than 220 million litres of jet fuel (or approximately 10 days' supply), an extensive hydrant network fully serving the extensive passenger and air cargo aprons, and a comprehensive system of subsea and onshore pipelines linking the airport fuel facility with its upstream supply terminal.

Jet fuel is transferred to the on-airport storage facilities from a deep water import facility, enabling large marine vessels (up to 80,000 tonnes capacity) to deliver jet fuel to the airport. It replaced an earlier jetty for smaller vessels that was provided for the first 10 years of the airport and comprises about 200 ML additional fuel storage. This is a strategically important contribution to maintaining a legal minimum of 11 days aggregate storage at the airport and at its dedicated import facility (to which it is connected by a pipeline system). This is a government requirement because Hong Kong is subject to seasonal typhoons. Certain categories of typhoon can interrupt shipping yet flights can still operate – which means fuel storage reserves can deplete and take some time to recover. This is especially the case given Hong Kong does not have any domestic refining capacity – all jet fuel is imported by sea – and some sources, such as Singapore, are up to a week's sailing time away.

Ownership and operation

A complex joint venture that reflected the full spectrum of US and European oil companies, home-based Hong Kong air carriers and mainland Chinese fuel suppliers and aviation organisations formed a Design Finance Build Operate Transfer Concessionaire (DFBOT Concessionaire) to build the facilities. At the earliest opportunity, the Airport Authority Hong Kong (AAHK) instructed the transfer of the facilities as provided for under the contract, the concessionaire was compensated and effectively terminated as owner and investor. Its obligation to operate the facilities was continued.

The operating term was originally 20 years, at which point another operator could be appointed or the existing one rolled over. During the operating term the capital cost of the facilities was to be recovered by the concessionaire from repayments out of the Throughput Fee. Given that AAHK took early ownership, the capital cost repayment was accelerated.

Investment and pricing

Investment in expanding the facilities occurs after consultation. Originally, the DFBOT Concessionaire was offered first right of refusal to invest once AAHK had taken the decision to

expand. If the concessionaire declined, mechanisms existed for AAHK to carry out further construction work or to appoint others to invest and recover the cost – the underlying principle being that enough capacity would always be available to support the airlines at the airport. AAHK created a regulator because it was aware aviation fuel facilities form one critical activity where duplication of assets or competition in service provision is not appropriate. The regulator supports AAHK in its decision making, and AAHK delegates it certain powers and takes advice from it – but AAHK retains the right of veto. The regulator comprises the airlines (home-based and visiting), fuel suppliers, the fuel facility operator, and when required, the into-plane fuelling service providers.

From the outset, AAHK applied the principle of user pays, with transparency in what was being asked to be paid. The Throughput Fee is required to be:

- Transparent: known to relevant stakeholders.
- Fair: applied to all without discrimination, including in terms of fuel quantity, time of day or nature of the customer.
- Reasonable: is representative of the cost of the service provided at the time it is provided, and can be tested against it.

The Throughout Fee is a separate line item on an airline's fuel charge from its fuel supplier and is distinct from the actual price of fuel or the cost of supply of fuel to the airport boundary.

The implementation of open access fuel supply at HKIA upon its opening was a commercial success for the airlines in improving competition in fuel supply. Overnight, the market grew from seven fuel suppliers at the old airport (each of which had an equity stake in the fuel facilities) to 13 at the new airport. Of the 13, only seven had an equity stake in the fuel facilities but under the auspices of a franchisee and not as permanent owner.

Despite the relatively high cost of the new aviation fuel facilities at the airport (more than US$250 million), from the outset the airlines reported paying no more for fuel than they had at the old airport, with prices falling sharply as aggressive new players entered the market.

Into-plane fuelling services

These were originally let to two different parties on the basis there was merit in having competition in the delivery of fuel from the hydrant system into aircraft wing. A separate competition for the development and operation of these two franchises was run. Given that the into-plane fuelling infrastructure was less extensive, the lead in time was less than for the fuel facility and related facilities.

In the intervening 20 years the airport has grown from about 30 million to some 70 million passengers. In 2014, AAHK initiated a third into-plane franchisee.

Environmental liabilities

An element of the Throughput Fee can accrue into a reserve with enough to pay for any environmental clean-up at the end the facilities' lifetime. It was not intended to pay for any clean-up due to the negligence of the operator. It is understood this accrual was not triggered at the outset because airlines resented paying for something so far into the future.

Dublin Airport

Summary of arrangements

Dublin Airport is Europe's fastest growing airport with longstanding routes to North America and a growing number of routes to the Middle East and Far East.

A new operator was appointed in 2016 with the obligation to upgrade the on-airport storage and distribution facilities and operate them as open access. That is, the right of a fuel supplier to supply fuel to airlines is not contingent on having an equity stake in the facilities, or any financial obligation to the facilities save for payment of a usage tariff.

The concept is like the time-proven one from Hong Kong, although with some differences. While it is still at an early stage, airlines appear to be satisfied the concept is working according to their requirements, and new fuel suppliers appear keen to enter the market.

Table 5. Summary of arrangements – Dublin Airport

Annual flights	Annual passengers	Effective consultation	Cost/pricing transparency	Published tariffs	Non-equity access	Independent into-plane
225,343	29.9m	✓	✓	✓	✓	✗

Facilities description

The aviation fuel facilities at Dublin Airport comprise a revamped fuel facility capable of storing 15 ML of jet fuel, providing about six days' supply, and an expanding hydrant network partially serving the passenger aprons. Both construction activities are under way.

The hydrant serves the passenger terminal pier used mostly by the flag carrier and is being extended to the pier used by the dominant low-cost carrier (LCC) at the airport. All other parts of the airport are served by bowser. Bowser loading takes place at the landside fuel facility; an option to relocate loading to an airside location was not pursued.

While there is one small domestic refinery in Ireland some 300 km from the airport, most jet fuel is imported, mostly from the UK. All fuel supply to the airport is by road from bulk storage at Dublin Port some 10 km away. There are longstanding, but as-yet-unrealised plans for the private sector to build a pipeline to link the airport fuel facility with upstream supply terminals at Dublin Port. At least one of the major oil companies owns bulk storage at the port (there have been some recent divestments), and the oil majors still supply fuel although they left on-airport operations several years ago. Their exit was preceded by a lack of investment in the airport fuel facilities that kept pace with, and supported, continued growth in jet fuel demand by airlines at the airport. It allowed the airport to take greater control and initiate open access fuel supply.

The airport does not take any position in upstream infrastructure, and so cannot facilitate open access to fuel storage at the port. Nor can it facilitate open access to the future pipeline.

Ownership and operation

A Design Finance Build Operate Transfer Concessionaire (DFBOT Concessionaire) owned by a Spanish oil products distribution company, which was appointed in 2016 after competitive tender, operates the facilities and is expanding them. As well as ensuring a seamless transition from the previous oil industry incumbents, the priority was to install new and significantly expanded fuel storage at the airport fuel facility.

The operating term is 20 years, during which time the capital cost of the facilities is to be recovered from repayments out of the Throughput Fee. The increase in the fee was objected to by airlines.

Investment and pricing

Given that the DFBOT Concessionaire has recently started to operate and is constructing first phase facilities in parallel, future investment in expanding the facilities will be dealt with in due course.

As in Hong Kong, the Throughput Fee is required to be:

- Transparent: known to relevant stakeholders.
- Fair: applied to all without discrimination, including in terms of fuel quantity, time of day or nature of the customer.
- Reasonable: is representative of the cost of the service provided at the time it is provided, and can be tested against it.

The Throughout Fee should be a separate line item on an airline's fuel charge from its fuel supplier and is distinct from the actual price of fuel or the cost of supply of fuel to the airport.

Into-plane fuelling services

Dublin Airport comes under the ambit of the European Ground Handling Directive, and because it has more than 2 million passengers or 50,000 tonnes of cargo, is required to have no less than two into-plane fuelling services providers. New providers were not appointed at the same time as the DFBOT Concessionaire for the fuel facilities and hydrant because the incumbents' licences had not expired. Therefore, there are two services carrying the brands of two of the previous fuel facilities participants with services provided by sub-contractors.

Environmental liabilities

Unlike in Hong Kong, the airport decided not to let an element of the Throughput Fee accrue into a reserve to pay for any environmental clean-up at the end the facilities' lifetime. Instead environmental liabilities are met by the party that caused the relevant impact. Given the fuel facilities site is aged and predates contemporary environmental best practice, base-lining and agreeing legacy responsibilities formed a key part of the process that preceded the new fuel facilities operator.

Warsaw Frederic Chopin Airport

Summary of arrangements

Warsaw Airport is one of Europe's strongest growing airports (15% growth in passengers and 11% growth in flights year-on-year) with some long-haul flights by the flag carrier and other airlines, but a dominant LCC/short-haul demographic. It competes with several other European capital city airports of similar size for cultural and leisure passenger traffic, and also competes with other modes of transport.

Despite serving over 14 million passengers annually, fuel uplifts are only about 1 ML per day, reflecting the mainly short-haul nature of the business.

The short flight distances mean airlines have considerably more choice in fuel uplifting than they do at Australian airports when flying long haul – it is entirely possible (and indeed is part of the business model of LCCs) not to fuel at an airport for the next flight sector, but to uplift more at the preceding airport if fuel is cheaper there and 'tanker' fuel into the more expensive airport. Warsaw Airport is vulnerable to this effect because a lot of its business is from LCCs and, recognising this vulnerability, it has had to work hard to ensure that fuel does not compromise other revenue streams. That is, expensive/non-competitive fuel can cause airlines to cancel existing routes or not establish new routes – leading to loss of passenger numbers, in turn leading to loss in revenues from non-aeronautical activities, including car parking and retail.

Table 6. Summary of arrangements – Warsaw Airport

Annual flights	Annual passengers	Effective consultation	Cost/pricing transparency	Published tariffs	Non-equity access	Independent into-plane
178,296	14.4m	?	✓	?	✓	✗

Facilities description

There is no hydrant system, therefore all aircraft fuelling is by bowser. A conventional fuel facility supports this form of operation.

Ownership and operation

At Warsaw Airport there are four fuel suppliers – two related to oil majors and two regional players. Only one owns storage at the airport, into which the fuel is supplied by rail. Other suppliers were able to use this infrastructure (but had to negotiate rights and price with the owner) or had to deliver their fuel to the airport by road.

However, in 2016 a major change took place. On land leased from the Polish state railway company, the airport management company established a common-user railway receipt terminal. Fuel is pumped from rail cars into the existing airport fuel facility, which is still owned and operated by one of the fuel suppliers.

All fuel suppliers have access to the new infrastructure at a flat rate price, so there is transparent and non-discriminatory pricing. Fuel suppliers compete by providing the lowest price and the best quality of service to win airline customers.

Investment and pricing

The new open access initiative is an investment by the airport in infrastructure to improve resilience and facilitate competitive fuel supply.

Ground handling at community airports in Europe

Background

The term ‘ground handling’ covers a wide variety of services required by airlines to operate flights, including maintenance, fuel and freight handling. Ground handling also covers passenger check-in, catering, baggage handling and transport within the airport.

Since 1997, the provision of ground handling services in the European Union (EU) is covered by Directive 96/67/EC (COUNCIL DIRECTIVE 96/67/EC of 15 October 1996 on access to the ground handling market at Community airports).

The directive opened ground handling services to competition. Before this, monopolies were the norm for ground handling services at EU airports and many airlines complained about the unreasonable prices and inadequate quality of services. Under the EU rules, there is now free competition for the majority of ground handling services at larger EU airports, resulting in more choice for airlines. This in turn means improved service levels and lower fares for passengers.

For certain services, such as baggage handling, ramp handling, fuelling and freight, the EU member state may, however, decide to limit the number of suppliers. In these cases, the minimum number of suppliers has to be two and at least one of them has to be independent of the airport or the dominant airline at that airport. Some airlines choose to provide their own ground handling services, which is known as ‘self-handling’. Similar rules on competition apply to self-handling airlines.

At any airport where the number of suppliers of ground handling services is limited under the directive, a selection procedure must be used; and this must comply with several fixed principles:

- When suppliers must meet standard conditions or technical specifications, the conditions or specifications must be established following consultation with the Airport Users' Committee. The selection criteria must be relevant, objective, transparent and non-discriminatory.
- Following consultation with the Airport Users' Committee, suppliers can be chosen by the managing body of the airport provided that this managing body does not provide similar services itself; and has no control over any entity which does.
- The invitation to tender must be launched and published in the Official Journal of the EU (OJEU).

Where it is necessary for a supplier to access an installation to perform its duties (eg a fuel hydrant system), the managing body of the airport must make provisions to enable this – and provide enough space for each supplier to compete effectively. Charging an access fee is allowed where it can be justified, but this must be on a relevant, objective, transparent and non-discriminatory basis.

The Directive applies to all EU Community airports open to commercial traffic whose annual traffic is not less than 2 million passengers or 50,000 tonnes of cargo.

In parallel, EU member states may:

- reserve for one body, under certain conditions, the management of the centralised infrastructures that cannot be divided up or the cost of which does not allow for duplication (and an airport fuel facility would generally be an example). In parallel, subject to certain conditions, member states may grant exemptions to airports where specific constraints make it impossible to open the market and/or implement self-handling to the degree provided for in the directive;

- subject the activity of suppliers of ground handling services to the requirement to obtain a licence issued by a public authority independent of the airport, to guarantee safety, security, environmental protection and compliance with social legislation;
- take the necessary measures to ensure suppliers of ground handling services and airport users wishing to self-handle have access to airport installations. Where access to these installations is subject to a fee, the fee will be determined according to relevant, objective, transparent and non-discriminatory criteria.

Purpose and outcomes

The EU Ground Handling Directive is intended to give users a choice in their ramp service provider at airports where choice/competition should mean lower cost. This is as opposed to very small airports where choice may mean inefficiencies and where a single service provider is acceptable – for example where fuel uplifts are so small that the quantum cost of fuel is relatively unimportant compared with the cost inefficiencies of multiple fuel service providers. It makes a carve out that in certain cases a single piece of infrastructure (eg a fuel facility) is logical and appropriate.

The directive has largely achieved its main objective, to open the ground handling market. The EU Commission is continuing to monitor the application of the rules to ensure high levels of passenger safety and comfort, as well as competitive pricing for airlines. Numerous studies have been done since it was implemented in 1997; however, these studies have not necessarily been commissioned by the European Union and have not resulted in change to the original directive.

Application to jet fuel supply

In most cases, the requirements of the Ground Handling Directive are satisfied in terms of into-plane fuelling if there are two providers.

This is as distinct from open access fuel supply – which opens the market to as many fuel suppliers as airlines wish to contract with at an airport (and the number of suppliers is not restricted by limitations on access to the fuel infrastructure). The Ground Handling Directive helps support open access fuel supply because the concept of choice is maintained through the supply chain all the way to the aircraft wing.

The carve out from the directive of the centralised infrastructure of fuel facilities and hydrant systems means most airports have a single fuel facility and a single (common-user) fuel hydrant system. Considerations of resilience may change the way the single fuel facility model is seen (ie major airports may conclude, after evaluation, that their resilience may be improved by establishing a second or satellite fuel facility where future expansion tankage is located), but with respect to maintaining and promoting effective competition, the single fuel facility is accepted. A single hydrant system is clearly the only practical option; there is no competitive benefit in duplicating this infrastructure; and resilience can be designed into a single system.

Further information may be obtained from the relevant part of the European Commission's website (https://ec.europa.eu/transport/modes/air/airports/ground_handling_market_en)

RETURN TO EXECUTIVE SUMMARY

Four key outcomes

BARA's Policies, Position Statement and quarterly *Airline Views* articulate the outcomes and reforms that will support a safe and efficient international aviation industry for Australia.

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