BRIEF

Competition in jet fuel infrastructure and supply

Case study: Kingsford Smith Airport – Sydney (SYD), Australia

1. Introduction

Aviation fuel is one of the largest operating expenses for airlines, typically representing 26–33% of total costs[1]. Maintaining a reliable, efficient, and competitive fuel supply chain, from refinery to wingtip, is therefore critical to cost control, operational resilience, and long-term financial and environmental sustainability.

Yet in many regions, access to jet fuel infrastructure remains limited. New suppliers face significant barriers stemming from legacy structures, which restrict access, conflicts of interest in infrastructure ownership; capacity constraints; and entrenched monopolistic or duopolistic behavior.[2] Such conditions can suppress competition, make jet fuel more expensive, and therefore increase financial and operational pressure on airlines.

Experience shows that airports shifting from restricted-access fuel systems to open, competitive infrastructure models generate clear industry benefits.[3] Sydney Airport (SYD), Australia's largest international gateway, illustrates how legacy access frameworks can inhibit competition but, equally, how reform can reshape market dynamics in a positive way.

Historically, SYD's fuel infrastructure operated under limited-access arrangements, including the SYD fuel farm, the Joint User Hydrant Installation (JUHI), which were governed by incumbent oil company members alongside privately owned upstream assets. These structures restricted supplier participation and discouraged new entrants. Independent reviews consistently found that such arrangements suppress competitive tension and limit price competition.[4]

Industry bodies also reached similar conclusions. The National Competition Council (NCC) noted that even airports with multiple suppliers may lack effective competition due to infrastructure constraints, high access fees, or the absence of independent in-plane service providers, thereby allowing suppliers to gain a dominant position vis-à-vis airlines. The Board of Airline Representatives of Australia (BARA) likewise identified

[1] **IATA Knowledge hub - www.iata.org/en/publications/newsletters/iata-knowledge-hub/unveiling-the-biggest-airline-costs**
[2] **NCC - ncc.gov.au/images/uploads/DEJFBADR-001.pdf**
[3] **Insights - www.claytonutz.com/insights/2025/october/opening-access-to-jet-fuel-infrastructure-to-capitalise-on-investment-in-low-carbon-liquid-fuels**
[4] **IATA - www.iata.org/en/programs/sustainability/reports/access-to-fuel-infrastructure-report/**

unnecessarily high jet fuel prices at major Australian airports, including SYD,[5] due to restricted supplier competition.

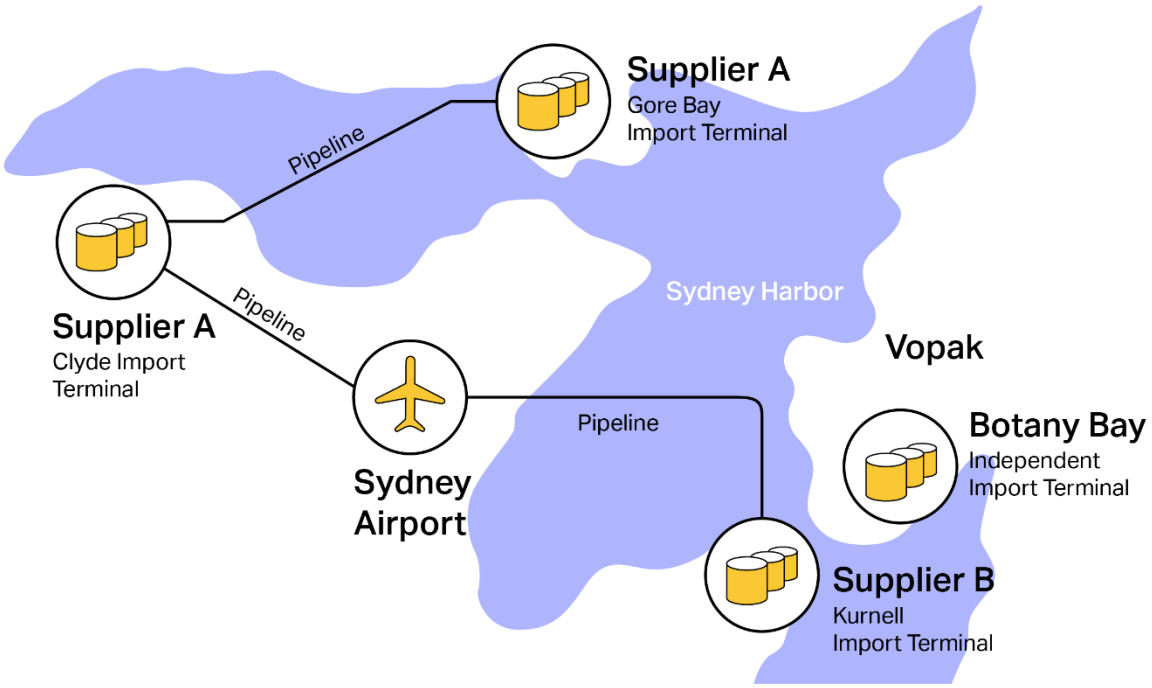
Using SYD as a case study, this brief demonstrates how improved infrastructure access, transparent pricing mechanisms, and clearly defined long-term investment frameworks can reshape airport fuel market dynamics, reducing market concentration, mitigating supply chain risks, and supporting more stable, cost-effective airline operations.

2. Legacy jet fuel supply chain structure at SYD (pre-2007)

Prior to 2007, jet fuel supply at SYD was effectively controlled by two dominant suppliers. Key infrastructure elements, including the pipelines supplying SYD and the associated import terminals (Chart 1), were owned and operated by these same two incumbent oil companies. This vertical integration across import terminals, pipelines, storage, and on-airport infrastructure created a structurally concentrated market.

The oil industry maintained that this integrated structure delivered an economically efficient supply chain. However, a third major global oil company supplied only limited volumes to smaller customers, while another withdrew entirely due to its inability to compete under prevailing market conditions. Notably, even after ceasing supply operations, this oil company retained its membership in the JUHI and continued to participate in operational committees, thereby protecting its control and oversight over Australia's and the region's largest and busiest airport.

Chart 1: Jet fuel supply chain for SYD in 2007



[5] BARA - bara.org.au/wp-content/uploads/2015/09/A-Competitive-Supply-of-Jet-Fuel-at-Australias-Major-International-Airports-December-2014.pdf

Competition bottlenecks

Under the historic structure, SYD effectively functioned as a duopoly fuel market. Two dominant suppliers controlled upstream and midstream infrastructure, while additional competitors faced structural constraints that prevented meaningful participation. This supply chain model produced several anticompetitive outcomes:

1. **Limited incentive to reduce prices:** With few viable alternatives, airlines had minimal bargaining power. Switching suppliers was technically constrained or commercially impractical.
2. **Price convergence rather than competition:** In duopolistic markets, where two firms dominate the market, prices tend to be higher than in competitive markets because these firms can exert significant market power, similar to a monopoly. Because there are only two dominant market participants, they can easily monitor each other and align on pricing, resulting in higher, less competitive prices.
3. **High barriers to entry:** Restricted access to import terminals, storage, and pipelines prevented new entrants from establishing scalable operations. Without a credible competitive threat, incumbents sustained higher margins.
4. **Limited transparency:** With few active competitors, airlines had fewer price reference points for benchmarking and negotiation.
5. **Cost pass-through:** Infrastructure and operational costs could be passed through to airlines with limited scrutiny as to justifiable cause due to the absence of competitive pressure. This not only drives up prices but also removes any incentives to improve efficiency.
6. **On-airport structural constraints:** The JUHI structure, governed by incumbent oil companies, contained contractual mechanisms that restricted new entrants and preserved incumbent advantage. These bottlenecks constrained airline growth, limited route expansion, and impeded efforts to diversify fuel sources by restricting access to critical infrastructure.

3. Industry intervention and strategic reform

In 2005, industry stakeholders launched a self-supply, open-access initiative to enable competitive entry into the SYD jet fuel supply chain. The underlying premise was clear: without alternative supply pathways, meaningful competition could not emerge.

The initiative focused on securing access to critical infrastructure across the jet fuel supply chain, including the Botany Bay Bulk Liquids Berth import facilities (BLB1 and BLB2), off-airport storage, a strategic pipeline historically controlled by an incumbent supplier, and on-airport storage infrastructure. At the time, access to the on-airport and hydrant infrastructure required both an equity contribution and a usage-fee agreement. It should be noted that such access agreements can be challenged and vary significantly across different regions worldwide.

The goal was to establish a competitive, transparent jet fuel supply model from refinery to wingtip. The program focused on three outcomes:

- Transparent operating costs
- Non-discriminatory access for new entrants
- Sustained competitive tension through expanded supplier participation

Reform required coordinated engagement among Sydney Airport Corporation Limited (SACL), the National Competition Council (NCC), incumbent oil companies, new suppliers, and independent storage operators such as Vopak. Removing upstream bottlenecks was essential: constrained berths, terminals, or pipelines would

negate any on-airport reforms. Without full supply chain access or at least control of critical nodes, competition, resilience, and pricing efficiency would remain limited.

Securing access to the larger privately owned pipeline in SYD became the decisive milestone. Pipeline delivery is the lowest-cost, most efficient, and most reliable transport mode for an airport the size of SYD; without it, new entrants rely on higher-cost, emissions-intensive, capacity-limited trucking. While useful for short-term flexibility, trucking cannot provide scalable competitive entry.

Suppliers also needed scale. New entrants generally require anchor airline volume commitments to achieve viable investment returns, typically over a five to seven-year horizon. Airline support, therefore, needs to be long-term and resilient to incumbent strategic responses and market developments.

Unlocking unused capacity on the largest pipeline created the first material breakthrough. In 2007, industry pressure secured limited third-party access, with an onshore airline obtaining pipeline rights that same year, signaling that entry was possible but tightly restricted. BARA subsequently lodged an NCC declaration request, which, although unsuccessful, publicly elevated concerns about monopolistic practices within the JUHI and pipeline system.[6]

This pressure contributed to the largest supplier's 2013 decision to release two additional pipeline access days per month via competitive tender, an important shift that enabled new entrants to scale and justify further investment. The challenge also exposed structural weaknesses within the JUHI joint venture, prompting SACL to investigate governance reforms and review the operator of the fuel farm.

Governance reform also relied on constructive engagement from industry trade organizations. Their involvement, particularly through submissions to government agencies, helped ensure that concerns were framed as sector-wide matters rather than as individual commercial interests, thereby strengthening the credibility and influence of the reform effort.[7]

To enhance resilience and increase volume deliveries, stakeholders also developed an airport-linked Bridger (road tanker) facility, creating an independent pathway for direct tanker-to-airport transfers. This reduced reliance on incumbent-controlled infrastructure and increased redundancy downstream from import discharge, enabling new entrants to participate incrementally while securing pipeline and storage capacity.

Full reform required restructuring of on-airport governance. The JUHI joint venture model was incompatible with open-access principles. In 2020, after a long process, SACL assumed ownership of the airport's jet fuel infrastructure to eliminate conflicts of interest, enable investment flexibility, and support future fuel diversification, including Sustainable Aviation Fuel (SAF). Broader supplier access was identified as a regulatory and strategic priority for SACL and the industry.

Following an international tender, SACL appointed an independent service provider, starting operations on 1 October 2020. This transition delivered governance, neutrality, cost transparency, and promoted competitive discipline across the airport fuel market.

[6] **NCC - ncc.gov.au/images/uploads/DEJFBADR-001.pdf**
[7] **AU Gove - assets.pc.gov.au/inquiries/completed/airports-2019/report/airports-2019-overview.pdf**

4.The current situation: A competitive market

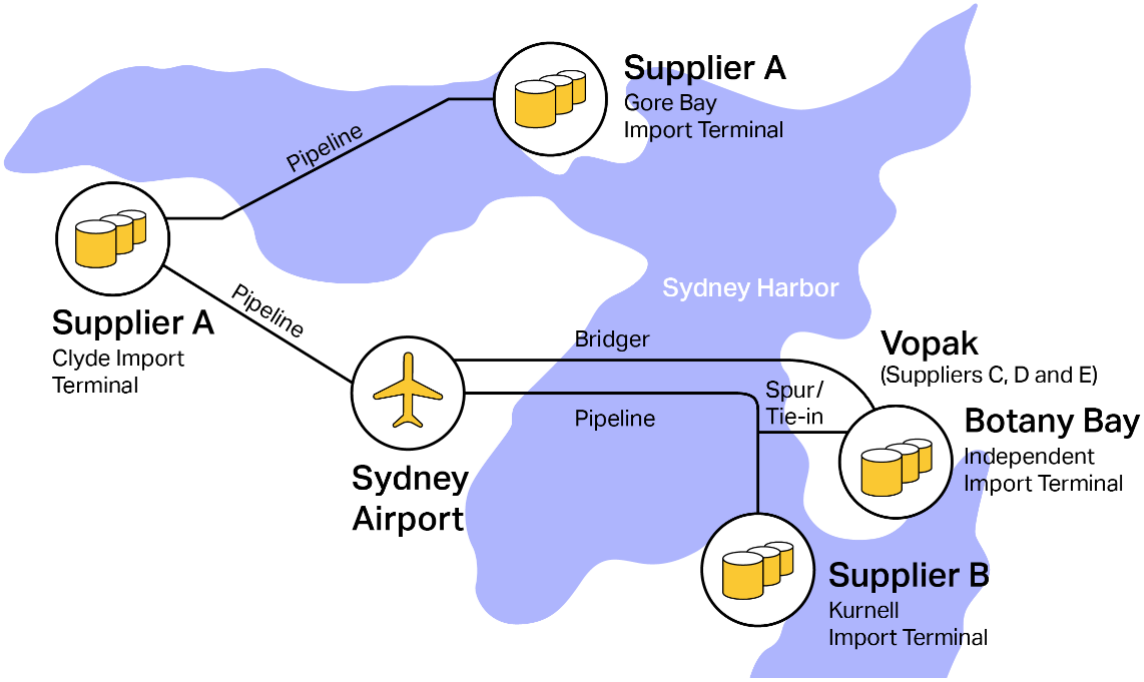
Today, SYD Airport is supplied by four fuel providers and one airline (self-supply).

- **Supplier A** imports fuel at Gore Bay, transfers it via a multi-product pipeline to its Clyde Import Terminal, batches product at Clyde, and then transports via a dedicated pipeline to the SYD jet fuel tanks.
- **Supplier B** discharges import vessels at its Kurnell terminal, batches fuel onsite, and transfers product via its dedicated pipeline to the SYD jet fuel tanks.
- **Suppliers C, D, and E** discharge products at BLB1&2, utilizing Vopak storage tanks for settlement, and delivering fuel to SYD either:
  - via allocated pipeline access days through suppliers B pipeline, and spur line; or
  - by dedicated truck deliveries into the airport system.

The product-handling facilities at BLB1&2 are owned by each product terminal, which are connected via a pipeline from the berth. The main products handled are refined fuels, gases, and chemicals. This is an open-access, multi-user facility.

While five suppliers now operate at SYD, the infrastructure access model remains critical to ensuring continued genuine competitive tension.

Chart 2: Current jet fuel supply chain for SYD



Benefits to airlines

After the new supply routes were established, the SYD market experienced an immediate shift in supply dynamics and pricing. Two additional suppliers now had the ability to enter, grow, and compete with the major incumbents over the long term. The initial benefits observed from 2007-2010 included:

- Four active suppliers, increasing competition
- Immediate price reduction of approximately 3% per annum
- Improved supply reliability
- Greater pricing transparency and accountability

As noted earlier, continuous strategic refinement by the participating partners, including airlines, suppliers, and other supply-chain stakeholders, was essential to respond effectively to competitive actions from incumbent oil companies. In the years following the initiative, established suppliers moved to defend their market share, contributing to a marked decline in average jet fuel prices at SYD.

To deter new entrants, incumbents reduced prices to just below prevailing market benchmarks. These dynamics require stakeholders leading the initiative to continuously adjust and reinforce their strategy to maintain competitiveness and secure durable, long-term benefits.

These improvements included:

- Expanding the supplier base, which:
  - improved shipping economics
  - increased off-airport storage utilization through faster product turnover and sharing of maintenance costs
- Deepening partnerships, such as adding new oil-company partners, which enabled:
  - further improvements in shipping economics
  - shared shipping costs (e.g., demurrage)
  - shared storage and infrastructure costs (e.g., filtration and product-quality equipment)

Sustainable Aviation Fuel

Access to infrastructure for SAF remains a global challenge and a significant barrier to scaling production and advancing aviation's decarbonization objectives. Although SAF was still in its infancy between 2007 and 2010, when the original self-supply and open-access initiative was being developed, that experience demonstrates how improved infrastructure access can generate substantial, long-term benefits.

It also underscores the scale of effort and extended timeframes required to secure meaningful access to critical infrastructure. This reinforces the urgency of acting now to ensure SAF can be efficiently integrated into existing fuel systems and positioned to support broad, sustained market adoption.

Regional impact

One of the key strengths of this initiative was its ability to generate positive spillover effects across the broader region. The successful implementation of the SYD self-supply and open access strategy created momentum for similar reforms at Melbourne Airport (MEL), where stakeholders pursued comparable improvements in infrastructure access and supply chain efficiency. By importing fuel into both SYD and MEL via double-discharge vessel operations rather than separate shipments, suppliers realized additional shipping efficiencies while leveraging growing customer demand across both airports.

By 2020, fuel suppliers had begun preparing to expand into additional Australian locations, demonstrating how strategic supply-chain reforms can reshape market dynamics, strengthen the viability of new entrants, and deliver enduring competitive benefits.

5.Lessons learned

The introduction of a new import supplier into SYD created opportunities for growth across multiple ports in Australia and the broader region, as suppliers expanded their customer base and improved import and supply-chain efficiencies.

SYD's success story required a coordinated approach from industry stakeholders and spanned over a decade. The involvement of national competition authorities, as well as airport buy-in, was necessary to first highlight the problem and then facilitate access to infrastructure.

Identifying the critical barriers to competition and carefully planning a way forward were key to achieving a positive outcome that has resulted in increased efficiency and cost reductions across a broader geographical scope.