



Independent Consumer & Competition Commission

PNG Aviation Sector Inquiry

Draft Report



November 2025

Foreword

The Independent Consumer and Competition Commission (ICCC) is a statutory body established under the provisions of the Independent Consumer and Competition Commission Act 2002 (the ICCC Act) to promote competition and fair trading, regulate prices of certain declared goods and services, and to protect consumers' interests, and other related purposes. The ICCC is empowered under the ICCC Act to have one full-time Commissioner and two part-time Commissioners who form the ICCC Board. At the time of compiling this Report, the Board comprises:

Mr. Roy Nunts Daggy – Commissioner and Chief Executive Officer

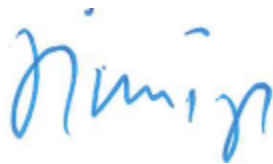
Mr. Jack Timi – Associate Commissioner (Resident)

Mr. Marcus Bezzi - Associate Commissioner (Non-Resident)

This Report contains the ICCC's draft determinations which are informed by the submissions received by the ICCC from various stakeholders and relevant key industry players during the course of this Review process.

Enquiries regarding this review should be directed to **Stella Mirisa Kora**, *Executive Manager – Regulated Industries and Productivity Division* or **Francis Sakato**, on telephone 312 4600 or via email on skora@iccc.gov.pg or fsakato@iccc.gov.pg respectively.

Authorized by:



JACK TIMI

Associate Commissioner - Resident

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Executive Summary

This report, the Draft Report, provides the draft findings of an Inquiry undertaken by the Independent Consumer and Competition Commission (ICCC) into the Papua New Guinea (PNG) Aviation Sector.

It provides a comprehensive diagnosis of the sector, highlighting development impediments and economic imperfections and market information asymmetries, including limited competition, lack of pricing transparency, and weak coordination. The report recommends economic regulatory reforms—such as introduction of price control regulation, performance measurement, consumer protections, and institutional coordination—to address these market failures and promote a more competitive, efficient, and consumer-oriented aviation industry in PNG.

Section 12 of this report presents comprehensive draft findings and recommendations that highlight the need to strengthen competition, enhance regulatory frameworks and improve consumer protections to boost the efficiency and accessibility of PNG’s aviation sector. A high-level summary of these findings and recommendations is provided below.

Draft Findings & Recommendations

The National Airport Corporation (NAC) and NiuSky Pacific Limited (NiuSky) are both Government owned monopolies. NAC is the only service provider in cities where it has airports. NiuSky is the only provider of their services within PNG. Their pricing lacks transparency, and fees are not clearly linked to actual costs. This reduces trust among airlines and passengers. While NiuSky’s prices are roughly average internationally, its recent increases seem too high when viewed against its returns, even though earlier prices did not fully cover its costs.

Evidence suggests that airfares in PNG are about average compared to countries with similar income levels. While this implies that the aviation sector is performing adequately compared to its peers in other countries, the industry needs to continually improve to better meet the transport needs of PNG. And there are some easy to implement changes that can be made to support this.

By contrast, NAC’s domestic airport and landing fees are higher than average. It has not provided the ICCC with the required financial information for ICCC’s benefit to be able to assess whether NAC’s prices reflect its costs.

International experience has demonstrated economic regulation of airports can drive service quality, improved performance and pricing efficiency. It is recommended that both NAC and NiuSky be officially declared for economic regulation with a dedicated independent economic regulator accorded with mandates to regulate prices and service levels.

PNG’s aviation market faces limits mainly due to low household incomes, which keep passenger numbers small and reduce airline efficiency. While there are no major barriers to competition for airlines that meet PNG licensing rules, government policy still affects market entry. An open skies policy could attract more airlines and routes. Having two active domestic airlines—Air Niugini and PNG Air—is impressive for a market of PNG’s size, as similar countries often have only one. Air Niugini’s larger scale gives it an advantage, and it earns profits in strong years, while PNG Air continues to struggle financially. Ensuring fair competition between them is essential, even though there is currently no evidence of anti-competitive conduct.

International air connections remain limited. Similar-income countries generally have more foreign airlines and destinations, showing room for improvement. Domestically, passengers often report frustration about service quality, but neither NAC nor NiuSky systematically measure or report performance. Without linking service standards to pricing, improvements are unlikely. Applying economic regulation tied to performance goals could encourage better service delivery.

There are also issues with how airport funds are allocated. A steering group dominated by airlines and airport users could help guide investments so that spending matches real industry needs and provides clear benefits for passengers. PNG passengers also need better rights and complaint channels. Creating a dedicated function within an independent economic regulatory agency could handle complaints and set clear rules for how airlines must respond to cancellations or delays. This would improve accountability, even if it does not fix all the deeper structural problems.

Overall, the sector needs broad regulatory reform. Limited transparency and weak coordination between NAC, NiuSky, the Civil Aviation Safety Authority (CASA), and the Department of Transport hold the sector back. Charges can rise without proper justification, and service quality is inconsistent. Stronger regulatory oversight should include clear pricing frameworks, regular public reporting, and cost-based tariffs. Declaring NAC and NiuSky under the ICCA Act is the most practical first step, though creating a dedicated aviation economic regulator is also an option. International experience shows that clear institutional roles, coordination, and active engagement with airlines and airport users lead to better planning, investment, and service outcomes.

In short, the aviation system would improve through stronger oversight, transparent pricing, better performance data, coordinated investment, and stronger passenger protections. These steps would improve competition, service quality, and affordability, while supporting sustainable growth.

One option is to classify the aviation sector as a regulated industry by establishing an economic regulatory function within an existing government agency or department, granting it authority over the sector's economic and consumer protection matters. However, related legislation will need to be amended or introduced to ensure alignment between safety and economic regulation priorities and objectives.

Successful reform will also require close cooperation among the ICCA, NAC, the Department of Transport, CASA, and other aviation agencies to deliver improvements in infrastructure, reliability, and access.

1 INTRODUCTION

Air transport plays a vital role in Papua New Guinea's (PNG) development by linking a geographically dispersed population, enabling access to essential services, trade, and economic activity. In PNG, aviation is not just a convenience but a lifeline for both major provincial centers and remote communities, as well as a driver of national cohesion and productivity.

Due to persistent concerns around airfares, service reliability, and infrastructure performance within the PNG aviation sector, the Independent Consumer and Competition Commission (ICCC) has initiated this aviation sector inquiry under the auspices of *PART VIII of the Independent Consumer and Competition Commission Act 2002*.

The Draft Report therefore documents the draft findings of the inquiry and proposes a series of proposed policy, regulatory, and institutional reforms aimed at enhancing the efficiency, fairness, and sustainability of aviation services in PNG. The ICCC expects to provide its final recommendations on these draft findings in its Final Report, which will be released towards the end of 2025.

1.1 Background

In 2006, the Government directed the ICCC to undertake a public inquiry into the aviation sector. In its Final Report, the ICCC made recommendations to improve operating efficiency and cost competitiveness, while addressing impediments to growth and sector performance.

There main recommendations included:

- Maintain an open and competitive environment while addressing specific market failures such as thin routes, airport infrastructure availability, and industry safety regulation
- Reform of the Civil Aviation Authority (CAA) with accounting separation and longer-term organizational separation, where commercial activities are distinct from regulatory and operational roles
- The CAA's charges should be subject to a transparent, consultative process with industry stakeholders, and an independent body such as the ICCC to arbitrate disputes over fee changes.

The transition from a combined authority model (CAA) to a separated institutional framework unfolded as follows:

- 2007: PNG Air Services Limited was corporatized and later rebranded as NiuSky Pacific Limited, assuming responsibility for air traffic management and navigation services previously held by the government.
- 2009: The National Airports Corporation Limited (NAC) was established as an independent entity to manage and operate the country's 22 national airports, formally separating airport operations from regulatory functions.
- 2010: The Civil Aviation Safety Authority (CASA) of Papua New Guinea was established under the Civil Aviation Act 2000 to lead aviation safety regulation, including the licensing and oversight of pilots, aircraft, and aviation operations.

While this institutional restructuring was a significant step, it was not followed through with by formal economic regulatory frameworks to oversee aviation industry pricing levels, infrastructure access, or consumer protection. Over the years, the ICCC has conducted several internal assessments of the price levels, competition and consumer protection matters with the aviation sector. Outcomes of the ICCC’s internal reviews, among other findings, have advocated for the introduction of monopoly price oversight, stringent consumer protection measures and fostering competition for airlines, including provision of Jet A1 supply market. However, these outcomes have not been publicly discussed or debated, nor have they been leveraged to support the institutional capacity needs within the aviation industry.

As a result, many of the systemic issues identified in the 2006 review continue to persist. These issues include:

- High airfares with limited pricing transparency;
- Lower standards of airport infrastructure services, especially in major cities and remote areas;
- Poor customer service and complaints handling mechanisms, with no clear regulatory redress.

The aviation sector still lacks a dedicated oversight framework to monitor airfare movements, address anti-competitive behavior, or safeguard consumers’ rights from poor service quality. The current state of affairs in the PNG aviation sector is inconsistent with the objectives of *the ICCC Act* and PNG’s broader policy goals, which emphasize fair market conduct, efficient infrastructure use, and protection of consumer interests.

In 2023, the Government mandated the Department of Transport to lead the development of the PNG National Aviation Policy (2023–2028). The Policy’s accompanying Discussion Paper, released in April 2023, identified major weaknesses across the aviation ecosystem—from poor infrastructure quality and rising airfares to limited market competition and regulatory fragmentation. These gaps were acknowledged as barriers to achieving inclusive socio-economic development.

With the uncertainty around the finalization of the National Aviation Policy, and the continued deterioration in pricing and service standards, the ICCC determined it was necessary to initiate a formal, independent inquiry under Part VIII of *the ICCC Act*.

1.2 Issues Paper

This Inquiry was launched by the ICCC through the publication of an Issues Paper in June 2025. The Issues Paper outlined 24 key questions addressing a wide range of aviation sector concerns (see Appendix A). These questions which broadly cover the following areas:

- Monopolistic control of airport infrastructure by NAC;
- Dominance of the airline market by Air Niugini Limited (Air Niugini) and PNG Air Limited (PNG Air);
- Lack of competition in aviation fuel supply, currently controlled by a single provider;
- Weak pricing transparency and absence of formal consumer protections;
- Less than optimal institutional governance and gaps in regulatory coordination.

Following the release of the Issues Paper through the mass media, the ICCC further reached out directly to 34 stakeholders, including state departments, authorities and agencies, business houses, business groups and provincial governments amongst others.

At the time of writing this Report, submissions were received from the following parties:

1. International Air Transport Association;
2. Asian Development Bank;
3. NiuSky Pacific Limited;
4. Air Niugini Limited
5. PNG Air Limited
6. PNG Institute of National Affairs;
7. Tourism Promotion Authority
8. PNG Chamber of Commerce and Industry;
9. Morobe Provincial Government Administration; and
10. Karimui Conservation and Resource Management Programme Inc (of Simbu Province).

Stakeholder submissions to the Issues Paper formed the basis of this report. The present review builds on that consultation process and proposes concrete recommendations to address the systemic challenges facing PNG’s aviation sector.

1.3 Structure of the Report

This report firstly undertakes a comprehensive review of PNG’s aviation sector, by examining its challenges, institutional roles, cost structures, and regulatory options. It then assesses airport and airline operations, market competition, consumer protection, and key cost drivers, while drawing on international benchmarks and best practices. The report also explores institutional capacity, regulatory reform, and the potential for a dedicated economic regulator. Finally, it presents practical, phased recommendations and a strategic roadmap to guide sustainable growth and improved efficiency in PNG’s aviation sector.

1.4 Requirements to Provide Information to the ICCC

During its market reviews and investigations, the ICCC has extensive statutory authority under Sections 127-131 of the *ICCC Act 2002*, to summon witnesses, demand information and documents, conduct searches with warrants, and require regulated entities to maintain and produce records. Non-compliance with these requirements is subject to penalties under *the Act*.

Table 1: Statutory Authority Provisions under *the ICCC Act*

Section of the Act	Title	Key Requirements
127	Summoning Witnesses	ICCC may summon any person to appear, give evidence on oath, and produce documents. Failure to comply is an offense.
128	Obtaining Information Generally	ICCC may require any person to furnish information or answer questions (orally, in writing, or under oath). False information or refusal to comply is an offense.

Section of the Act	Title	Key Requirements
129	Entry and Search	With a Magistrate's warrant, authorized officers may enter premises, inspect documents, and take samples. Obstruction is an offense.
130	Regulated Entities to Retain Records	ICCC may order regulated entities to keep specified accounting records for a designated period and make them available. Non-compliance or false records is an offense.
131	Access to Information	Information submitted to ICCC is publicly available unless marked confidential. ICCC may disclose confidential information if in the public interest. Unauthorized disclosure is an offense.

Failure to comply with the act can result in financial penalties and prison terms.

- For summary prosecution: A fine not exceeding K50,000 or imprisonment for up to six months, or both
- For prosecution on indictment: A fine not exceeding K100,000 or imprisonment for up to two years, or both

2 METHODOLOGY

2.1 Consultation Process and Stakeholder Engagement

The Issues Paper was shared widely with government agencies, aviation operators, industry associations, fuel suppliers, provincial administrations, and the general public.

Stakeholders consulted included: airlines (Air Niugini, PNG Air, and charter operators), infrastructure providers (NAC and NiuSky), government departments and authorities (Department of Transport and Treasury), provincial governments and local-level authorities, fuel suppliers, freight handlers, airport contractors, civil society, consumer groups, and public representatives as well as development partners (ADB).

Stakeholder feedback on Issues Paper was collected through written submissions, targeted interviews, and consultative meetings. The insights gained were critical in identifying systemic issues and validating sector performance data useful to support the draft recommendations of this report.

2.2 Review of Documents, Regulations, and Data

As part of the Inquiry, the ICCC undertook a review of relevant policy and legal frameworks, including pricing schedules and performance data for aviation industry players. The review included:

- Analysis of tariff structures imposed by NAC and NiuSky
- Review of civil aviation legislation, including the *Civil Aviation Act 2000* (as amended), and applicable ministerial determinations
- Examination of airport operations, infrastructure maintenance standards, and regulatory compliance documentation
- Historical and current fare structures and revenue data from airline operators (as available)
- Internal and external audit reports, performance indicators, and statistical records from sector institutions

2.2.1 *Medium Term Development Plan*

Consistent with MTDP IV, under Strategic Priority Area 02 – Connect PNG Infrastructure and Deliberate Intervention Program 2.3 – Connect PNG Air Transport, the Department of Transport is undertaking a review of sector policy and legislation. While no major reforms are planned at this stage, the review is focusing on three key areas:

1. Establishing the National Weather Service as a standalone authority.
2. Encouraging competition for the management of PNG’s airspace.
3. Encouraging market entry by reducing entry barriers.

However, the establishment of economic regulatory framework for government monopolies—such as the NAC and NiuSky — appears to lack policy priority.

It is reasonable to argue that PNG’s aeronautical charges should reflect the operational and infrastructure costs at each airport. More importantly, these rates must be set within the boundary of agreed parameters that mimic a competitive environment and drive improvement in the quality of infrastructure of services provide by airports. Economic regulation of monopolies is necessary to drive consumer-focused outcomes in the absence of a competitive market.

2.3 **Comparative Benchmarking - Regional and Global**

To assess PNG’s aviation performance and regulatory practices in context, the Inquiry includes a comparative benchmarking exercise. Similar jurisdictions were selected based on geographic and economic characteristics, aviation network size, and the use of regulatory frameworks to support competition or essential service delivery.

Countries such as Malaysia and Vietnam were considered as comparators for benchmarking PNG domestic airfares but were excluded due to significant structural differences. These countries have large, competitive aviation markets with extensive networks, multiple carriers, and lower operating costs supported by strong infrastructure and economies of scale. Similarly, Indonesia and the Philippines have larger, more competitive domestic markets with better-developed aviation infrastructure and higher traffic volumes than PNG. In contrast, PNG’s domestic market is small, dispersed, and shaped by challenging terrain, remote airstrips, ability to pay, and limited infrastructure, resulting in higher operational costs. These disparities make direct fare comparisons inappropriate, so benchmarking is restricted to markets with more comparable geographic and operational conditions. Even if data from Indonesia and the Philippines were included, it would be largely illustrative and would not materially affect the draft report.

In Section 4 of this report, we outline the limitations associated with the benchmark methodology. Nonetheless, the benchmarks were drawn from countries such as Fiji, Samoa, Vanuatu, Solomon Islands, the Caribbean states, and selected OECD developing economies. The benchmarking exercise focused on:

- Economic regulation of airports and air navigation services
- Fare oversight and consumer protection mechanisms
- Public service obligation models and subsidy frameworks
- Performance benchmarking and reporting requirements
- Market entry procedures and fuel supply regulations

This international perspective helped to identify best practices and feasible policy options that could be adapted to PNG's aviation context.

2.4 Development of Aviation Cost and Service Models

To complement stakeholder input and document analysis, the ICCC developed simplified aviation cost models to assess how various cost components contribute to the final price of airfares and freight services in PNG. The cost modelling approach included:

- Fixed and variable cost structures
- Route density and distance factors
- Airport charges, handling costs, and navigation fees
- Estimation of breakeven passenger loads and cargo volumes

The models helped clarify the economic drivers of airline pricing and guided the review of fare justification, particularly for remote or low-traffic routes.

Where possible, the findings from cost modelling were cross-checked with stakeholder feedback and international benchmarks to validate assumptions and strengthen policy recommendations.

3 SECTOR OVERVIEW AND INSTITUTIONAL LANDSCAPE

This section outlines the structural characteristics of PNG's aviation sector, including its physical infrastructure, major service providers, and institutional responsibilities.

PNG relies heavily on the air transport due to its mountainous terrain, scattered islands, scattered population, and limited road and maritime connectivity. Aviation serves as a primary mode of transport for key public services and people movement, connecting urban centres with remote rural communities and supporting essential services such as healthcare, education, and emergency response.

3.1 Aviation Infrastructure and Network

PNG's aviation infrastructure includes:

- 22 national airports are managed by the NAC, including major hubs like Jacksons International Airport in Port Moresby, Nadzab Airport in Lae, Kagamuga Airport in Mt Hagen, and Tokua Airport in East New Britain.
- There are hundreds of rural and remote airstrips, many of which are community-operated or serviced by charter flights and third-level airlines. Most of these rural airstrips have not been in operation for decades.
- Terminal facilities and navigation systems vary significantly in quality, reliability, and accessibility, with many remote airstrips lacking weather monitoring systems, lighting, or sealed runways.

While some major airports have undergone recent upgrades (e.g. Jacksons and Nadzab), many regional airports (e.g. Kagamuga and Tokua) suffer¹ from outdated infrastructure that are inadequate to meet modern aviation needs. They also have limited capacity and exposed to operational inefficiencies. These deficiencies affect flight schedules, increase operating costs, and contribute to service delays and cancellations.

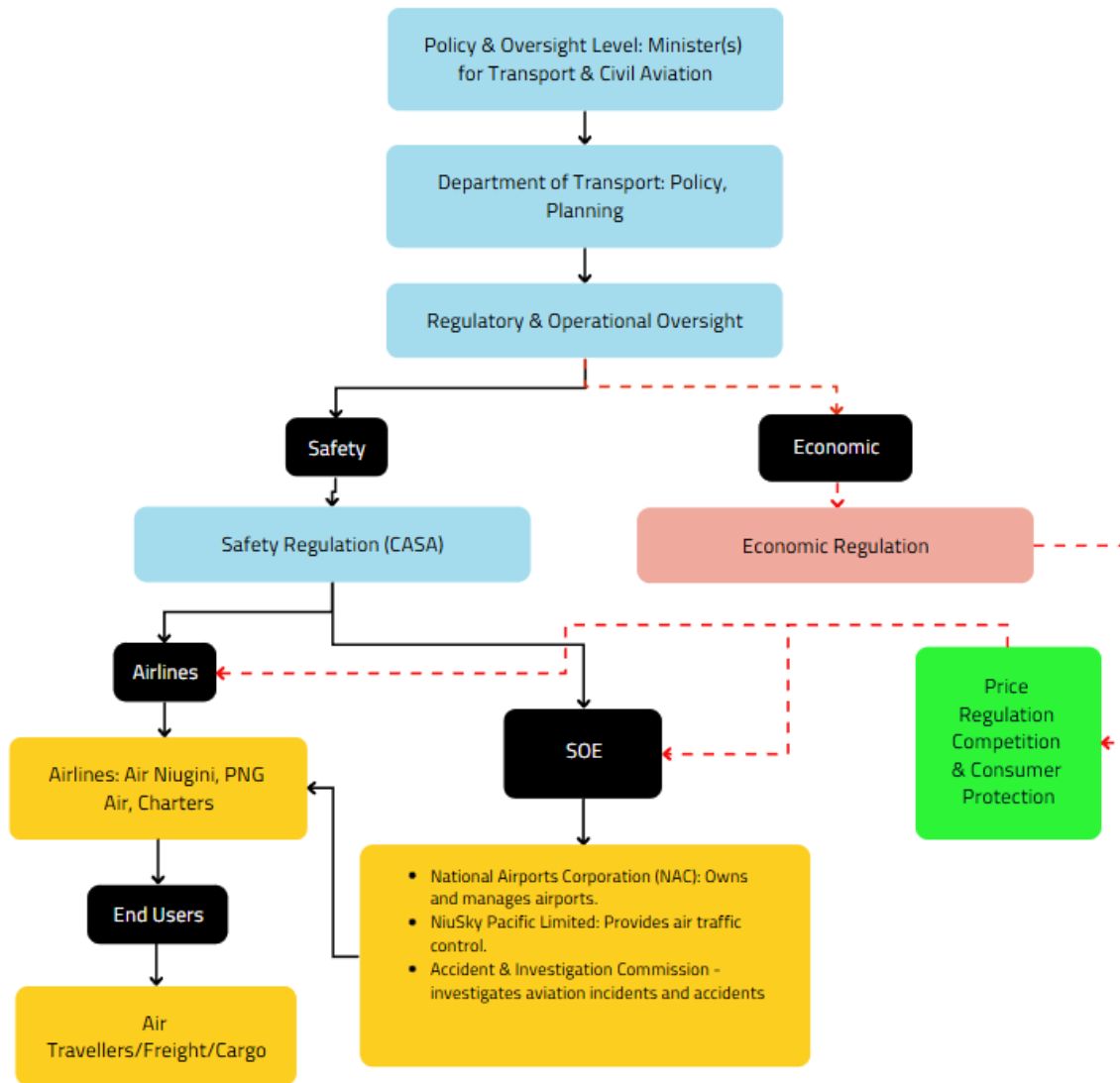
3.2 Institutions: Governance and Key Actors

The PNG aviation sector is governed and operated by a mix of public and private entities, each with distinct responsibilities. *Figure 1* below illustrates the structure of PNG's aviation industry governance and regulatory framework, highlighting distinct policy, safety, and economic oversight layers as well as the roles of key operational entities and their linkages to end users.

PNG's aviation industry structure, as depicted in Figure 1 reveals a multi-layered governance and regulatory model marked by institutional specialization and clear channels of responsibility. At the highest tier, policy and strategic oversight reside with the ministers responsible for transport and civil aviation. The ministers set the broad direction for the sector and provide overarching governance from the national perspective, which is then channeled down to the Department of Transport (Department). This department assumes responsibility for sector policy, planning, and overall regulatory and operational oversight, ensuring alignment between ministerial vision and implemented practices.

¹ As per stakeholder comments received.

Figure 1: Aviation Governance Framework



Source: ICCC

From this central position, the Department’s oversight splits into two principal streams: safety and economic regulation. Safety regulation primarily falls under the CASA, which is mandated to administer and enforce national and International Civil Aviation Organization (ICAO) safety and security standards. CASA has jurisdiction over airline operators and state-owned enterprises (SOEs) operating within aviation sector, overseeing compliance with technical and operational benchmarks. Its regulatory net is spread over both Air Niugini, PNG Air, and charter airlines, in addition to SOEs such as NAC, NiuSky, and the Accident and Investigation Commission, each with their specific mandates in airport management, air navigation services, and aviation incident investigations respectively.

On the economic side, the diagram introduces an economic regulatory agency. While the chart visually signals an institutional gap. At present, this economic oversight role is not fully realized, leading to fragmented responsibility for tariff setting, monopolistic practices, and regulatory incoherence, especially regarding economic regulatory oversight of SOEs.

Airlines in PNG are organized under a duopoly dominated by Air Niugini and PNG Air, with some third-level operators and charter providers serving smaller or remote communities. These airlines are directly regulated for safety compliance by CASA and indirectly influenced by the operational policies and infrastructure provided by SOEs like NAC and NiuSky. The industry's end users—air travelers, freight handlers, and cargo operators—depend on the efficiency of these upstream entities for access, affordability, and quality of service.

3.2.1 National Airports Corporation

NAC is responsible for the ownership, management, and development of all declared national airports in PNG. Its functions generally include:

- Collecting landing, parking, terminal, and passenger fees;
- Maintaining airport infrastructure and safety standards;
- Managing passenger terminals and ground access facilities;
- Overseeing infrastructure investment projects at national airports.

The NAC holds a monopoly over the management of most airports in Papua New Guinea, a position that has led to several systemic inefficiencies such as inefficiency in infrastructure investment outcomes and lack of quality basic amenities services, security and customers clearance processes.

3.2.2 NiuSky Pacific Limited

NiuSky (formerly PNG Air Services Limited), is responsible for the provision of air traffic control, communications, navigation, and surveillance services across PNG's airspace. These functions are mission-critical for aviation safety and include:

- Managing the national air navigation system;
- Coordinating with regional international air traffic systems under the ICAO framework.

As the sole provider of these services, NiuSky operates as a monopoly without economic regulation.

3.2.3 Civil Aviation Safety Authority

CASA is the sector's regulatory body responsible for aviation safety, security and licensing. It oversees safety, security, and operational compliance for both domestic and international air operators under a comprehensive set of aviation security and operational rules. Its mandate includes:

- Issuing and enforcing safety regulations;
- Certifying air operators, personnel, and airfields;
- Monitoring compliance with ICAO standards.

CASA does not currently have a formal role in providing economic regulatory oversight of charges and service performance for SOEs and airlines. It however plays a key role in approving infrastructure development plans and air operator certifications.

3.2.4 Airlines

The airline sector in PNG is largely characterized by a duopoly, primarily involving Air Niugini and PNG Air.

- Air Niugini, the national flag carrier, dominates both domestic and international markets. It operates a mix of jet and turboprop aircraft and offers scheduled services between major cities and provinces.
- PNG Air, a privately-owned airline, also provides scheduled domestic services.
- Third-level operators and charters, such as TropicAir Limited, North Coast Aviation, and PNG Mission Aviation Fellowship (MAF), offer links to rural and unserved communities through subsidized operations.

3.2.5 *Department of Transport*

The Department is the policy holder for civil aviation and is responsible for compliance with ICAO Standards and Recommended Practices (SARPs). The Department leads negotiation and ratifications of bilateral and multilateral air service agreements controlling international air traffic rights into PNG. Bilateral air service agreements typically define which foreign airlines can operate scheduled international flights to PNG, specifying concepts like traffic rights, frequency, capacity, and code-sharing

In addition, currently, the Department assumes some form of pricing oversight roles. However, this role lacks a clear legislative framework with defined economic regulatory objectives, creating ambiguity.

3.2.6 *Independent Consumer and Competition Commission*

The ICCC is responsible for the administration of the *Independent Consumer and Competition Commission Act 2002* ('*ICCC Act*') and related legislations.

ICCC is the state's economic regulator with statutory powers under *the ICCC Act* to investigate and regulate monopolistic behavior, protect consumer interests, and promote competitive market structures. Indeed, *the ICCC Act* provides the instruments through which regulated industries are overseen, consumers are protected, and competition is enhanced. Competition drives efficiency, economic growth, and improved living standards. In the absence of competition, the ICCC protects consumer interests through economic regulation.

Part VIII of *the ICCC Act* empowers the ICCC to conduct inquiries into any market(s) deemed necessary for fulfilling its functions. This includes market studies, industry reviews, and investigations to ensure efficiency and competitiveness. The ICCC may also conduct inquiries as directed by the Minister responsible for Treasury matters or by Parliament.

Although the ICCC currently has no direct oversight of pricing in the aviation sector, this review aims to determine the need for formal regulation of airfares, infrastructure charges, and service standards.

3.2.7 *Ministers Responsible for Transport and Civil Aviation*

In PNG, the Minister for Transport oversees national transport policy across all modes, while the Minister for Civil Aviation focuses specifically on aviation regulation, safety, and international connectivity.

3.3 Economic Significance of Aviation

Due to PNG's dispersed population and difficult terrain, aviation plays a disproportionately important role in facilitating:

- Access to health care and education for rural communities;
- Movement of essential cargo, including medicines, food, and development supplies;
- Emergency response and disaster relief, especially during natural hazards;
- Domestic and international trade, through passenger and air freight transport;
- Tourism and business travel, connecting key economic hubs within the region.

Without reliable and affordable aviation services, large segments of PNG's population remain isolated from government services, markets, and economic opportunities.

Therefore, the aviation sector is not only a commercial undertaking but also a strategic public utility with substantial social and development implications.

4 DOMESTIC AIRFARES

There is a general perception that airfares in PNG are expensive and that they are higher than they ought to be. Stakeholders have noted that fare structures are often opaque, with significant variations in prices and limited regulatory oversight.

To test how PNG domestic airfares compare to other countries, a benchmarking comparison has been carried out.

4.1 Price Benchmarking Against Other Countries

The purpose of this airfare benchmarking assessment is to evaluate PNG's domestic airfares relative to those of comparable developing countries. Benchmarking air fares against similar countries helps assess whether prices in PNG are reasonable and efficient by providing a reference for what air travel costs are in comparable markets.

For this purpose, we chose countries which had comparable GDP per capita and population sizes within range of PNG's.

4.2 Countries Chosen

The countries chosen had similar Population sizes and GDP per capita to PNG. These factors were used on the assumption that airline economics will be determined by the level of customer demand. The number of passengers flying will determine the size of the aircraft, size of the airports and support infrastructure and the frequency of the flights. Higher volumes will support more efficient use of resources, and this will enable lower prices. So, countries with similar population sizes and

GDP per capita have a similar opportunity to develop their aviation industries to a similar level of economic efficiency.

In practice, country populations did vary from 7 million (Nicaragua) to 35 million (Ghana). And Fiji and the Solomons have only have about 1 million people. These two island states were included to provide a pacific island perspective in the comparison.

While the comparison is not perfect, these countries generally operate relatively small domestic networks, often face constrained ground connectivity, and maintain flight volumes approximately comparable to Papua New Guinea’s busiest domestic routes.

The countries and routes chosen are shown in the following table.

Table 2: Countries and Flight Routes Benchmarking

Country	Route Name	Airline	Domestic Passenger Volume per annum
Bolivia	La Paz – Santa Cruz	Boliviana de Aviación (BoA)	4.3 million
Bolivia	Santa Cruz – Cochabamba	Boliviana de Aviación (BoA)	5.1 million
Cameroon	Douala – Yaoundé	Camair-Co	549,000
Cameroon	Douala – Bafoussam	Camair-Co	Unknown
Cambodia	Techo Int’l – Siem Reap	Air Cambodia	1.1 million
Ghana	Accra – Kumasi	Africa World Airways	600,000
Ghana	Accra – Tamale	Africa World Airways	Unknown
Guatemala	Guatemala City – Flores	TAG Airlines	500,000
Honduras	Tegucigalpa – Roatán	CM Airlines	Unknow (0.6 million pax at Roatan)
Kyrgyz Republic	Bishkek – Osh	Hahn Air Tech / TezJet	1 million
Laos	Vientiane – Luang Prabang	Lao Airlines	700,000
Nicaragua	Managua – Corn Islands	La Costeña	<200,000
Papua New Guinea	Port Moresby – Lae / Mt Hagen / Madang	PNG Air & Air Niugini	1.5 million
Senegal	Dakar – Cap Skirring	Air Senegal	300,000
Tunisia	Tunis – Djerba	TunisAir Express	1.3 million
Fiji	Nadi – Suva	Fiji Airways	850,000
Solomon Islands	Honiara – Munda	Solomon Airlines	300,000
Nepal	Kathmandu – Pokhara	Yeti Airways	2.1 million

This method provides a pragmatic starting point for analysis by focusing on comparable economic environments, and routes with similar annual passenger volumes and island nations that depend on air connectivity for essential transport.

For example, example, Nepal’s Kathmandu–Pokhara route, Bolivia’s La Paz–Santa Cruz route, and Ghana’s Accra–Kumasi route each serve annual passenger volumes ranging between 200,000 and 600,000, similar to traffic flows through Port Moresby–Lae and Port Moresby–Mount Hagen.

Additionally, small island nations like Fiji and the Solomon Islands present aviation market structures where air transport remains essential for inter-island connectivity.

4.3 Airfare Comparison Methodology

Table 3 describes the methodology used.

Table 3: Air fare comparison method

Methodology	Rationale
Countries were chosen for benchmarking based upon population size and GDP per capital being within range of PNG's.	Airlines economics are driven by scale. The scale achievable will reflect the size of the domestic market which will be determined by population size and the ability of potential customers to afford an airfare.
The 2 or 3 busiest routes in each country were identified based upon the volume of passengers.	The busiest routes are expected to provide the best opportunity for an airline to offer lower prices due to the larger planes and more frequent flights that higher passenger volumes will support.
Used web-based flight search software to identify the price of a one-way trip on each route. <ul style="list-style-type: none"> Where more than one airline flew a route, then prices for both airlines were identified. Chose the cheapest available fare on that day. The chosen fare excluded additional baggage allowances or any other upgrades available. Used one-way airfares to simplify the comparison. The fare chosen included any taxes or additional service charges such as landing fees. 	By using a consistent method of identifying prices this increased the comparability of the prices. Using one fares simplified the analysis by avoiding the additional variable of the timing of the return flight, The total fare was used to reflect the combined effect of local taxes, airport levies and landing fees, security, regulatory requirement and air traffic control costs, faced by passengers.
Calculated the price per km travelled by dividing each price by the flight distance.	This enabled flights over different distances to be compared.
Identified prices for each day over the next month.	This was done to address issues created by dynamic price algorithms where prices change depending upon current demand levels for each flight.

4.4 Issues with the Methodology

There are a number of weakness's and criticisms that can be made about this method of comparison.

Limitations of using Web Fares

Web fares fluctuate dynamically due to revenue management algorithms that adjust prices in real time based on demand, seat availability, and competitive behavior, meaning fares sampled on a given day may not represent typical prices. Online Travel Agencies (OTAs) and booking platforms can further distort prices through opaque mark-ups, hidden fees, or inconsistent inclusion of taxes and charges. Price-Discrimination within the Algorithm can be also an issue. Thus, differences in

search timing, platform bias, or promotional activity can lead to inconsistent results across countries.

Issues with the Price per Kilometer Metric

Price per kilometre (fare/distance) assumes cost and fare scale proportionally with distance, but this is not the case. The largest cost components in short flights are fixed, such as airport fees, landing charges, and turnaround times, leading to disproportionately high per-km costs for shorter routes. Longer routes tend to display decreasing cost per km due to economies of scale and aircraft efficiency. Hence, comparing domestic route prices purely by distance can misrepresent operational realities

Temporary Market Biases

Even when fares are sampled over a month, airlines' dynamic-pricing systems can respond non-linearly to demand peaks (holidays, pay cycles, or local events). Benchmarking small markets with limited flight frequencies (like PNG) against larger ones can exaggerate cost disparities driven by market scale rather than inefficiency or pricing policy.

Prices may not reflect the efficiency of resource uses

Because this method considers only ticket prices, it does not account for quality differences. Fares do not capture other determinants of costs or value across countries—like service quality, aircraft type, network structure, or regulatory costs. For instance, a flight using smaller aircraft on challenging terrain may have inherently higher costs than one on flat, high-density corridors.

Prices include regulatory charges

Any industry charges from airports, regulatory agencies and air traffic control agencies are included. So, a fare being low or high does not directly reveal how well an airline or market is operating in terms of resource use, cost control, or service quality.

4.5 Positive Aspects of the Method

However, despite these criticisms this benchmarking approach has several strengths that make it valuable for comparative analysis of airfares across countries with similar income and population profiles

Transparency and Replicability

Using publicly available web-based fare data makes the process transparent and easily replicable. Anyone can verify results by repeating the same search on flight aggregator or airline booking platforms, which display fares inclusive of taxes and service charges. This openness increases confidence in results, reduces reliance on unpublished data, and facilitates comparisons across markets where official ticketing data may not be accessible

Standardized cross country comparison

The method applies a consistent procedure for route selection, fare inclusion, and time-period sampling. This ensures that differences in outcomes reflect price variations rather than methodological inconsistencies. Standardization is crucial in benchmarking, allowing findings to

be interpreted as comparable indicators of market cost structures or affordability across nations with similar market scales.

Cost-Efficiency and Practicality

Collecting data from online flight search engines is a cost-effective way to benchmark fares without needing proprietary datasets from airlines. The process requires limited resources while covering multiple markets quickly and efficiently—an advantage especially valuable for developing countries or small regulatory agencies.

Inclusion of All Passenger-Faced Costs

By using total one-way fares that include taxes, airport fees, and charges, the method effectively captures the full cost borne by passengers. This provides a realistic measure of what travelers actually pay, rather than focusing on base fares alone. Consequently, it reflects the combined effect of policy, taxation, infrastructure costs, and airline pricing decisions—offering insight into the end-consumer perspective.

While the cheapest fare available on a day does not necessarily represent the average on that day, it does indicate the prices that a customer can obtain if they are flexible about their time of travel.

Adaptability and Scalability

The simplicity of this approach means it can be easily replicated for different time frames, seasons, or markets to monitor pricing trends. Repeating the study with the same structure would allow the identification of long-term shifts in affordability or competitiveness.

Summary

This approach offers a straightforward and practical snapshot of relative airfare² costs across countries with similar economic environments. To improve this comparison would require more detailed data and further analysis. While this would provide deeper insight into competitiveness and efficiency within the air transport market it is beyond the resources available to the ICCC.

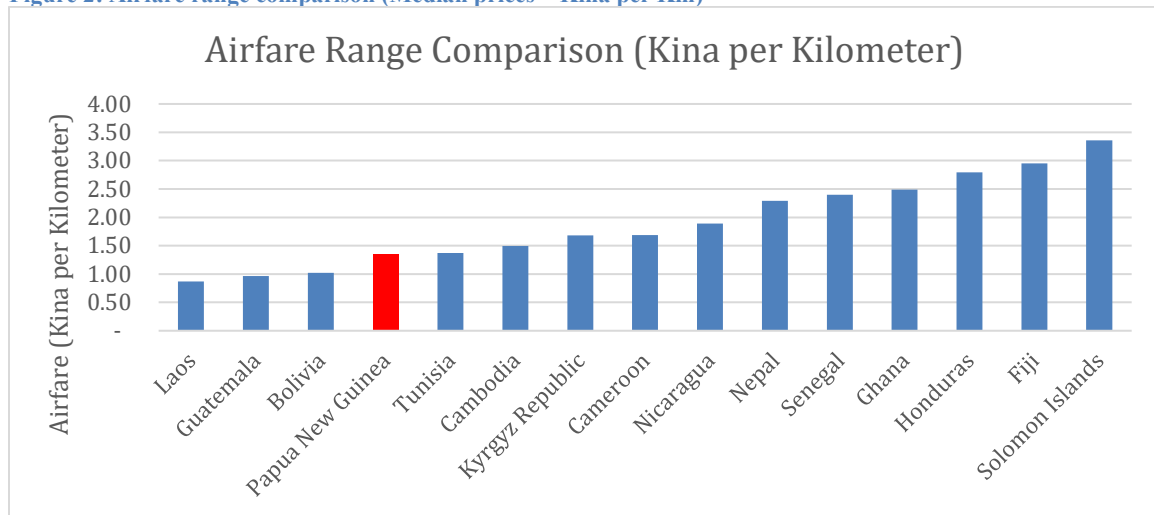
4.6 Price Comparison Findings

The comparison shows that PNG's prices are at the lower end of the range of prices identified. Figure 2 compares the median price per km for all the chosen routes.

PNG median domestic prices, on the routes investigated, ranged from K1.19 to K1.75 per km with an overall median price of K1.35 per km. This compares favourably with other countries in the comparison which ranged between K0.9 and K3.36 per kilometer.

² Source of data given in Appendix B.

Figure 2: Airfare range comparison (Median prices – Kina per Km)



More details of the price comparison findings are provided in the appendix 0 in Table 27 and Table 28.

Key Highlights:

- PNG’s median cost per km (1.35 Kina) is in the lower range.
- PNG is considerably cheaper than comparable Pacific island peers (Fiji, Solomon Islands) which might be expected due to their smaller populations.
- Bolivia, Guatemala, Laos were considerably cheaper than PNG (Median Bolivian prices were K1.02 and Guatemala and Laos were even lower).
- PNG is roughly comparable to Cambodia and Tunisia, and cheaper than Ghana, Honduras, and Nepal.
- PNG’s maximum cost (3.29 Kina/km) is relatively high, indicating some expensive domestic routes—likely due to limited competition.
- PNG Air’s prices were generally lower than Air Niugini’s on the same routes.

The analysis also found that PNG’s airfares are relatively stable in terms of price per kilometer when compared with comparator countries. Variability between minimum and maximum prices per route is moderate, suggesting that while fuel and operational costs influence fare levels, competition between PNG Air and Air Niugini provides some degree of price moderation. For instance, the Port Moresby–Madang route fluctuates between PGK 1.03 and PGK 2.49 per kilometer, while in Tunisia, similar short-haul routes exhibit far greater volatility, sometimes exceeding PGK 10 per kilometer.

4.7 Effect of competition

The results also indicate that prices are lower where competition is higher. While the sample size was too small to get a significant statistically result, 35% of the routes were in countries where two airlines offered services. Where two airlines were present then average price per km was 1.85 compared to 1.99 where only one airline operated. Even though there might be only one airline operating directly on the route, presence of another airline within the country is likely to put

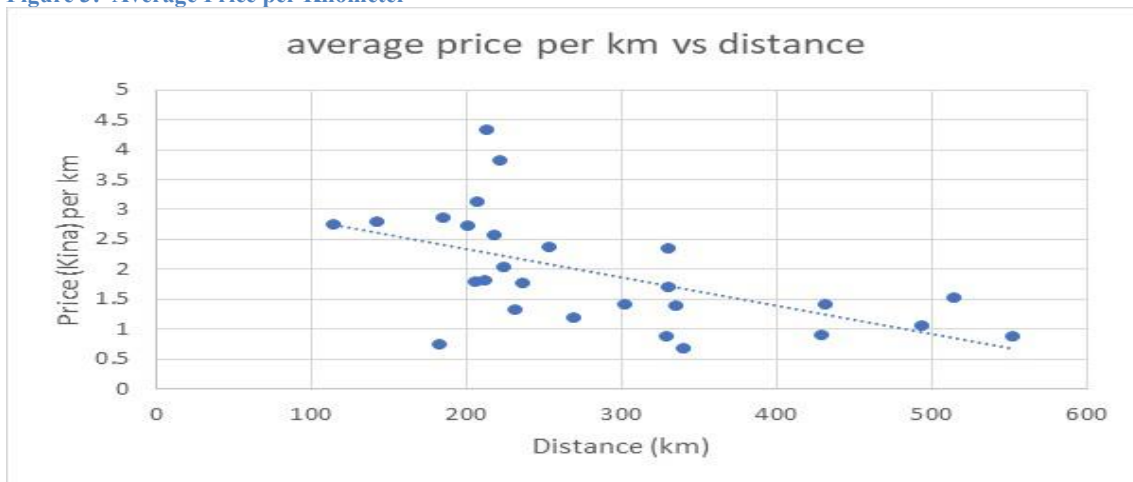
downwards pressure on prices. Once an airline is operating within a country then it will be easier for them to offer new services if the incumbent's prices are too high.

4.8 Relationship with Distances

As surmised in the methodology issues raised, there is a relationship between distance and price per km (see

Figure 3: Average Price per Kilometer). This means that to improve the reliability of the benchmarking methodology, comparisons would need to be limited to between routes with similar distances.

Figure 3: Average Price per Kilometer



4.9 Dynamic Pricing and Opaque Prices

Dynamic pricing is a method where airlines change airfare prices in real-time based on factors like demand, seat availability, and market competition. Airlines use sophisticated revenue management algorithms to continuously adjust prices, even for the same flight.

This means seat prices can vary from minute to minute or between different customers:

- Airlines use statistical and optimization models (often called "revenue management systems") to analyze booking patterns, remaining seats, time till departure, competitor prices, and historical trends.
- An algorithm reassesses flight prices as demand shifts, aiming to sell all seats at the best mix of prices to maximize total revenue, rather than simply filling the aircraft.
- Prices typically rise as seats sell and the departure date nears, but algorithms can also lower prices sharply if seats aren't selling.

Typically, some of the things that drive dynamic pricing include:

- Time until departure (closer departures usually cost more)
- Current demand (high demand increases prices)
- Seat availability (fewer seats left, price rises)
- Competitive factors (rival sales or promotions)

- Day of week, holidays, events (greater demand triggers price surges)
- Customer segmentation (business travelers may see higher fares than vacation travelers)

Dynamic pricing can confuse customers:

- Price changes can be sudden and unpredictable. Searching for the same flight twice might show two different prices minutes apart.
- Opaque algorithms mean consumers rarely know what drives a price change — it's rarely explained.
- Surprise fees (baggage, taxes, service charges) can add to confusion.

For the airlines dynamic pricing provides significant advantages including:

- Maximizing revenue by capturing higher prices from late/bookers or peak demand and filling seats with discounted fares when demand is low.
- Efficient capacity utilization: Directs seats to those willing to pay most and reducing the number of empty seats by offering lower prices when demand is low.
- Responds fast to competition: Algorithms can instantly match or beat rival fares.

However, there are significant benefits to consumers also:

- Consumers can access discounted fares for less popular dates and times, especially if they are flexible about their time of travel and book early.
- It Allows comparison shopping. Travelers can search across platforms and dates for the best deals.

The downside for consumers is that it:

- Creates price uncertainty. It's difficult to predict the best time or price to book.
- There is potential for price discrimination: Algorithms may set different prices for different users based on online behavior or location.
- It makes prices opaque and consumers may perceive price differences as being unfair or unjustified.

On balance, the ICCA thinks that dynamic prices are a good thing provided that consumers' interests are protected. Without dynamic prices, airlines would need to set prices at higher levels to ensure that all their costs were covered. This would mean that at off peak times more seats would be left empty resulting less efficient and more expensive flights on a per passenger basis. And passengers would miss out on the opportunity to purchase discounted fares.

Dynamic pricing is widely used around the world. Online commercial fare comparison tools provide consumers with the tools to find the best prices on any particular route. These tools promote competition between airlines by highlighting cheaper fares to consumers. Provided these tools are fair and accurate, the ICCA does not see any reason to regulate the use of these pricing algorithms.

4.10 Unbundled Prices

Price unbundling in the airline industry refers to the practice of separating a flight's total cost into multiple individual components, each priced separately. Instead of offering a single inclusive fare that covers the seat, luggage, meals, and entertainment, airlines now charge individually for

checked baggage, seat selection, onboard meals, priority boarding, and other optional services. This model allows customers to purchase only the services they value, giving the impression of lower initial ticket prices while enabling airlines to recover costs through add-ons. The strategy is part of a broader revenue management system that responds to increasing competition and cost sensitivity in the market.

The alternative to unbundling is the “bundled fare” model, which was the traditional approach to airline pricing. Under this structure, a ticket included most or all standard travel services—such as checked baggage, in-flight meals, and seat assignments—under one fare. Full-service legacy carriers still often use this model or offer hybrid options, combining bundled and unbundled products through fare classes or fare families. Bundled pricing provides predictability and simplicity for consumers, as they know the total cost up front, but it limits the ability to customize spending based on preferences or travel needs.

Unbundling has mixed effects for consumers and airlines. For airlines, it is generally beneficial—it increases total revenue per passenger, reduces base fare competition pressure, and offers flexibility in responding to demand changes. For many consumers, unbundling can be good if they prefer low-cost travel and are willing to forgo extras, paying only for what they use. However, it can also be confusing and disadvantageous for travelers who discover additional charges late in the booking process, making total costs difficult to compare across airlines. The system can therefore obscure price transparency, leading to frustration and potentially higher overall costs when all necessary services are added back into the fare.

On balance the ICCC thinks that unbundling is a healthy sign of competition. By breaking down their services, airlines are clearly demonstrating ways that they can offer their services at a lower price in order to be more competitive. Provided that consumers can actually purchase these services separately without add-ons, then the practice is good for consumers who might otherwise not be able to afford to fly.

4.11 Discussion and Implications

PNG’s airfares are positioned in the middle range among the selected comparators. They are higher than the low-cost regional networks of Asia but lower than many small island and African markets where monopoly carriers dominate. This pricing pattern appears consistent with PNG’s geographical and operational realities—short-haul distances, limited passenger volumes, and high fixed operating costs due to infrastructure and maintenance factors.

Passenger movement data across PNG’s busiest airports also aligns with this positioning. Port Moresby, handling around one million domestic passengers annually, is comparable to Kathmandu or Accra, while Lae, Mount Hagen, and Kokopo handle volumes similar to regional hubs such as Pokhara or Santa Cruz. The relative size of PNG’s domestic market therefore provides a rational basis for the observed fare levels.

These findings show that PNG’s domestic airfares are not excessively high by international standards when adjusted for distance and market size, though they are also not among the lowest globally.

However, given the reliance of many rural communities on air transport, ongoing policy attention should focus on improving competition, reducing operational inefficiencies, ensuring effective investment and ensuring transparent fare-setting mechanisms that balance affordability with airline sustainability.

4.12 Draft Findings and Recommendations

Draft Findings

Draft Findings 4.1	Airfares in PNG are reasonable by international standards. Benchmarking shows that they are at the lower end of the range of prices in comparable countries. This contrasts with perceptions that they are too high.
Draft Findings 4.2	Domestic Fares are lower and more stable on competitive routes which demonstrates the value of competitive to consumers.

Draft Recommendations

Draft Recommendation 4.1	Promote increased competition on domestic airline market routes to reduce monopolistic pricing and lower fares.
Draft Recommendation 4.2	Encourage transparent fare structures and require clear disclosure of all charges and fees to reduce consumer confusion.
Draft Recommendation 4.3	Support policies that balance affordability and airline sustainability, particularly protecting rural connectivity.
Draft Recommendation 4.4	Monitor and regulate anti-competitive behavior that may arise from dominant carriers on certain routes.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

5 NAC AND AIRPORTS

The NAC holds a monopoly position as the sole entity responsible for owning, managing, and maintaining all major airports across PNG. NAC's mandate includes operating airport infrastructure and providing a range of services such as passenger screening, landside security, terminal cleaning, and other maintenance functions.

NAC collaborates with various stakeholders to meet both operational demands and compliance obligations, including standards set by the International Civil Aviation Organization (ICAO) and CASA. Most of its revenue are budgeted for maintaining daily operations of the 22 airports, however large-scale capital works are typically financed through government budgetary allocations and donor support.

Currently, NAC oversees operations at 22 airports—comprising 13 jet-capable and 9 non-jet airports. Operating these facilities involves significant costs. Most airports function on a cost-recovery basis, with only four (Port Moresby, Nadzab, Mt Hagen, and Tokua) generating profits. These profitable sites effectively subsidize operations at the remaining airports. NAC's pricing strategies are generally influenced by key cost and operational drivers such as traffic volume, operating and capital expenditure, and overheads.

5.1 Competition

The current model of airport ownership and management in PNG, under the sole control of the NAC, presents a classic example of a monopoly in a critical infrastructure sector. While centralized control may offer some administrative efficiency and uniform technical standards across national airports, ambiguity of regulatory oversight and no competition raises significant concerns regarding pricing, service quality, and long-term infrastructure performance.

For instance, IATA's global experience shows that both the lack of regulation and light-touch regulatory approaches, like simple price or service monitoring, are insufficient to prevent airport operators from exerting their market power. Minimal oversight often harms consumer interest, as operators can leverage their dominance to impose distorted price, deliver poor service, and operate inefficiently. Without strong regulation and supervision by relevant regulator, airport users have little recourse to address market imperfections.

Stakeholders have raised concerns about high airport charges, a lack of transparency in pricing, and poor management of infrastructure. Additionally, there are issues around over-capitalization of airport investments, which have contributed to inflated user costs without commensurate improvements in service quality. These inefficiencies not only impact airlines, but also drive up the overall cost of air travel for passengers.

Stakeholder feedback also suggests concerns over limited meaningful dialogue between NAC and consumers, particularly airlines, which appears to contribute to misaligned investments, operational inefficiencies and user dissatisfaction.

To address these issues, it is recommended that NAC be subjected to economic regulation, including the possible adoption of price cap models such as CPI-X. The implementation of transparent pricing frameworks is also essential, alongside the regulation of NAC's maintenance obligations and more rigorous monitoring of infrastructure performance. Further oversight is needed to prevent inefficient capital spending, and an appropriately qualified body should be empowered to conduct regular operational and cost reviews of NAC's activities.

5.2 Pricing Structures

Several factors influence the structure of NAC's charges, including:

- Passenger and aircraft volumes;
- Costs related to maintenance of facilities, equipment, and spare parts;
- Fluctuations in foreign exchange rates;
- Consumer Price Index (CPI);
- Labour-related costs;
- Fuel prices.

NAC applies uniform aeronautical charges across all 22 airports, with identical rates for both domestic and international services. Price adjustments are generally indexed to CPI annually, although this approach may not align with international best practices. For instance, NAC often lags adjusting aeronautical tariffs annually, despite rising compliance costs associated with meeting ICAO and CASA standards. Charges vary based on the types of services provided and the pricing methodology employed—ranging from single-till to cost-recovery models.

Operating even one airport involves high costs—often in the hundreds of millions of kina—making the management of a 22-airport network a capital-intensive endeavor. These costs are passed on to airlines and passengers through fees that cover infrastructure such as runways, taxiways, terminals, power systems, security installations, aerobridges, and navigation aids.

Operational costs per aircraft movement, while significant, remain difficult to quantify, though they impact overall charge efficiency. NAC’s aeronautical fee schedule, last updated in May 2017, includes safety, facility, and service-related charges.

Furthermore, there is no transparency or active oversight of NAC’s compliance with service standards.

5.2.1 Stakeholder Views and Comments

Stakeholder feedback gathered during the inquiry indicates that airport-related charges set by the National Airports Corporation (NAC) are widely viewed as high, opaque, and poorly matched with service quality—particularly at regional airports. These charges, combined with other operational costs, contribute to higher airfares and reduce affordability and access for consumers, especially in remote areas. The ICCC, therefore, is concerned that NAC’s pricing regime lacks transparency and cost justification, with absence of transparent linkage between fees, actual operating costs, and reasonable returns. The existing uniform pricing model applies the same charge structure across all airports regardless of traffic levels, costs, or viability. This approach risks unfairly burdening airlines and passengers on less profitable regional routes and discourages NAC from tailoring investments or service improvements to local conditions. Developed countries generally tailor airport charges to individual airports and are therefore prices are more clearly linked to the services provided at that particular airport.

International practice suggests that economic regulation of airport services—whether through cost-based reviews, price cap frameworks, or performance-linked incentives—is essential where monopolistic structures exist. Comparable small island and developing states have implemented such models with relative success³, often using independent regulators to review pricing proposals, enforce transparency, to ensure accountability for service quality outcomes.

In PNG, the absence of such regulatory arrangements allows NAC to adjust pricing unilaterally, without clear engagement with users or structured evaluation of its cost efficiency. This undermines the broader objectives of affordability, competitive neutrality, and equitable access embedded in national economic and consumer policy.

5.3 Price Benchmarking for NAC

Unlike other monopoly providers of essential services in PNG— such as WaterPNG and PNG Ports—NAC is not subject to any form of economic regulatory oversight. As a result, NAC determines and implements its fees independently, raising concerns around transparency and the robustness of its pricing methodology. This is particularly noteworthy given that a significant portion of its infrastructure has been funded through public and donor grants.

³ For example, Turks & Caicos Islands explicitly regulates aeronautical fees through government ordinances, aligning them with ICAO recommendations. Barbados, Jamaica, and the Dominican Republic also have government-controlled or regulated airport charges, often including additional tourism taxes as part of their fee structures. <https://tciairports.com/assets/downloads/05.Annex-1.4-Fees-and-Charges.pdf>

Airlines often absorb NAC charges into their cost structures, or pass them through to consumers via airfare pricing.

NAC also imposes transit fees—even for passengers who do not disembark—and has significantly increased non-passenger fees, such as terminal rental charges, without industry consultation. Airline stakeholders have raised concerns that airport rental fees, even in remote towns like Goroka or Hoskins, are sometimes higher than those charged in Port Moresby, distorting real estate cost benchmarks and further inflating operational costs.

Furthermore, NAC’s latest prices are publicly accessible via its website. However, the prices are not well described and require some searching to locate. It is also unclear under what circumstances some charges will be charged. For example, the apron parking charge is described as K4.5, but there was no explanation of when it will be charged, if there is a free period, or if this is an hourly rate. Communications need to be improved.

5.3.1 Terminal Charges

NAC charges airlines per passenger for airport fees. The ICCC understands that this covers use of the terminal, security screening costs and airside services. Runway usage costs and aircraft parking are covered separately.

Table 4: NAC per passenger charges

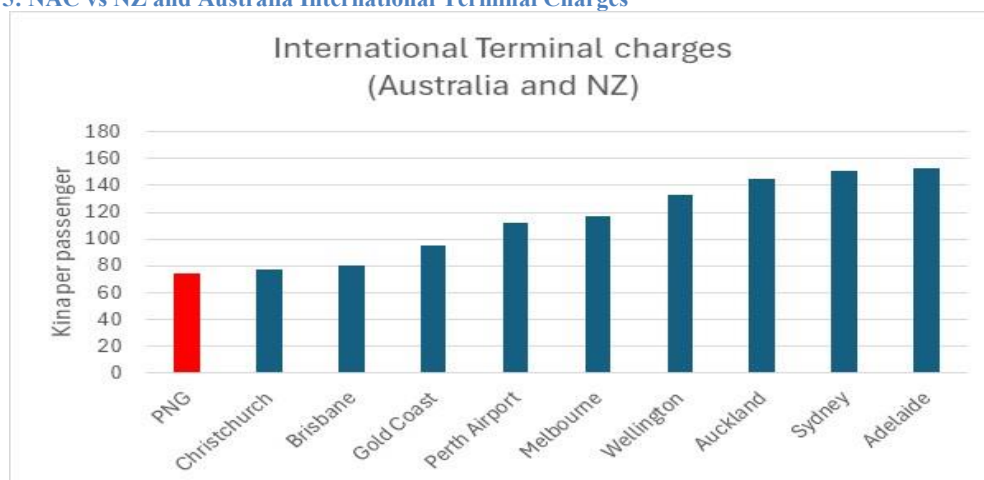
Description	Price (per passenger)
Passenger Facilities Charge – International	K72
Passenger Facilities Charge – Domestic	K12
Security Charge	K12
Airside Service Charge	K12

To see how this compares with fees in other countries a benchmarking exercise was carried out. Figure 4: NAC vs NZ and Australia Domestic Terminal Charges and Figure 5: NAC vs NZ and Australia International Terminal Charges compares NAC fees with Airports in Australia and NZ. In this comparison, NAC’s prices are low for both domestic and international terminals.

Figure 4: NAC vs NZ and Australia Domestic Terminal Charges



Figure 5: NAC vs NZ and Australia International Terminal Charges



5.3.2 Quality Differences

While NAC’s prices were low compared to this group of airports in Australia and NZ, the comparison does not allow for quality differences.

There are multiple ways to measure terminal/service quality:

- Skytrax Star Ratings: Professional audits of 800+ service areas (1-5 stars)
- ASQ Passenger Satisfaction: Real passenger surveys rating experience (1-5 scale)
- Infrastructure Standards: Terminal age, capacity, amenities, technology integration

To allow for quality differences which might drive higher prices, a comparison was done to a group of airports from other countries which have comparable GDP per capita and population sizes in the 5 to 25 million range. Each of these airports were then given quality ratings.

Quality ratings were based upon sources like Skytrax, ACI ASQ, published infrastructure reports and amenity descriptions.

The ratings used the following scale:

- 3.5 (e.g., modern international standard)
- 3.0 (good regional or adequately modernized)
- 2.5 (basic or still under upgrade)
- 2.0 (minimal, rural/outmoded facilities)

Table 5 lists the ratings assigned to each airfield with some brief comments.

Table 5: Airport quality ratings

Country	Airport	Rating	Type, age and function	Comments
Bolivia	La Paz (LPB)	3	High Altitude	High altitude widebody airfield
Bolivia	Santa Cruz (VVI)	3.5	Business	Largest/most modern in Bolivia
Bolivia	Cochabamba (CBB)	2.5	Regional	Basic but functional

Cambodia	Phnom Penh (PNH)	3.5	Large	New terminal underway, major SE Asian hub
Cambodia	Siem Reap (SAI)	3	Tourism	Large new airport for Angkor tourism
Cameroon	Douala (DLA)	3	Economic Main	Largest in Cameroon, modern upgrades
Cameroon	Yaoundé (NSI)	2.5	Capital	Capital city, functional
Cameroon	Garoua (GOU)	2	Regional	Small, minimal facilities
Cameroon	Bafoussam (BFX)	2	Regional	Smallest in Cameroon
Ghana	Accra (ACC)	3.5	Modern	New T3, international hub, best Ghana infrastructure
Ghana	Kumasi (KMS)	3	Upgraded 2024	Recently international, modern for secondary
Ghana	Tamale (TML)	3	New terminal 2023	New int'l terminal, extended runway (A330-capable)
Ghana	Takoradi (TKD)	2.5	Basic	Regional domestic, basic terminal
Guatemala	Guatemala City (GUA)	3	Regional Hub	Adequate facilities, principal airport
Guatemala	Flores (FRS)	2.5	Tourist	Tourist routes, limited regionally
Honduras	Tegucigalpa (TGU)	2.5	Basic	Challenging approach, mountainous
Honduras	San Pedro Sula (SAP)	2.5	Industrial	Regional economic center, functional
Honduras	Roatan (RTB)	3	Tourist	Tourist island, well-equipped
Kyrgyz Republic	Bishkek (FRU)	3	Regional Hub	Main hub, recent upgrades
Kyrgyz Republic	Osh (OSS)	2.5	Regional	Domestic and regional
Laos	Vientiane (VTE)	3	Main gateway	Largest, multiple expansions
Laos	Luang Prabang (LPQ)	3.5	Tourist, PPP	UNESCO site, under renovation
Laos	Pakse (PKZ)	2.5	Regional	Handles all domestic/regional jets
Laos	Savannakhet (ZVK)	2	Basic	Small provincial
Nicaragua	Managua (MGA)	3.5	Modern	Most modern terminal in CA, all-weather, safe
Nicaragua	Bluefields (BEF)	2	Basic	Coastal, limited expansion
Nicaragua	Corn Islands (RNI)	2	Island	Small/remote, short runway
Nicaragua	Puerto Cabezas (PUZ)	2	Remote	Minimal infrastructure
PNG	Port Moresby (POM)	2.5	Upgraded	CADIP phase 1 & 2 runway/terminal upgrades
PNG	Lae (LAE)	2.5	Recent Upgrades	CADIP program improvements, code C compliant
PNG	Mt Hagen (HGU)	2	Basic - upgrades	Upgraded, highland ops, still basic
PNG	Madang (MAG)	2	Basic	Very basic, some new work under CADIP
Senegal	Dakar (DSS)	3.5	Model Hub	New terminal, major West African hub

Senegal	Cap Skirring (CSK)	2.5	Tourist	Small regional/tourist airport
Senegal	Ziguinchor (ZIG)	2	Regional	Minimal runway, minor facilities
Tunisia	Tunis (TUN)	3.5	Gateway	Main intâ€™M, modern terminal
Tunisia	Djerba (DJE)	3	Tourist	Tourist, year-round charters
Tunisia	Tozeur (TOE)	2.5	Regional	Small inland airport
Tunisia	Sfax (SFA)	2.5	Regional	Minor domestic hub

Airports, where terminal pricing data was not available, were dropped from the analysis. This resulted in relatively small group of airports for comparison. Terminal prices identified included, terminal fees, airside passenger fees, security fees and per passenger development fees.

The total fee per passenger was then divided by the quality rating to provide a price to quality ratio. The results are shown in Figure 6: International Charges Per Quality Measure and Figure 7: Domestic Charges Per Quality Measure. International and domestic fees are shown separately and PNG airports are shown in red.

Figure 6: International Charges Per Quality Measure



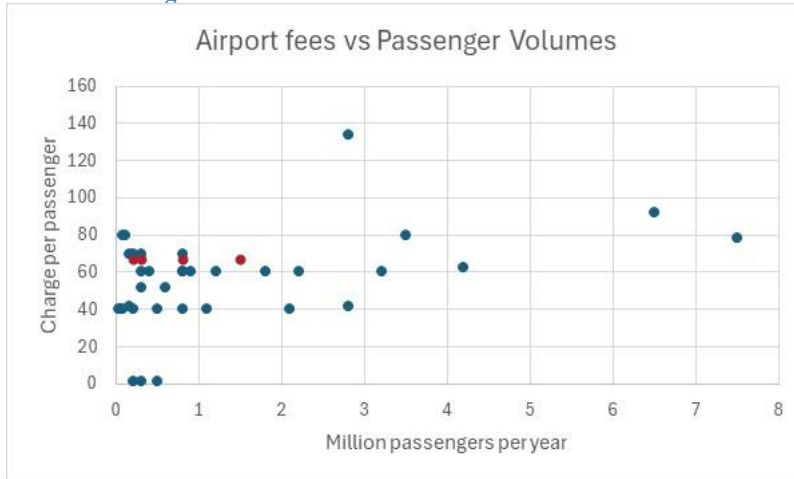
Figure 7: Domestic Charges Per Quality Measure



For international fees NAC prices are in the mid-range, but for domestic services they are in the upper quartile.

In each of these countries, airport fees were the same at all the airports within the country⁴. There was no relationship between the volume of passengers at the airport and the airport charges per passenger. (see Figure 8: Airport Fees vs Passenger Volumes).

Figure 8: Airport Fees vs Passenger Volumes



5.3.3 Landing Fees

NAC charge airlines for the use of the runway with landing fees as shown in Table 6. Charges are based upon the maximum take-off weight (MTOW) of the aircraft.

Table 6: Landing Charge per Tonnage

Description	Price
General Landing Charge – MTOW (non cargo)	K52 per tonne
General Landing Charge – MTOW (cargo)	K19 per tonne

Other fees charges include those in Table 7. These were not included in the comparisons.

Table 7: Landside Charge per Tonnage

Description	Price
Aircraft Parking Charge – MTOW per tonne	K11 per tonne
Apron Parking Charge	K4.50
Airside Escort Charge – Per Hour	K60 per hour
Airside Environmental Cleaning Charge	K 236

To compare landing prices to other jurisdictions, the analysis used the same set of airports as for passenger terminal prices. These were major airports in countries which have comparable GDP per capita to PNG and have population sizes between 5 and 25 million.

The following methodology was used to carry out comparisons.

- A runway quality rating was given to each airport.
- Prices were gathered where available, and the expected fee for an aircraft with a specific MTOW was calculated. The analysis used ATR 72 (assuming an aircraft weight of 23

⁴ This was true for the airports included in the study.

tonnes) and Boeing 737 (assuming an aircraft weight of 72 Tonnes). Both these aircraft are commonly used in PNG and in other countries in our comparison.

- The landing fee was divided by the runway quality to provide a ratio which was then used to make comparisons.

Most of the above charges are absorbed by the airlines into their cost base. Apart from the charges laid out above, NAC further imposes:

- Transit charges for passengers even if they are on board an aircraft during a transit but do not use any of the airport facilities.
- Non-passenger fees such as office and terminal rentals have been significantly increased without any consultation with the industry.

5.3.4 Runway Quality Ratings

Each airport was rated by the capability of its available runways, giving most weight to: (1) runway length & width and pavement strength (PCN/MTOW class), (2) surface type (asphalt/concrete vs. gravel/grass), and (3) operational aids—lighting/night ops and instrument approaches (ILS/RNAV). Airports with long, high-PCN paved runways and full lighting/precision approaches were classed top-tier; paved but shorter/moderate-PCN with basic aids were mid-tier; and short/low-strength or daylight-only, visual-only strips were lower-tier.⁵ The results are shown in the Table 8.

Table 8: Runway quality ratings at airports in the comparison

Country	Airport	Runway Quality Rating	Comments
Bolivia	Cochabamba (CBB)	4 – Very Good	Paved ~3.8 km; major domestic hub; good condition.
Bolivia	La Paz (LPB)	5 – Excellent	Concrete ~4.0 km at high elevation; strong pavement; major international.
Bolivia	Santa Cruz (VVI)	5 – Excellent	Concrete ~3.5 km; busiest Bolivian hub; robust pavement.
Cambodia	Phnom Penh (PNH)	5 – Excellent	Capital airport with ~3.0 km paved runway; ongoing upgrades; transition toward new Techo Int'l noted.
Cambodia	Siem Reap (SAI)	5 – Excellent	New Siem Reap–Angkor International; new pavement and facilities (opened 2023).
Cameroon	Bafoussam (BFX)	2 – Poor	Shorter regional strip; reports of limited infrastructure; potential surface deterioration.
Cameroon	Douala (DLA)	4 – Very Good	Paved ~2.8–3.0 km; country's primary commercial airport; resurfacing done historically.
Cameroon	Garoua (GOU)	3 – Good/Fair	Paved ~3.5 km; regional military/civil; aging surfaces in parts.

Data was obtained from the following sources.

⁵ ICAO Aeronautical Information Publications (AIPs) for each country – which provide official runway specifications, PCN values, surface types, lighting, and instrument approach information.

Airport operator or civil aviation authority websites (e.g., Ghana Airports Company Limited, NAC PNG, Aeroports du Cameroun, ASECNA Senegal, Airports of Cambodia, DGAC Bolivia, etc.).

Airfield directories and databases such as OurAirports, WorldAeroData, and SkyVector, which compile and verify runway length, surface, and approach data from ICAO and national authorities.

Recent press releases and airport expansion project reports for updates on new runways, resurfacing, or lighting/ILS installations (e.g., upgrades at Kumasi, Lae Nadzab, and Siem Reap).

Cameroon	Yaoundé (NSI)	4 – Very Good	Capital airport; paved ~3.0 km; international operations.
Ghana	Accra (ACC)	5 – Excellent	Kotoka; paved ~3.4 km; primary international hub; strong surface condition.
Ghana	Kumasi (KMS)	4 – Very Good	Upgraded secondary international; paved and extended in recent years.
Ghana	Takoradi (TKD)	3 – Good/Fair	Paved ~1.7–1.9 km; joint civil/military; regional traffic.
Ghana	Tamale (TML)	4 – Very Good	Long paved runway (~3.4 km); supports military/civil ops.
Guatemala	Flores (FRS)	4 – Very Good	Concrete ~3.0 km; significant tourist gateway.
Guatemala	Guatemala City (GUA)	4 – Very Good	Asphalt ~3.0 km; decent PCN reported; busy international.
Honduras	Roatan (RTB)	4 – Very Good	Paved ~2.2–2.4 km; heavy tourism; runway rehabs reported historically.
Honduras	San Pedro Sula (SAP)	4 – Very Good	Paved ~2.9 km; main commercial hub; heavy rainfall region but maintained.
Honduras	Tegucigalpa (TGU)	4 – Very Good	Toncontín; paved ~2.1 km; challenging terrain but surface generally good post-works.
Kyrgyz Republic	Bishkek (FRU)	4 – Very Good	Paved ~4.2 km; major international; cold-weather maintenance.
Kyrgyz Republic	Osh (OSS)	3 – Good/Fair	Paved ~2.9–3.2 km; regional hub; high seasonal temperature swings.
Laos	Luang Prabang (LPQ)	4 – Very Good	Paved ~2.2–2.9 km; international operations with regular maintenance.
Laos	Pakse (PKZ)	4 – Very Good	Concrete/bitumen ~2.4 km; regional international operations.
Laos	Savannakhet (ZVK)	3 – Good/Fair	Hard surface ~1.6 km; regional operations.
Laos	Vientiane (VTE)	5 – Excellent	Capital airport; paved ~3.0 km; main international gateway.
Nicaragua	Bluefields (BEF)	3 – Good/Fair	Paved ~2.0 km; coastal environment; moderate PCN reported historically.
Nicaragua	Corn Islands (RNI)	3 – Good/Fair	Paved ~1.8–1.9 km; remote island; recent extensions reported.
Nicaragua	Managua (MGA)	4 – Very Good	Capital airport; paved ~2.4 km; modern facilities.
Nicaragua	Puerto Cabezas (PUZ)	3 – Good/Fair	Paved ~2.4 km; regional field with moderate pavement strength; weather exposure on Atlantic coast.
PNG	Lae (LAE)	4 – Very Good	Nadzab; new terminal and runway upgrade program completed recently.
PNG	Madang (MAG)	3 – Good/Fair	Paved ~1.6–1.8 km; coastal conditions; periodic maintenance by NAC.
PNG	Mt Hagen (HGU)	3 – Good/Fair	Paved ~2.4 km; highland environment; periodic maintenance.
PNG	Port Moresby (POM)	4 – Very Good	Jacksons; paved ~2.8–3.0 km; main hub; regular works.
Senegal	Cap Skirring (CSK)	3 – Good/Fair	Paved ~1.6–1.9 km; seasonal leisure traffic.
Senegal	Dakar (DSS)	5 – Excellent	Blaise Diagne; new airport (opened 2017); modern pavements.

Senegal	Ziguinchor (ZIG)	3 – Good/Fair	Paved ~1.9–2.0 km; regional; humidity and rainfall exposure.
Tunisia	Djerba (DJE)	4 – Very Good	Paved ~3.1 km; strong PCN reported historically; tourist gateway.
Tunisia	Sfax (SFA)	4 – Very Good	Paved ~3.0 km; commercial/industrial hub; solid surface condition.
Tunisia	Tozeur (TOE)	4 – Very Good	Paved ~3.2 km; tourist airport; generally good upkeep.
Tunisia	Tunis (TUN)	5 – Excellent	Capital airport; paved ~3.2 km; good PCN reported historically.

5.3.5 Findings

The results of the analysis are shown in Figure 9: Landing Fees – Price to Quality Rating (Boeing 737) and Figure 10: Landing Fees – Price to Quality Rating, with PNG airports shown in red. For both aircraft types NAC landing charges are high compared to other airports in our comparison list.

Figure 9: Landing Fees – Price to Quality Rating (Boeing 737)

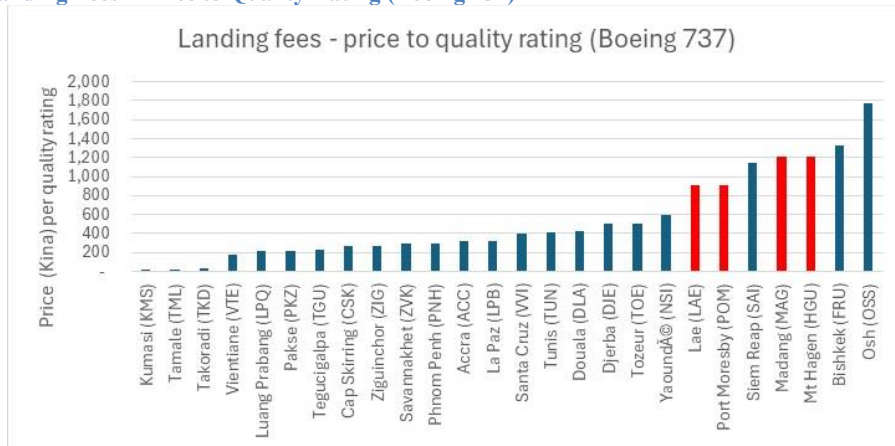
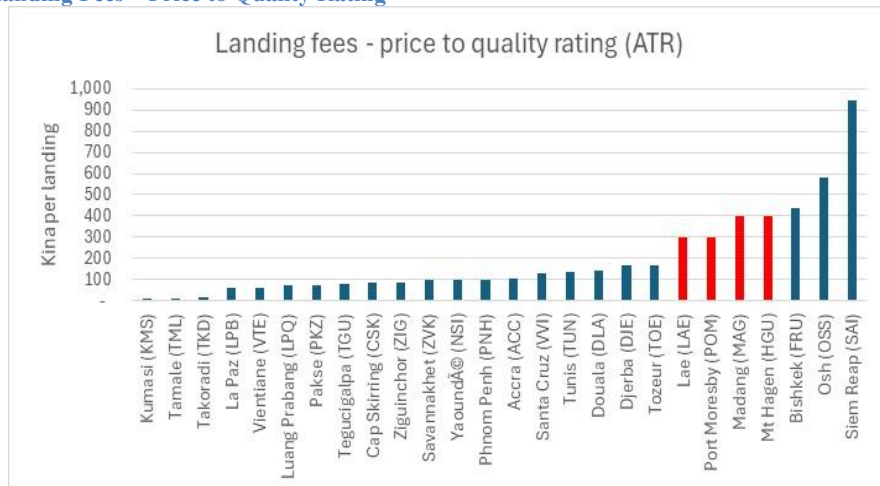


Figure 10: Landing Fees – Price to Quality Rating



5.3.6 Conclusion

The ICCC's benchmarking analysis found that comparisons of NAC's aeronautical charges with other airports were limited by data availability and differences in airport quality and operating contexts. Despite these constraints, the results still offer valuable insights into the reasonableness of NAC's pricing levels.

For passenger terminal services, NAC's charges were found to be relatively low when compared with airports in Australia⁶ and New Zealand. However, for developing country comparators, NAC's international passenger fees were comparatively high, albeit from a limited sample. For domestic services, NAC's charges were broadly in the mid-range among peer airports. In contrast, landing fees and related fees charged by NAC were generally higher than most of the airports included in the comparison.

5.4 Return on Investment

NAC has not submitted their financial data to the ICCC, preventing a thorough analysis to assess the reasonableness of their charges in relation to costs. The ICCC hopes NAC will make increased efforts to provide the necessary information soon, enabling a comprehensive review before final recommendations are issued for the benefit of this inquiry.

5.5 Infrastructure Investment Steering Committee

Stakeholder feedback indicates NAC's limited engagement in airstrip upgrade planning has led to infrastructure investment outcomes that does not meet larger aircraft requirements. This has resulted in ongoing runway degradation at key airstrips such as Hagen and Kokopo, disrupting operations and increasing costs for airlines through unplanned maintenance, diversions, or cancellations.

Such situations underscore the need for a more collaborative approach involving relevant stakeholders to ensure upgrades meet operational and safety standards

An approach would be to establish a dedicated airport development steering committee that will have a primary role to facilitate comprehensive collaboration between NAC, government agencies, airlines, local stakeholders, and development partners. Its objective would include assessing NAC's performance and investment effectiveness in upgrading airport infrastructure, coordinating stakeholder consultations to ensure upgrades meet operational demands—such as accommodating larger aircraft—and preventing runway degradation at critical airstrips.

5.6 Conclusion

These findings suggest that while NAC's passenger charges may not be excessive by developed-country standards, there remain areas of concern regarding the relative level and structure of its non-aeronautical and land-based fees. The benchmarking exercise also highlights the limitations of

⁶ In Australia, there is no price regulation but monitoring by the Australian Competition and Consumer Commission (ACCC) of domestic airfares or service quality.

NAC’s current pricing framework, which lacks the transparency and flexibility needed to ensure prices reflect underlying costs and deliver equitable outcomes across the airport network.

In this context, the ICCC considers that there are substantial opportunities to strengthen NAC’s price-setting framework through structured price monitoring and regulatory oversight. A phased introduction of economic regulation would help ensure that prices remain fair, cost-reflective, and performance-driven. Key features of such a framework should include mandatory disclosure of tariff schedules and cost bases, regular pricing reviews for major fee adjustments, and the introduction of performance-based incentives—particularly for regional and provincial airports where service delivery challenges are most acute.

Adopting best-practice pricing models, such as the Single Till approach, could further enhance fairness and efficiency by allowing non-aeronautical revenues to partially offset aeronautical charges. This would improve transparency, reduce the risk of cross-subsidization across airports, and support affordability for users while enabling NAC to maintain commercial sustainability. In turn, this would allow major gateway airports to realize their growth potential, while ensuring targeted public support remains available for essential but commercially unviable routes and infrastructure.

There is a clear body of evidence from around the world that airports are prone to abuse of market power and that price controls are needed to protect consumers.

At the time of writing this report, NAC had delayed its provision of financial data to the ICCC. Therefore, the ICCC has not yet investigated the relationship between charges and NAC’s costs. So, while NAC may or may not be charging excessively for its services, there is a strong case for regulating NAC’s prices.

The ICCC is proposing that NAC prices should be declared for economic price regulation.

5.7 Draft Findings and Recommendations

Draft Findings

Draft Findings 5.1	NAC holds a monopoly over all major airports in PNG.
Draft Findings 5.2	No institutional governance mechanisms to hold NAC to account to transparent performance measures.
Draft Findings 5.3	Regulatory oversight of NAC is ambiguous or minimal, allowing potential misuse of market power.
Draft Findings 5.4	Airport charges are high and opaque, lacking transparent pricing or cost justification.
Draft Findings 5.5	Uniform pricing across all airports—regardless of traffic volume, cost, or profitability—creates cross-subsidization and inefficiencies.
Draft Findings 5.6	There is a lack of meaningful dialogue and consultation between NAC and airport users, particularly airlines. This leads to inconsistent infrastructure investment planning and execution, ultimately degradation at key airstrips and operational disruptions. It may also lead to over-capitalization and inefficient investments in airport infrastructure which will increase costs without proportional quality improvements.

Draft Findings 5.7	Limited public availability of NAC’s financial and cost data hampers accountability and review.
Draft Findings 5.8	Charges for non-aeronautical services (e.g., terminal rentals, transit fees) increase with limited industry consultation.
Draft Findings 5.9	NAC’s prices are high compared to airports in comparable countries.
Draft Findings 5.10	Absence of effective economic regulation leaves consumers vulnerable.

Draft Recommendations

Draft Recommendation 5.1	Declare economic regulation of NAC.
Draft Recommendation 5.2	Establish an Infrastructure Investment Steering Committee involving NAC, airlines, government, local stakeholders, and donors.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

6 AIR NAVIGATION SERVICES AND REGULATION

NiuSky, PNG’s primary air navigation provider, manages the country’s extensive airspace consistent with ICAO and national regulations. It operates modernized systems to ensure safe and efficient navigation services.

6.1 Performance and Efficiency of NiuSky

While NiuSky has made strides in modernizing parts of its infrastructure, significant operational inefficiencies persist:

- **Infrastructure Gaps:** Previously PNG topography and scattered geography limited the reach and effectiveness of surveillance and navigation infrastructure. However, this has now been addressed by the use of Aireon to provide space based automatic dependent surveillance broadcast (ADS-B) data.⁷
- **Capacity Constraints:** NiuSky say that the face workforce limitations in both technical and operational roles, impacting service reliability and its ability to respond to increasing traffic volumes.

⁷ NSPL has been [operational](#) with Aireon data since 2020 across its 1.6 million square kilometers of its Port Moresby Flight Information Region (FIR). Before Aireon, visibility was somewhat limited due to the challenges with maintaining ground infrastructure across the country’s mountainous terrains and amid challenging weather conditions. With Aireon data, NSPL has access to real-time surveillance across Papua New Guinea, facilitating seamless navigation and surveillance services across the country, and within the region.

- **Technology and System Uptime:** Although recent upgrades have been introduced under the CNS/ATM modernization project, system downtime, delays in maintenance, and aging equipment continue to hamper operational performance.
- **Service Reliability:** Stakeholders report inconsistent service delivery and reactive, rather than proactive, maintenance approach.

Improving efficiency requires not only infrastructure investment but also institutional reforms to ensure better planning, system redundancy, and skills development.

6.2 NiuSky Capacity

Flight Control Responsibility

NiuSky is responsible for controlling aircraft movements for both Domestic and International Enroute Sectors within PNG airspace. The PNG airspaces “Flight Information Region (FIR) touches the FIR boundaries with Brisbane, Oakland, and Ujung Pandang FIRs. Controlled Sectors include:

- **Upper Airspace Sector (AREA):** covers high altitude en route flights passing through PNG, including international overflights.
- **Aerodrome (Tower) Control:** providing ground and terminal airspace control for arrivals, departures, and local traffic at their respective airports.
- **Approach/Terminal Sectors:** handling aircraft entering and exiting airport terminal zones.

Flight Control Capacity

NiuSky provided the ICCC with the number of ATCO’s (Air Traffic Control Officers) for each sector. (See Table 9 below)

Table 9: NiuSky ATCO Staff Numbers

Destination	Max Number ATCO at peak	2025 Typical ATCO at Peak	Peak (Movements per hour per ATCO)	Typical Peak (Movements per hour per ATCO)
Tower controllers	33	28	2.2	1.9
Approach / Terminal controllers	12	10	1.0	0.8
Area/Upper Airspace controllers	12	13	0.7	0.7
Flight Information Service Officers	20	18	1.3	1.2

The data indicates that NiuSky have a very high ratios of ATCO to aircraft movements. And this far exceeds international standards.

A single air traffic controller (ATCO) can typically manage between 40 and 60 aircraft movements per hour, depending on airspace complexity and the level of automation available. In high-complexity European en-route sectors, an ATCO may safely handle up to 51 aircraft entries per hour with simultaneous control of 10-20 aircraft, while tower controllers can process 45-60 runway movements per hour at busy airports. International studies recommend controller workloads not exceed 70% of active control time in any given hour to maintain safety and performance. These

benchmarks are based on research and operational guidelines published by Eurocontrol, peer-reviewed scientific studies, and international air navigation authorities.⁸

By comparison the information provided by NiuSky indicates that their ATCO's only handle about 2 run aircraft per hour, indicating that they are not very busy.

From the data provided by NiuSky, the number of ATCO's does not appear to be a capacity constraint. Rather by international standards, the number of ATCO appears to be excessive. And this will drive up NiuSky Costs. Of the 250 staff employed by NiuSky 129 are ATCO's.⁹ This will be a material contribution to NiuSky costs and what it must charge the airlines.

6.3 Performance Measurement

While airlines report delays caused by NiuSky, NiuSky do not collect information about such delays. In effect NiuSky does not measure their own performance. It is therefore recommended that NiuSky should start to collect data which can be used to measure its own performance. An appropriate approach to this would be to become a member of CANSO.

CANSO (the Civil Air Navigation Services Organisation) is a global industry association for air traffic management. It represents air navigation service providers and industry partners worldwide to develop best practices, promote safe and efficient airspace, and shape the future of ATM through international collaboration and advocacy.¹⁰

Members of CANSO provide data about their own performance and in return receive anonymised data about other countries performance. By becoming a member NiuSky would be able to evaluate and focus on the areas where their performance needs to improve.

In the absence of any performance measurement, it is difficult for NiuSky to respond to airlines complaints about their inadequacies.

6.4 Air Traffic Cost and Charges

Currently, the structure and justification of NiuSky's air navigation charges lack transparency, particularly regarding how costs are calculated and passed on to users.

- **Cost Recovery Model:** While NiuSky applies a user-pays system, there is limited clarity on whether the fees fully reflect the actual cost of service provision, particularly for en-route versus terminal charges.
- **Pricing Opacity:** Airlines report uncertainty around annual fee adjustments and whether charges align with service quality or system improvements.

⁸ Eurocontrol (2015), "ATC Capacities and their Costs" ([Link](#))

Angius, N. (2021), "How the Tower Air Traffic Controller Workload Influences Airport Capacity," PMC <https://pmc.ncbi.nlm.nih.gov/articles/PMC7999077/>

ICAO/FAA Workshop (2025), "Models to Determine Airspace Capacity" ([Link](#))

⁹ <https://centreforaviation.com/data/profiles/air-traffic-management/niusky-pacific-limited-nspl>

¹⁰ <https://canso.org/about-us/about-canso>

- Cross-subsidization: There may be implicit cross-subsidies between domestic and international flights, which could distort fair cost allocation and pricing equity.¹¹
- Stakeholder Consultation: There is a lack of formal engagement with industry stakeholders when charges are reviewed or changed.

Improving pricing transparency, publishing audited cost breakdowns, and formalizing consultation processes would enhance accountability and trust in NiuSky’s pricing practices.

6.5 Price Structure

NiuSky charges are based upon the Maximum Take Off Weight (MTOW) of an aircraft. There are four types of charges.

- Domestic Enroute
- International Enroute
- Surveillance and Communication
- Terminal (Only applied at Jacksons)

The pricing table also distinguishes between visual and instrument flights, domestic and international operators. Distinctions such as inbound and outbound are also made in the pricing table, but the rates are generally the same

Enroute charges are calculated as a rate times the “Tracked Distance” (TD) times the square root of the MTOW.

$$\text{Charge} = \text{rate} \times \text{TD} \times \sqrt{\text{MTOW}}$$

In 2025, the rate is typically K22 for a domestic or international flight originating or terminating in PNG. This is due to increase to K25 in 2026.¹² Table 10 estimates the likely charge for two major passenger routes.

Table 10: Typical Enroute NiuSky Charges

Route	Port Moresby – Brisbane	Port Moresby – Lae
Aircraft	Boeing 767-300ER	Airbus A220-300 (new)
Rate	22	22
Tracked Distance (km)	675	322
MTOW (kg)	187	71
Enroute Charge	2030	596
Maximum Passengers	270	160
Cost per passenger	7.52	3.73

For flights originating or terminating at Jacksons airport, the termination charge is calculated as the rate times the MTOW. Typical charges are shown in Table 11.

Table 11: Typical NiuSky charges for landing or taking off

Route	Port Moresby – Brisbane	Port Moresby – Lae
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¹¹ Note that this may or may not work in favour of domestic airlines.

¹² See full table of NiuSky Charges for other charging categories.

Aircraft	Boeing 767-300ER	Airbus A220-300 (new)
Rate	22	7
MTOW (kg)	187	71
Terminal Charge	4112	496
Maximum Passengers	270	160
Cost per passenger	15.23	3.10

Combining the data from these two routes indicates that the cost per passenger to be in the order of K22.75 for a flight to Brisbane and K 6.83 for a flight from Port Moresby to Lae.¹³

Because terminal charges are only charged for flights arriving at or leaving from Jacksons, it is likely that this will have the effect of creating cross subsidies between Jacksons and other airports. However, a large percentage of all flights in PNG will incur this charge because these flights either originate or end at Jacksons. So, the effect may be minor.

6.6 International Price Benchmarking

To estimate the reasonableness of NiuSky’s charges, the ICCC conducted a simple benchmarking exercise using readily available prices from six other Jurisdictions.¹⁴ While this is not a comprehensive benchmarking exercise it does indicate that NiuSky’s prices are in the middle of the range when compared to others.

Comparisons were made using a typical sized aircraft for a flight from Port Moresby to Lae and for a flight from Port Moresby to Brisbane. The assumptions used are shown in

Table 12.

Table 12: Assumptions used

	Port Moresby to Lae	Port Moresby to Brisbane
Maximum Takeoff Weight (Tonnes)	71	187
Flight Monitoring Distance (Km)	322	675

Four categories of comparison were made:

- Domestic Terminal charges;

¹³ Surveillance and communication charges are relatively minor compared to these tracking and termination.

¹⁴ **Data Sources**

The following primary sources underpin our calculations:

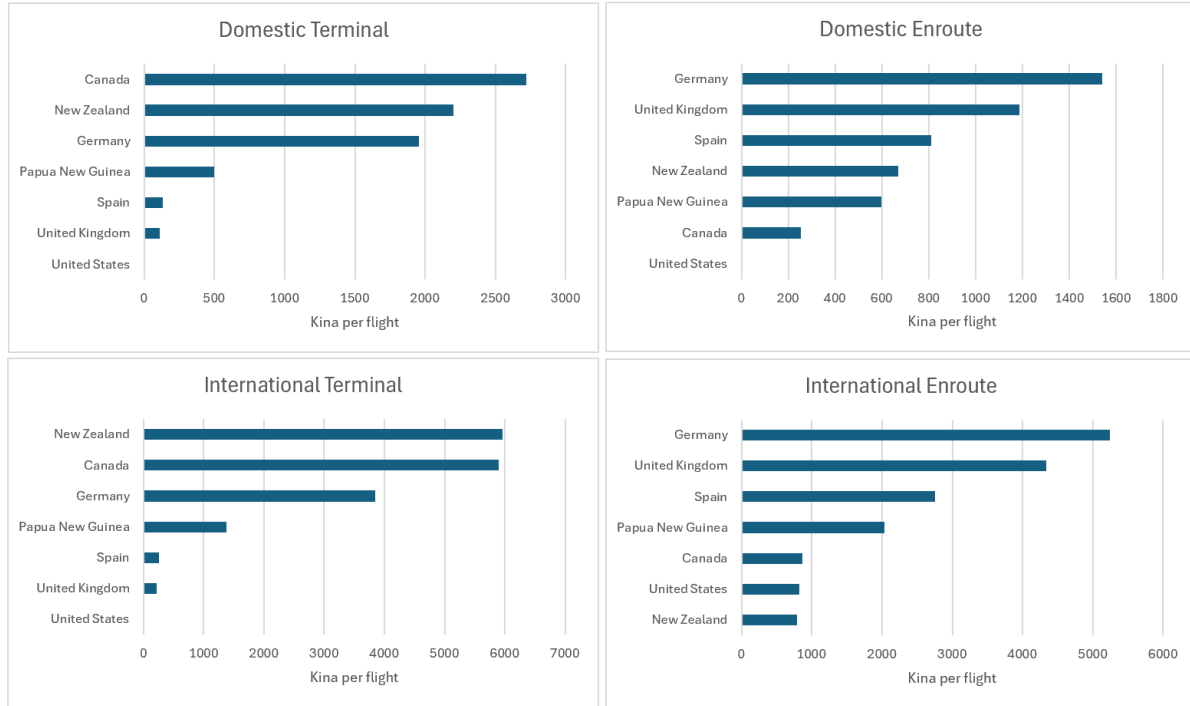
- **Papua New Guinea (NiuSky Pacific):** Internal operational charges, as provided by regulatory documentation.
- **United Kingdom (NATS):** CAA Official Record Series 7, No. 111 (London Approach rates and en-route charges, 2025).
- **New Zealand (Airways):** Standard Terms & Conditions, November 2024, including detailed approach and en-route rates.
- **Germany (DFS):** Official charges information from Deutsche Flugsicherung’s published tariffs.
- **Spain (ENAIRE):** Eurocontrol Circular LE 2025/01, with detailed regional charge formulas.
- **Canada (NAV Canada):** Customer Guide to Charges effective January 2025.
- **United States (FAA):** Published overflight rates in the FAA Advisory Circulars and official tariffs.

All data sources are peer-reviewed, regulatory publications or official ANSP websites, ensuring transparency and credibility.

- Domestic Enroute charges;
- International Terminal charges; and
- International Enroute charges.

The results are shown in the graphs in Figure 11: International Price Benchmark.

Figure 11: International Price Benchmark



In all cases NiuSky’s charges were in the middle of the range and were substantially lower than the higher jurisdiction charges.

In absolute terms NiuSky’s charges appear to be reasonable when compared to other developed country jurisdictions. However, without adequate performance measures it is not possible to demonstrate that NiuSky is delivering value for money. It is also likely that NiuSky’s prices may be cheaper because NiuSky provide a poorer service.

Other Observations

European providers generally implemented the highest charges. This is understood to be due to sophisticated infrastructure and regulatory frameworks.

NAV Canada operates a user-pay system while the USA FAA maintains a tax-funded model with no direct user fees except for international overfly monitoring. This creates significant competitive advantages for US airspace users.

Asian providers show diverse approaches, from Singapore's estimated high terminal charges to Japan's minimal government-subsidized rates.

Summary

Overall, benchmarking indicates that NiuSky’s charges are internationally competitive and are not excessive when compared to other countries. However, the service they provide may not be as sophisticated as in other countries.

6.7 Return on Investment

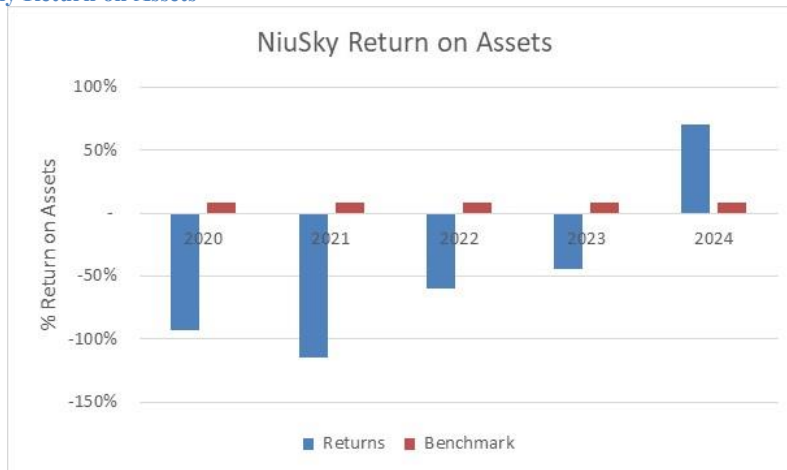
To understand how NiuSky’s charges relate to their costs, the ICCC has used a building block model approach to calculate return on investment. The methodology is described in more detail in section 9.8.

For NiuSky the ICCC have determined that an appropriate benchmark return would be a Pre-Tax Nominal Weighted Average Cost of Capital of 8.4% (see section 15 in the Appendix). This means that if NiuSky’s returns are lower than 8.4% then they are not recovering their economic costs and this will not be sustainable. If NiuSky’s returns are higher than 8.4% then this would be regarded as excessive charging and NiuSky would be extracting monopoly rents.

A key element of the ICCC’s methodology is that any gifted funding or Grants received by an organisation are deducted from the asset values. The logic of this is that Grants are intended to provide a subsidy to end users and therefore the cost of assets paid for by grants should not be recovered from users. However, it does mean that the ICCC’s assessment of returns will be different from an accounting assessment of returns. The ICCC is taking an economic perspective and looking at the return on net investment by NiuSky while an accounting perspective would consider the return on the value of its assets.

Figure 12 shows results of this analysis.

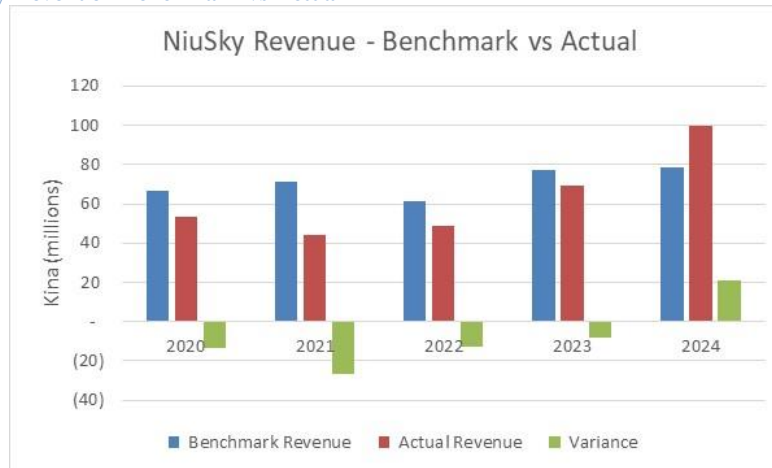
Figure 12: NiuSky Return on Assets



From Figure 12, we can see that NiuSky’s revenues did not cover their economic costs for the years 2020 to 2023 and their returns were substantially negative. But with the most recent price rise, returns have now become positive at level of around 70%. This is regarded as excess and indicates that NiuSky are now collecting monopoly rents.

Figure 13 – shows what the benchmark revenue would be for NiuSky if were receiving revenues that provided a return 8.4%. In 2024 this is an excess revenue of K21 million. However, the sum of the deficits for the previous 4 years is K61 million. So, this means that NiuSky are now starting recover their losses.

Figure 13: Niusky Revenue - Benchmark vs Actual



It is important to note that about 70% of NiuSky’s revenues come from monitoring flights that travel through PNG’s airspace but do not land. For NiuSky and for PNG this is a valuable source of income and foreign currency. And the ICCC supports NiuSky setting charges that can maximise this source of income.

That such a large portion of NiuSky’s income does come from this international service raises some questions.

- Are international earnings subsidising domestic operations?
- Could domestic charges be lower?
- Does the availability of these funds mean that NiuSky have the ability to increase their investment in domestic infrastructure and if so are they doing this to adequately to meet the industry’s needs?

In the absence of adequate performance measurement, it is difficult to assess if NiuSky are over or under investing.

6.8 Case for Economic Regulation of NiuSky

As a state-owned monopoly, NiuSky currently operates without dedicated economic regulation — creating potential risks related to inefficiency, lack of accountability, and excessive pricing. These risks are detailed below:

- In the absence of competitive pressure or regulatory oversight, there is little incentive to improve cost-efficiency or service innovation.
- While safety and operational performance fall under CASA PNG and ICAO obligations, there is no independent oversight of pricing, cost allocation, or service-level commitments.
- Economic regulation could involve an appropriately qualified economic regulator to introduce and oversee a price monitoring framework (e.g. CPI-X pricing paths, revenue caps, or benchmarking) to ensure that charges remain reasonable and performance is monitored over time.
- Clarifying the role of the state as owner versus regulator is necessary to avoid conflicts of interest.

- NiuSky do not currently measure their own performance indicating a lack of accountability
- Price regulation will provide transparency to NiuSky’s price setting process and provide re-assurance to all NiuSky’s stakeholders.

Introducing an economic regulatory framework could incentivize NiuSky to improve efficiency, enhance service quality, and ensure users pay fair, justifiable fees.

6.9 Comparative Performance Overview

This section provides a comparative analysis of key operational and financial performance indicators across leading ANSPs and discusses the implications for PNG’s aviation governance and performance reporting framework.

Table 13 presents a summary of selected key performance indicators (KPIs) for leading ANSPs—Europe (SES/PRB aggregate), Airservices Australia, and NAV CANADA—compared with PNG’s NiuSky. The selected metrics cover four key performance areas: operational efficiency, cost-effectiveness, safety, and user engagement.

Table 13 Summary of Key Performance Indicators

Performance Area / KPI	Europe (SES / PRB 2024)	Airservices Australia (FY2023–24)	NAV CANADA (FY2024)	PNG – NiuSky (2024)	Observations / Relevance for PNG
Average En-route ATFM Delay (min/flight)	2.13 min/flight	Not publicly reported (focus on airport capacity KPIs)	Not published as single KPI	Not published	Europe publishes standardized delay per flight, improving accountability. PNG lacks such metrics to track operational efficiency.
% Flights with En-route ATFM Delay	12.6%	Not directly published	Not published	Not published	Absence of delay metrics in PNG limits performance monitoring; recommended for transparency.
ANSP-attributable Cancellations (per year)	N/A (aggregated in delay metrics)	Target <14 cancellations annually	Not reported	Not published	KPI enables accountability for service reliability; PNG should record and report cancellations due to ANSP factors.
Planned Capacity Delivered (% time)	Not directly applicable	Target: >83% of time	Not published	Not published	A simple, measurable indicator of operational readiness; PNG could adopt similar measure for Port Moresby & key airports.

Unit Cost of ANS Provision (€ or local/unit)	~K250 per service unit	Published in financial reports (AUD terms, variable by service)	Cost-recovery model, charges adjusted - 5.57% in 2023	Not published	Publishing unit cost helps track cost efficiency; PNG lacks visibility on cost per service unit.
Significant Safety Occurrences (ANSP-attributable)	Reported under PRB safety KPI	Target: 0 significant occurrences	Published in safety reports	Safety investigations published via AIC only	PNG's independent AIC provides strong safety transparency; linking AIC data to NiuSky KPIs would close the loop.
User / Stakeholder Consultation	Mandatory through SES Review process	Regular via regulatory oversight & user forums	Formal user-governed model (Board of stakeholders)	Ad-hoc / limited	Strong user engagement models correlate with better service-cost alignment; PNG's user involvement could be formalized.

Operational Efficiency

In the European SES system, the average en-route delay per flight (2.13 minutes) and 12.6% of flights delayed are tracked and published annually, creating measurable accountability. Airservices Australia and NAV CANADA track operational capacity internally but do not aggregate results in a single public figure. By comparison, NiuSky currently does not publish operational delay metrics, making it difficult to assess whether airspace capacity and service reliability are improving. Introducing standardized delay KPIs would allow the regulator and users to monitor system performance and identify bottlenecks in service delivery, especially in high-density zones such the Port Moresby Flight Information Region (FIR).

Cost Efficiency

In the SES region, the unit cost of air navigation services is approximately K250 per service unit, a transparent measure allowing year-on-year comparison and regulatory benchmarking. Airservices Australia reports cost-to-serve measures in its financial statements, and NAV CANADA operates a cost-recovery model, adjusting charges according to demand and financial performance. PNG's NiuSky does not publish a comparable unit cost measure, making it difficult to evaluate economic efficiency or justify tariff structures. A cost-per-service-unit metric aligned with ICAO principles would support evidence-based price setting and enhance user confidence.

Safety Management

Safety performance remains PNG's strongest reporting area through the Accident Investigation Commission (AIC), which publishes detailed investigation reports and occurrence summaries. However, this data is not formally integrated into NiuSky's performance reporting. Adopting a unified safety KPI (e.g., zero significant ANSP-attributable occurrences) would strengthen accountability and link operational safety outcomes to performance metrics.

User Engagement and Governance

NAV CANADA’s model, where users (airlines and aviation stakeholders) sit on the governing board, has proven effective in aligning investment and pricing decisions with user needs. PNG currently conducts consultations on an ad-hoc basis, but there is no formal user advisory committee ensuring consistent input. Establishing such a mechanism would institutionalize engagement and improve transparency in pricing and service planning.

Figure 14 Summary of Key Findings on NiuSky

Performance Area	Objective	Outcome / Insight for PNG
Delay & Punctuality	Measure service reliability and efficiency.	PNG lacks delay data; adopting ATFM delay KPIs will strengthen operational monitoring.
Cost Efficiency	Assess economic performance and pricing justification.	PNG could introduce a unit cost per service unit metric to enable transparent benchmarking.
Safety	Monitor and report operational safety performance.	Integrate AIC data into NiuSky’s KPI framework to create end-to-end safety accountability.
User Engagement	Ensure pricing and investment decisions reflect user needs.	Establish a formal user consultation framework similar to NAV CANADA’s model.

6.10 Conclusion

The comparative evidence demonstrates that independent regulation, transparent performance reporting, and structured user engagement are essential for accountable and efficient air navigation services.

For PNG, the next stage of aviation sector reform should focus on developing a performance-based regulatory framework where NiuSky is required to publish annual operational and financial KPIs, set and report against measurable service targets, and engage users formally in pricing and investment decisions.

Implementing these reforms would align PNG’s air navigation oversight with international best practice, enabling greater service transparency, cost efficiency, and user trust—foundations for a safe and efficient air transport system.

The ICCC is recommending that NiuSky’s prices should be regulated.

6.11 Draft Findings and Recommendations

Draft Findings

Draft Findings 6.1	NiuSky operates as an unregulated monopoly which creates the opportunity to extract monopoly rents. This increases the risk of inefficiency and reduces accountability.
Draft Findings 6.2	NiuSky’s financial performance indicates potential overpricing following recent charge increases, suggesting extraction of monopoly rents.
Draft Findings 6.3	Prices are not set using a transparent public process which undermines stakeholder confidence.

Draft Findings 6.4	NiuSky continues to face operational inefficiencies despite infrastructure improvements, including system downtime, aging equipment, and workforce skill and planning gaps.
Draft Findings 6.5	There is limited performance measurement and data collection by NiuSky, hindering effective assessment and improvement of service reliability.
Draft Findings 6.6	Cross-subsidization risks exist between domestic and international flights with 70% of revenue coming from international flights flying over PNG.
Draft Findings 6.7	Service quality concerns persist, with airline complaints about delays and inconsistencies, and no formal accountability mechanisms in place. There are no standardized Key Performance Indicators (KPIs) to monitor delays or operational efficiency, limiting performance comparison and improvement across air navigation services in PNG.
Draft Findings 6.8	The adequacy of investment in domestic infrastructure is unclear.

Draft Recommendation

Draft Recommendation 6.1	Declare NiuSky for economic regulation.
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Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

7 AIRLINE MARKET COMPETITION AND STRUCTURE

The structure of PNG’s airline market has significant implications for pricing, connectivity, and the overall accessibility of air transport. This section examines the competitive dynamics between Air Niugini and PNG Air, assesses barriers to new entrants, analyses the impact on consumers, and considers appropriate policy and regulatory responses to foster a more competitive and efficient aviation market.

7.1 Market size

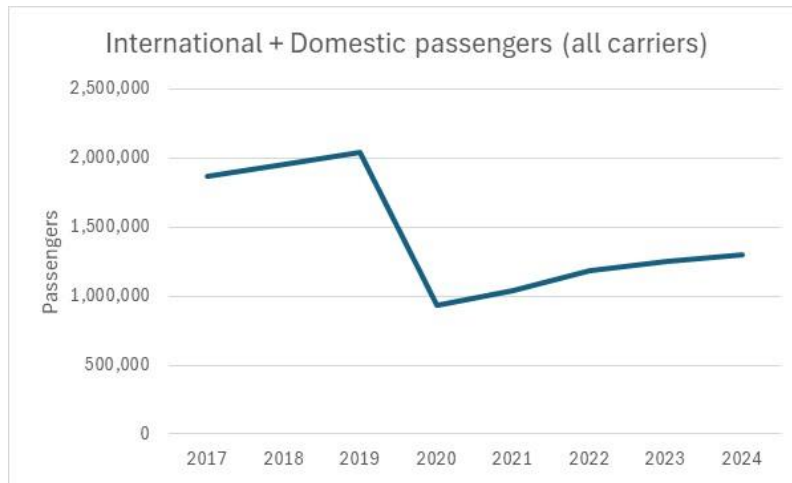
In 2024 the total number of passengers in both the domestic and international markets was estimated to be 1.3 million and 77% of these were domestic passengers. There were also about 14,000 tonnes of air freight with 45% of this being domestic.¹⁵

The ICCC’s ability to analyse this market in the course of this review has been limited by a lack of data resulting from Air Niugini, PNG Air and NAC ignoring the ICCC’s data requests. Consequently, at the time of publishing this draft report, the information in this section comes from publicly available sources.

The industry was severely impacted by Covid 19 and it appears that it still has not fully recovered to pre-covid volumes. Figure 15 shows the fall in passenger volumes that occurred in 2020 and the subsequent slow recovery.

¹⁵ PNG State Action Plan 2025 (Table 4).

Figure 15: Passenger Volume since 2017



Both the airline’s financials were consequently also affected negatively. Figure 16 shows the total revenues for both Air Niugini and PNG Air and how they declined in 2020. Revenues have since recovered even though passenger numbers have not.

Figure 16: Airline Revenue



7.1.1 PNG Air Limited

PNG Air, a privately-owned national airline, is advancing its strategic fleet renewal program to enhance operational efficiency, safety, and passenger service quality. As of 2025, the airline operates a fleet of sixteen (16) aircraft primarily composed of seven (7) ATR 72–600s and nine (9) Bombardier Dash 8-100s. The new ATR 72–600 aircraft, each with a seating capacity of around 72 passengers, represent a vital component of the renewal initiative aimed at replacing older aircraft and modernizing the fleet with more fuel-efficient and reliable models¹⁶.

The arrival of the first ATR 72–600 in October 2025 marks a significant milestone in PNG Air’s fleet modernization, with three more units expected before the year’s end. These aircraft are

¹⁶ <https://news.pngfacts.com/2025/10/png-air-expands-fleet-with-arrival-of.html>

purpose-built for Papua New Guinea's challenging geographic and climatic conditions, including short, unpaved, and high-altitude runways, reinforcing PNG Air's commitment to national connectivity and supporting economic sectors such as mining and remote community access.

PNG Air offers international charter flights between Port Moresby and Cairns, and between Lihir Island and Cairns using the ATR 72–600, operating under non-public schedules primarily for a mining firm. Domestically, the fleet is actively utilized with seven ATR 72–600s and six Dash 8-100s, evidencing robust operational utilization averaging 155 flight hours per month for the ATRs and 91 hours for the Dash 8s. The fleet renewal streamlines operations and reduces maintenance complexity, positioning PNG Air for sustainable growth aligned with national development priorities.

7.1.2 Air Niugini Limited

Air Niugini, the state-owned flag carrier and Papua New Guinea's longest-serving airline, operates a diversified fleet of 26 aircraft, including Bombardier Dash 8 variants, Fokker 70 and 100 jets, and a Falcon business jet under government ownership. The airline's strategic operations span domestic and international markets, supported by its wholly owned subsidiary, Link PNG, which services remote and smaller regional ports.

Air Niugini is undergoing its most ambitious fleet renewal program in its 52-year history, the Aviation National Lease Refleet Program (ANLRP), with an investment of approximately K2 billion spanning 2025 to 2028¹⁷. This program includes replacing aging Fokker and Boeing 737 aircraft with 13 new state-of-the-art jets: eleven (11) Airbus A220s (both A220-100 and A220-300 variants) and two (2) Boeing 787-8 Dreamliners. The first Airbus A220-300 was delivered in September 2025, aligning with Papua New Guinea's 50th Independence anniversary celebrations. This rollout is expected to enhance service reliability, fuel efficiency (with a 25% carbon emissions reduction per seat compared to previous-generation aircraft), and passenger experience, including the introduction of Wi-Fi on board.

Air Niugini's fleet renewal is strategically financed through a consortium comprising the PNG government, Asian Development Bank, U.S. Export-Import Bank, and Export Finance Australia. The modern fleet is expected to enable Air Niugini to expand passenger and freight capacities, improve economic connectivity, and support the growing tourism and resource extraction sectors¹⁸.

7.2 Market Definitions

When reviewing competition in any market the first step is to define the market. For the purposes of this review the ICCC has included three defined markets. These are

- Domestic scheduled city pairs,
- International scheduled city pairs and
- Air Cargo.

The following descriptions provide a rationale for these distinctions.

¹⁷ <https://apngbc.org.au/2025/new-aircraft-set-to-modernise-air-niugini-fleet/>

¹⁸ <https://www.apacoutlookmag.com/supply-chain/air-niugini-flying-the-png-flag>

City Pairs

Each route between two cities served by scheduled airline flights is treated as a separate market. Passengers traveling on these routes have distinct origin-destination needs and are unlikely to substitute one route for another, regardless of price or availability. This market structure allows for focused analysis of competition, pricing, and service on each route.

International vs Domestic

Domestic air services operate under PNG specific laws and aviation regulations, and within a unified infrastructure (airports, air traffic control) provided by NAC and NiuSky.

International flights are governed by international aviation agreements, bilateral treaties, customs and immigration controls, and sometimes foreign ownership or cabotage restrictions. Entry and competition are often shaped by government-to-government arrangements.

For these reasons the ICCC regards them as separate markets.

Transportation Mode Substitution

In many countries domestic flights compete against other modes of transportation such as sea, road and rail, whereas international flights do not. However, this is not a distinction in PNG where roads are generally not available and coastal passenger services are either poor or not available. Therefore, Air transport is distinct from other modes of transport.

Air Cargo

Air cargo services form a distinct market from passenger transport, reflecting unique operational requirements, customer needs, and pricing structures. Air cargo includes both domestic and international scheduled freight movements. Consumer and business demand for cargo services is not substitutable with passenger service.

Certain products—such as perishables, high-value electronics, medical supplies, time-critical documents, or spare parts—require the speed of air transport. For these goods, shipping by sea is not a realistic alternative.

Other Services Excluded

Helicopter and Chartered flight services have been excluded from our review.

Helicopter operations, often used for resource sector access, medical evacuation, or transport to remote locations without airstrips, serve highly specialized needs. These services do not compete with scheduled airline markets, as their flexibility and operational characteristics target unique customer groups with little overlap in demand.

Chartered flights cater to private, corporate, or unscheduled travel demands with flexible timing and route selection. There is minimal substitution between chartered and scheduled services, as customers choosing charters typically have distinct needs not met by regular airline schedules.

Helicopter and chartered flight services are excluded to keep the ICCC's review focused on markets where competition, consumer interest, and regulatory action are most impactful. These excluded services target specialized needs, experience little competition with scheduled airlines, and operate in niche markets with unique barriers and minimal overlap with regular passenger and cargo markets. Excluding them allows regulatory priorities and resources to be directed toward broader, higher-impact scheduled airline sectors.

The included markets—domestic scheduled city pairs, international scheduled city pairs, and air cargo—constitute the core of PNG’s aviation sector where competitive and regulatory considerations directly impact consumers and businesses. Helicopter and chartered services, by contrast, are excluded due to their fundamentally different demand and operational profiles.

7.3 Market Dynamics

Domestic: Air Niugini vs PNG Air

The domestic scheduled city to city market in Papua New Guinea is primarily composed of two operators: Air Niugini, which is state-owned, and PNG Air, a publicly listed but privately-operated airline. Together, these carriers form a de facto duopoly.

Cabotage

Cabotage—the right for foreign airlines to operate domestic flights within a country—is not permitted in Papua New Guinea. PNG restricts domestic air transport to nationally registered and licensed operators, prohibiting foreign airlines from carrying passengers or cargo between points within PNG. Only airlines holding a PNG Air Operator Certificate are allowed to operate domestic scheduled services, ensuring national control and regulatory oversight over the domestic aviation market.

This is consistent with international norms in most countries, where foreign airlines may land or depart internationally but are not allowed to pick up and drop off domestic passengers or freight within the country.

This stops international airlines from offering domestic services in PNG.

International

Currently there are five airlines that provide international flights from Port Moresby (see Table 14). However, the market is dominated by Air Niugini.

Table 14: Weekly International Flight Data

Destination	Airlines	Number of flights per week
Brisbane, Australia	Air Niugini, Qantas	15
Cairns, Australia	Air Niugini	14
Singapore, Singapore	Air Niugini	3
Manila, Philippines	Air Niugini, Philippine Airlines	4
Hong Kong, China	Air Niugini	2
Honiara, Solomon Islands	Solomon Airlines, Air Niugini	2
Guangzhou, China	Air Niugini, China Southern	1
Sydney, Australia	Air Niugini	2

The PNG government (GoPNG) appears to welcome new competition but has not implemented an open skies policy. It retains the discretion to permit additional airlines via the regulatory approval processes.

Air Niugini remains the dominant international airline by virtue of state support, extensive fleet, and established partnerships.

Air Niugini is PNG's designated carrier under bilateral air service agreements. This designation is a standard international aviation practice where governments nominate specific airlines to exercise traffic rights negotiated in bilateral agreements. The Department negotiates and ratifies bilateral air service agreements for international travel and issues permits for international non-scheduled flights.¹⁹ This state backing places Air Niugini in a strong competitive position for international flights into PNG.

7.4 Share of Market

Domestic

The domestic aviation market in PNG is primarily served by two main operators: Air Niugini and PNG Air.

On some routes, passengers have only one airline option. This will likely impact on intensity of price competition and limit opportunities for service differentiation on these routes. Similar market structures exist in countries with comparable population sizes, such as Laos and Cambodia.

The presence of only two main operators does not necessarily indicate market failure or a lack of competitiveness. What matters is whether the market is open to new entrants and whether significant barriers to entry exist. Currently, PNG's aviation sector does not have structural barriers that explicitly prevent new competitors from entering. Nevertheless, practical challenges such as high capital costs, passenger volumes, regulatory uncertainties, and infrastructure limitations create significant hurdles.

Given this context, the current number of operators may be sufficient to maintain adequate competitiveness. Nonetheless, ongoing regulatory oversight remains essential to ensure that these two airlines do not engage in anti-competitive behavior and that consumers have access to fair pricing and quality services.

Available data and stakeholder consultations suggest that Air Niugini holds between 66 percent of the domestic passenger market. Air Niugini, as a state-owned-entity benefits significantly from its public ownership, which allows it to balance commercial operations with social and economic development obligations. Government backing provides financial stability, strategic support, and preferential access to contracts and resources, enabling the airline to maintain essential routes and modernize its fleet in line with national priorities. Some of these benefits include GoPNG-backed

¹⁹ https://www.icao.int/sites/default/files/environmental-protection/State_Action_Plans/Papua-New-Guineau-State-Action-Plan-2025.pdf In Section 2.1.1 of this document, it states that the Department “negotiates and ratifies bilateral air service agreements for international travel” and that Air Niugini functions as the airline designated under these agreements.

reflect program (~K3 billion) to purchase 11 airbus A220 aircraft and preferential treatment on major mine project operations.

PNG Air is estimated to hold between 30 to 40 percent²⁰ of the market, though its footprint is more extensive in terms of geographic reach to underserved areas.

Both airlines operate under different financial and operational pressures. PNG Air operates as a privately-owned entity without the same level of state financial support received by Air Niugini. Consequently, PNG Air is more exposed to market volatility, including fluctuations in fuel prices, foreign exchange rates, and passenger demand. These pressures directly affect PNG Air’s profitability and may limit its ability to invest in fleet renewal or competitive pricing strategies.

The imbalance in financial resilience means that PNG Air cannot match Air Niugini’s pricing flexibility or scale or operations, especially on high-demand routes, potentially undermining its long-term viability in the absence of regulatory or public policy support.

7.5 Number of Domestic Airlines

Studies consistently show that the number of airlines operating in a country's domestic market is primarily determined by market size rather than regulatory barriers, even where open skies policies are in place.

Research on US airline markets demonstrates that “natural oligopoly” conditions prevail, as most city-pairs are served by one to three carriers for economic reasons rather than legal constraints. Analysis of Australian domestic aviation found larger city routes support more airlines, while regional routes—where demand is lower—often feature just one carrier. New Zealand’s Commerce Commission likewise concluded that despite a formally liberal regime, only two major competitors exist domestically due to limited market demand, not barriers to entry. The South Pacific experience confirms that small markets sustain minimal competition regardless of regulatory openness. International comparisons reveal domestic airlines maintain price premiums, indicating market structure is driven primarily by market fundamentals.²¹

While open skies policies remove entry barriers, the practical number of sustainable airlines depends on market size, population density, and traffic levels. In smaller markets, economic constraints—not regulation—naturally limit domestic competition.²²

These findings are supported by the typical number of airlines operating in various countries. Table 15 shows the number of airlines operating in various countries which have GDP per capita levels which are higher than PNG’s. This demonstrates what might be expected for PNG as its economic growth increases.

Table 15: Airlines GDP per capita countries

Country	Population (millions)	Number of airports	Number of airlines	Names of Airlines
New Zealand	5.3	51	4	Air NZ, JetStar, Oringair, Air Chathams

²⁰ PNG Air Limited Report 2023 pp 26.

²¹ https://comcom.govt.nz/_data/assets/pdf_file/0033/366099/Assessment-of-whether-to-self-initiate-competition-study-into-domestic-air-travel-sector-May-2025.pdf

²² <https://cronfa.swan.ac.uk/Record/cronfa29181>

Ireland	5.1	14	2	Aer Lingus, Ryanair
Norway	5.4	53	4	SAS, Norwegian, Widerøe, Norse Atlantic
Denmark	5.9	31	5	SAS, Danish Air Transport, DAT, Ryanair, Air Alsie
Finland	5.6	27	3	Finnair, Norra, DAT
Israel	9.7	6	3	El Al, Israir, Arkia
Slovakia	5.4	8	1	Air Slovakia

Table 16 shows the number of airlines operating in a group of countries which have populations and GDP per capita which are comparable to PNG. Again, this indicates that it is normal for economies like these to only have 1 or 2 airlines. Only three countries in this group had more than 2 airlines and five countries had only one.

Table 16: Number of airlines operating in selected low GDP per Capita countries

Country	Population (millions)	# Airports	Number of competing Airlines	# Domestic Airlines
Senegal	18.2	19	4	Air Senegal, Transair, Senegal Airlines, Senegal Flights
Cambodia	17.5	13	3	Cambodia Angkor Air, Lanmei Airlines, Sky Angkor Airlines
South Sudan	11.1	82	3	South Sudan Supreme Airlines, Eagle Air, Kush Air
Papua New Guinea	10.5	33	2	Air Niugini, PNG Air
Guinea	14.5	16	2	Guinea Airlines, Eagle Air
Chad	18.3	42	2	Toumaï Air Chad, Air Inter 1
Zimbabwe	16.2	144	2	Air Zimbabwe, Fastjet Zimbabwe
Malawi	20.7	28	2	Malawian Airlines, Ulendo Airlink
Haiti	11.7	17	1	Sunrise Airways
Rwanda	14.0	8	1	RwandAir
Burkina Faso	24.4	49	1	Air Burkina
Mali	17.4	30	1	Sky Mali
Benin	13.5	10	1	Benin Golf Air

The implications of these findings are that PNG is currently doing well to have two competing airlines. Everything should be done to ensure that both airlines can survive and be financially sustainable. To support this competition between Air Niugini and PNG Air must be fair and they must operate on a level playing field. Any subsidies or incentives available to one should also be made available to the other and active competition between these two airlines should be encouraged.

7.6 Domestic Competition

Both Air Niugini and PNG Air currently provide weekly services to all of NAC's airports (See Table 17). However, six airports which only PNG Air fly to (see Table 18). PNG Air provide less flights overall with 208 weekly flights compared to Air Niugini's 478 flights per week. So, Air Niugini currently offers 70% of all scheduled domestic flights.

Table 17: Weekly Flights to NAC run Airports

Airport	Air Niugini	PNG Air
Port Moresby (POM)	240	60
Lae (LAE)	49	28
Mount Hagen (HGU)	42	24
Goroka (GKA)	28	12
Rabaul/Tokua (RAB)	19	8
Alotau/Gurney (GUR)	14	6
Wewak (WWK)	13	9
Madang (MAG)	13	8
Hoskins/Kimbe (HKN)	12	5
Buka (BUA)	7	5
Tabubil (TBG)	7	5
Kiunga (UNG)	6	5
Kavieng (KVG)	6	4
Popondetta (PNP)	6	4
Tari (TIZ)	4	4
Mendi (MDU)	3	3
Vanimu (VAI)	3	2
Manus/Momote (MAS)	2	2

Table 18: Distinct Airports served only by PNG Air

Airport	Weekly Scheduled Flights
Moro (MXH)	3
Misima (MIS)	2
Losuia/Kiriwina (LSA)	2
Aropa/Kieta (KIE)	2
Daru (DAU)	2
Wapenamanda (WBM)	3
Lihir (Kunaye, LNV)	2

7.7 International Competition

Currently PNG has direct international flights to eight cities, provided by five different airlines. Table 19 compares international flights for PNG with other countries of similar populations and GDP per capita. In this comparison, PNG is currently poorly served by its international direct flights. There appears to be potential for PNG to have more airlines providing services and more connections to international destinations.

Table 19: Comparison of International Flight with Comparable Countries

Country	Main Intl. Airport	# Airlines	Flights per Week	# Originating Cities
Senegal	Blaise Diagne Intl. (Dakar, DSS)	13	90+	12
Cambodia	Phnom Penh Intl. (PNH)	10	50+	11
Zimbabwe	Robert G. Mugabe Intl. (Harare, HRE)	9	110+	10
Rwanda	Kigali International (KGL)	9	60+	9
Burkina Faso	Ouagadougou Intl. (OUA)	7	30+	7
Benin	Cadjehoun Intl. (Cotonou, COO)	6	26+	8
Mali	Modibo Keita Intl. (Bamako, BKO)	6	22+	7
Malawi	Kamuzu Intl. (Lilongwe, LLW)	6	19+	7
Haiti	Toussaint Louverture Intl. (PAP)	5	42+	7
Papua New Guinea	Jacksons International (Port Moresby, POM)	5	16+	8
Guinea	Conakry International (CKY)	5	16+	6
South Sudan	Juba International (JUB)	5	10+	7
Chad	N'Djamena International (NDJ)	4	10+	5

For completeness, Table 20 shows the same information for a group of selected countries with similar population sizes but high per capita GDP. This shows that for these wealthier countries, the number of international city connections, number of airlines and number of flights is much higher than for the lower per capita countries shown in Table 19. Why PNG cannot expect such levels of connectivity, it does demonstrate that there is significant opportunity for PNG to increase its connectivity as its economy grows.

Table 20: GDP per Capita International Flights

Country	Population (millions)	Main Intl. Airport	# Airlines	Flights per Week	# Originating Cities	# Int'l Airports with Weekly Flights
New Zealand	5.3	Auckland Airport (AKL)	28	290+	28	5
Ireland	5.1	Dublin Airport (DUB)	45+	500+	190+	3
Singapore	5.9	Changi Airport (SIN)	50+	700+	180+	1

Norway	5.4	Oslo Gardermoen (OSL)	40+	350+	110+	4
Denmark	5.9	Copenhagen (CPH)	65+	550+	165+	3
Finland	5.6	Helsinki (HEL)	40+	250+	68	2
Israel	9.7	Ben Gurion Airport (TLV)	60+	450+	140+	2
Slovakia	5.4	Bratislava (BTS)	13+	55+	40+	2

Research has clearly demonstrated that there are significant economic benefits from having direct flights with other international cities.

- Research on Chinese cities using transaction-level trade and flight route data showed exports to destination countries increased by 11.2% after the launch of direct routes, especially for industries needing face-to-face communication.²³
- Improved air connectivity also facilitates foreign direct investment (FDI) and capital inflows, further boosting innovation and economic capacity.²⁴

The key finding here is that there is potential for PNG to grow both the number of international flight connections and the number of airlines which provide services. And it is clearly in PNG's economic interests to do so.

7.7.1 Fifth Freedom Flight/Right

An option would be to introduce '5th Freedom Flight' option for PNG market. It refers to the right granted to an airline from one country to operate flights between two other foreign countries, carrying passengers or cargo between them, provided the flight either originates or terminates in the airline's home country.

This usually involves multi-stop routes where an airline starts in its home country, stops in a second country, and then continues to a third, with the ability to pick up and drop off passengers or cargo between the foreign points. For instance, international airlines such as Qantas or the Philippines Airline be allowed to pick-up passengers in Port Moresby, Lae, Kavieng or Buka and then fly on to another international airport destination (e.g. Cairns, Honiara, Jayapura, Bali, Cebu or Nadi, etc).

7.8 Barriers to Entry

While new entrants to PNG's domestic airline market encounter significant challenges, the barriers to entry may not be as prohibitive as often perceived. Although capital requirements for acquiring aircraft, establishing maintenance capacity, and meeting regulatory standards are substantial, capital alone does not constitute an insurmountable barrier.

Capital requirements are often cited as a barrier to entry in the airline industry, but the *true economic barrier* is whether an airline can generate sufficient profits to justify or cover the cost of

²³ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4185160

²⁴ <https://www.astrid-online.it/static/upload/air-/air-connectivity.pdf>

capital in a new market. The risk lies in the uncertainty of achieving returns above the cost of capital, making the barrier more about profit risk than the mere presence of upfront costs.²⁵

Capital requirements—such as purchasing or leasing aircraft—represent a hurdle but are no longer insurmountable, since leasing and external financing options have become more accessible.²⁶

The more critical issue is whether an entrant can actually earn a return on invested capital (ROIC) that exceeds its cost of capital. The airline industry has historically struggled with poor profitability, meaning that even well-capitalized entrants face risk from low or negative returns, rather than simply the presence of high capital outlays.²⁷

Accessibility of capital varies by entrant type; established airlines expanding into adjacent markets face far lower capital and risk barriers than completely new entrants.²⁸

High capital costs alone will not deter market entry if the expected return is sufficient.

There are several other factors which might deter a new entrant, because of the risk to profitability they create. These are described in Table 21. None of these things are unique to PNG and all of these can be overcome if the profitability of the market appears to be attractive enough to the new entrant.

The only real barrier to a new entrant in PNG appears to be government opposition. If the government were opposed to a new entrant then it can easily block its entry. In PNG this is likely to be in the form of getting authorisation.

Table 21: Potential Barriers to Entry

Regulatory Challenges	A new airline must obtain certifications such as the Air Operator Certificate (AOC), which is a lengthy and resource-intensive process. On top of this, stringent safety, security, and environmental regulations must be satisfied, often demanding additional capital and expertise ²⁹ .
Airport Access and Slot Allocation	In some busy international airports, where capacity utilisation is at or near 100%, an airline can only provide a service if they can book landing slots. In many cases these are closely held by incumbents which prevents any new entrant from entering the market.
Dominance of Incumbent Airlines	Established carriers typically have strong market positions, decades of data, and local economies of scale. They can respond with aggressive pricing, flood the market with capacity, or leverage brand loyalty programs to undermine new competitors. This entrenched dominance also means new entrants have less visibility into market opportunities ³⁰ .
Operational and Regulatory Costs	High operating costs—including airport charges, regulatory fees (safety, security levies), and requirements for decarbonization—can particularly strain new or

²⁵ <https://www.iata.org/en/iata-repository/publications/economic-reports/value-chain-profitability>

²⁶ <https://finance.yahoo.com/news/low-entry-barriers-intensify-competition-221134980.html>

²⁷ <https://www.sciencedirect.com/science/article/pii/S2941198X2400022>

²⁸ https://comcom.govt.nz/_data/assets/pdf_file/0032/66758/comcom-chapter7marketandcompetition.pdf

²⁹ https://comcom.govt.nz/_data/assets/pdf_file/0033/366099/Assessment-of-whether-to-self-initiate-competition-study-into-domestic-air-travel-sector-May-2025.pdf

³⁰ <https://www.consumer.org.nz/articles/domestic-aviation-competition-5-findings-from-the-commerce-commission-s-assessment>

	low-cost carriers. Moreover, regulatory changes and supply chain disruptions can further increase pressure on airline margins. ³¹
Brand Loyalty	Frequent flyer programs and established brand reputations make it harder for new airlines to attract and retain customers. ³²
Code Sharing	These arrangements can reduce competition by giving established airlines privileged access to feeder traffic and network coverage. ³³
Market Information	Incumbent airlines often possess granular data on demand, pricing, and capacity, which is not readily accessible to new entrants. ³⁴

Other potential barriers shown in Table 21, are unlikely to act as a barrier to entrants. There is plenty of spare airport capacity, operational charges from NiuSky and NAC are not excessive by international standards and customers are unlikely to be particularly brand loyal, given apparent poor customer service complained about by stakeholders.

The most likely barrier to a new entrant will be the expectation that underlying market economics will not support a third airline. However, there does not appear to be any barrier to stop an airline from entering the market and striving to make a profit.

7.9 Process Requirements for New Entrants

In order to make it easier for both domestic and international airlines to expand their services to PNG, it is worth examining the process which they must go through to launch new services. This is shown in Table 22.

Table 22: Process requirement for new passenger services

Steps for Domestic Passenger Air Services in PNG	Steps for International Airline Direct to Port Moresby
Apply for PNG Air Operator Certificate (AOC) at least 6 months before operations.	Apply for Foreign Air Operator Certificate (FAOC) at least 90 days before operations.
Register company and establish physical base in PNG with permanent resident management.	Submit form CAA 119/13 with appropriate application fee and provide home country authorization.
Complete 5-phase AOC certification process (pre-application, application, document evaluation, demonstration/inspection, certification).	Provide operations specifications for routes to/from/within PNG.
Demonstrate organizational structure, operational control, flight supervision, training programs, and maintenance arrangements.	Submit relevant parts of exposition for PNG operations per CAR 129.63.

³¹ <https://tnmt.com/the-decline-of-new-airline-foundings>

³² <https://www.mytutor.co.uk/answers/52215/A-Level/Economics/Explain-which-barriers-to-entry-an-new-airline-might-face-when-entering-the-international-flight-market>

³³ https://comcom.govt.nz/_data/assets/pdf_file/0033/366099/Assessment-of-whether-to-self-initiate-competition-study-into-domestic-air-travel-sector-May-2025.pdf

³⁴ <https://www.consumer.org.nz/articles/how-do-we-fix-our-domestic-aviation-market>

Prepare and submit operations manual structured per AC119-4 guidelines.	Provide evidence of authorization from home country aviation authority.
Complete proving flights and operational demonstrations to CASA PNG.	Submit required aircraft documentation: registration certificate, airworthiness certificate, insurance certificate, noise certificate.
Secure aircraft registration, insurance, and airworthiness certificates in PNG.	Apply for landing permits at least 7 days in advance for non-scheduled flights.
Obtain operations specifications detailing authorized routes, aircraft types, and special authorizations.	Submit flight plan, crew licenses, passenger/cargo manifests.
Establish ground handling arrangements at intended airports.	Obtain customs approval at least 30 days before operations (Request for Approval).
Pass ongoing surveillance and periodic inspections by CASA PNG.	Coordinate slot allocation at Jacksons International Airport.
	Subject to continuous surveillance including ramp inspections and confidence reviews.

All these things all appear to be reasonable requirements to ensure the safety of passengers. However, there are opportunities to make it easier for airlines to expand their services.

Table 23 provides a list of potential initiatives which could help. The table seeks to identify which ideas would be easier to implement.

Table 23: Service Improvement Options

Opportunity	Realistic /Unrealistic	Cost/Resource Needs	Implementation Timeline	Explanation
Reduce AOC certification time to 3-4 months	Realistic	Low-moderate: streamlining staff processes, auditing forms	1-2 years	Requires administrative changes, minor training; doesn't require major new tech. ³⁵
Remove PNG management residence requirement	Realistic	Low: regulatory update, stakeholder consultation	<1 year	Updating policy and aligning to ICAO norms is simple; requires legal draft. ³⁶
Eliminate repetitive documentation	Realistic	Low-moderate: form redesign, retraining	<1 year	Accept shared standards and use templates; does not require major IT investments ³⁷ .
Shorten 30-day advance customs approval	Realistic	Moderate: new process framework, awareness	<1 year	Strategic change in workflow coordination; does not demand extra FTEs ³⁸ .

³⁵ <https://www.iata.org/contentassets/fa95ede4dee24322939d396382f2f82d/iata-toolkit-on-airport-governance-a4.pdf>

³⁶ <https://casapng.gov.pg/admin/images/Part-119-Air-Operator-Certification.pdf>

³⁷ https://casapng.gov.pg/safety-regulatory/flying_operations/PNG-Air-Operator-Certificate

³⁸ <https://www.customs.gov.pg/border/aircrafts>

Issue blanket permits for certified operators	Moderate	Moderate: revise systems, legal review	1-2 years	Needs legal streamlining and IT tweaks—not large cost, but moderate complexity ³⁹ .
Mutual Recognition (IOSA) Frameworks	Moderate-expensive	Expensive: regulatory agreements, capacity building	2-4 years	Requires legal reform and inter-agency diplomacy; technical skills limited locally ⁴⁰ .
Recognize home country certification	Moderate-expensive	Moderate-expensive: bilateral agreements, legal harmonisation	2-4 years	Similar to above—international negotiation, policy redesign required ⁴¹ .
Single digital portal	Unrealistic short-term	Expensive: design, build, maintain, train staff	3-5 years	Would require external technical support, donor funding—difficult for small staff ⁴² .
Risk-based approval process	Moderate-expensive	Skilled: data management, inspector training	2-4 years	Requires staff training in risk assessment, and technical system upgrades ⁴³ .
ICAO-harmonized frameworks	Moderate	Moderate: policy revision, technical advice	2-3 years	Achievable with technical legal support and ICAO engagement ⁴⁴ .
Proportionate regulation	Moderate	Skilled: policy design, stakeholder training	2-3 years	Needs some regulatory sophistication, but feasible with good advice ⁴⁵ .
Concurrent safety/security approvals	Moderate-expensive	Skilled: workflow redesign, inspector upskilling	2-3 years	Requires process mapping, some skilled staff, pragmatic in medium term ⁴⁶ .
Provisional permits	Realistic	Low-moderate: legal, admin updates	<1 year	Can be trialed for certain categories; mitigates delays, low risk ⁴⁷ .

³⁹ <https://justaviation.aero/landing-permit/port-moresby-jacksons-airport>

⁴⁰ <https://www.iata.org/en/iata-repository/publications/economic-reports/airline-liberalization>

⁴¹ <https://www.iata.org/en/iata-repository/publications/economic-reports/economic-regulation>

⁴² <https://www.caa.co.uk/publication/download/25526>

⁴³ <https://aviationsafetyblog.asms-pro.com/blog/regulatory-compliance-staying-aligned-with-faa-easa-icao-and-local-regulations>

⁴⁴ <https://zafire.aero/compliance-and-standards>

⁴⁵ <https://www.iata.org/en/iata-repository/publications/economic-reports/economic-regulation>

⁴⁶ <https://www.caa.co.uk/publication/download/25526>

⁴⁷ <https://www.iata.org/contentassets/fa95ede4dee24322939d396382f2f82d/iata-toolkit-on-airport-governance-a4.pdf>

Pre-audit question banks	Moderate	Moderate: forms, process revision, basic IT	1-2 years	Can be developed with minimal IT, basic staff retraining ⁴⁸ .
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This list of possible actions clearly shows that there are things that can be done by PNG regulators to make it easier for aviation to expand in PNG. While some of the opportunities may be expensive or take time, others could easily be implemented if there is a will to do so.

7.10 Impacts on Consumer

Limited airline competition in any market has direct and negative implications for consumers. Airfares in PNG are high in relation to average income levels which limits the size of the market and its ability to support competition. Where there is no competition then prices are likely to be higher.

Service frequency is another concern. While major routes benefit from multiple daily flights, many smaller centres are serviced irregularly or only a few times per week. This restricts mobility, impedes access to services, and negatively affects economic development in remote areas.

As passenger choice is generally limited to one or two airlines on most domestic routes, there is minimal differentiation in service quality or product offerings between providers. This limited competition, combined with an oligopolistic market structure and persistent operational challenges, provides little incentive for airlines to invest significantly in customer service improvements such as digital innovation, or loyalty programs.

The current market environment, further constrained by infrastructure limitations and high operating costs, encourages airlines to focus primarily on maintaining existing service levels rather than pursuing customer-oriented innovations or competitive enhancements. Market analyses support this observation, indicating that passenger growth remains modest and airline investment priorities are directed more toward fleet modernization than toward service differentiation or digital transformation.

These factors make it more important to retain and promote competition where it currently exists.

7.11 Flight Frequency and Reliability

Flight reliability, particularly concerning Air Niugini, has long been viewed as a persistent challenge. Historically, frequent flight disruptions have been attributed to operational and infrastructure-related constraints rather than competitive market factors. These include aircraft technical issues, adverse weather conditions, inconsistent fuel supply, and deficiencies in airport infrastructure such as poor runway conditions and limited lighting facilities. Such constraints restrict operating hours, limit aircraft size, and increase operational costs, leading to delays and cancellations. Wildlife hazards, including bird strikes, further contribute to the problem. Passenger surveys have often reported frustration over cancellations, communication failures, and inadequate management of disruptions.

However, more recent data on on-time performance suggest a more complex picture. According to company statements, Air Niugini reported an on-time arrival rate of around 85 percent for July–August 2024, although these figures are not independently verified and are disputed by passenger

⁴⁸ <https://www.caa.co.uk/publication/download/25526>

feedback. When benchmarked against comparable airlines, this claimed performance places Air Niugini close to or above several regional and international peers. For instance, Fiji Airways recorded about 80 percent on-time performance, while Air New Zealand reported 77.6 percent and the Australian domestic average (Qantas, Virgin, and Jetstar combined) was around 73 percent. Some high-performing regional airlines, such as FlySafair in South Africa (93.8 percent) and Oman Air (90.3 percent), set the upper standard for punctuality, but Air Niugini’s claimed results would still position it within the mid to upper range of global averages.

Table 24: Flight Reliability Comparison

Airline	Country	% On Time	Comment
FlySafair	South Africa	93.8	Regional low-cost carrier, best performer
Oman Air	Oman	90.3	Gulf regional carrier, top global punctuality
Royal Jordanian	Jordan	87	Flag carrier, Middle East regional leader
Air Niugini	Papua New Guinea	85	Company-reported recent monthly performance (July-Aug 2024), disputed by passenger surveys
Kuwait Airways	Kuwait	84.6	Gulf carrier, high punctuality
LATAM Airlines	Chile	82.9	Leading South American carrier
Qatar Airways	Qatar	82.8	Premium Middle Eastern carrier
Azul	Brazil	82.4	Major Brazilian carrier, strong performance
SAS	Norway/Sweden/Denmark	81.4	Combined Scandinavian carrier
Fiji Airways	Fiji	80	Estimated from route-specific data, usually 80-83%
Singapore Airlines	Singapore	78.7	Leading Asia-Pacific flag carrier
Air New Zealand	New Zealand	77.6	Asian-Pacific leader, national carrier
Qantas, Virgin, Jetstar (avg)	Australia	73	National average, all scheduled domestic airlines
Malaysia Airlines	Malaysia	69.8	International flights only, lower performance in global rankings

These comparative figures alter the interpretation of PNG’s reliability issue. They indicate that while operational disruptions remain a concern, particularly for smaller routes and regional carriers, Air Niugini’s performance may not be as poor as previously perceived. The central issue may now lie in data verification and transparency rather than in chronic underperformance. Independent audits of punctuality statistics would provide greater confidence in assessing actual service reliability.

In this context, competition alone may not be the key driver of improved reliability. Sustained improvements will depend on strengthening infrastructure, ensuring maintenance consistency, improving fuel logistics, and introducing independent performance reporting systems. This would help validate airline claims, align public perception with actual operational outcomes, and provide regulators with reliable metrics for oversight. Overall, the available evidence suggests that PNG’s aviation reliability challenges are evolving from systemic deficiencies toward issues of accountability and operational consistency, underscoring the need for coordinated action rather than purely competitive remedies.

7.12 Domestic Code Sharing

Given PNG's small aviation market the introduction of domestic code-sharing arrangements should be approached with caution⁴⁹. The existing market is characterized by limited competition and high barriers to entry, driven by infrastructure constraints, high operating costs, and operational challenges. Stakeholders have emphasized that code-sharing agreements should not be encouraged unless supported by strong regulatory oversight and a clear, demonstrable benefit to consumers. Stakeholders argued that domestic code sharing between the two major airlines could result in coordinated pricing, harmonized schedules, and reduced service overlap on key routes. This ICCC notes coordinated pricing is illegal in PNG.

While code sharing can enhance connectivity and service diversity in large, multi-segment international markets by enabling airlines to offer broader network access without operating all routes themselves, these benefits are less relevant to PNG's predominantly point-to-point domestic network. In such a market, code sharing is unlikely to improve passenger choice or service quality and could instead risk further reducing effective competition. Therefore, any consideration of domestic code-sharing arrangements in PNG should be guided by transparent regulatory evaluation, ensuring that potential consumer benefits outweigh the risks posed by the market's structural limitations.

Given the limited size and fragility of PNG's aviation market, any move towards domestic code sharing must be approached with caution. Stakeholders have recommended that such agreements should not be encouraged unless subject to strong oversight and clear demonstration of consumer benefit.

Details of PNG Domestic Code Sharing

In 2021, the ICCC authorized Link PNG and PNG Air to enter into a code-share agreement for domestic passenger, freight, and charter services, though it set conditions to minimize anti-competitive impacts and rejected a broader Joint Operating Agreement that would lessen competition.

The ICCC required that both airlines continue to compete independently, maintaining separate pricing and flight operations, to protect market competition.

While the agreement itself experienced delays and regulatory oversight, code-share authorization in principle was granted for domestic routes, with similar arrangements to be revisited by the regulator as market conditions evolve.

Air Niugini also participates in code-sharing agreements with airlines outside PNG for international routes.

Code sharing remains a regulated practice, subject to ICCC approval and ongoing review to ensure competitive balance in the PNG domestic airline market.

⁴⁹ Stakeholder submissions to Issues Paper on 2025 ICCC Aviation Review.

7.13 Two Provider Domestic Markets

The situation in PNG where there are two competing airlines providing domestic services is common in many countries. Several studies have been done in other countries to evaluate the economics of this type of two player market, especially where one participant is dominant with a larger market share. These studies identify the scale advantage that Air Niugini has over PNG Air.

Scale Advantages in Airline Duopolies

- Larger airlines benefit from economies of scale by spreading fixed costs (such as fleet, maintenance, and overheads) over more flights and passengers, leading to lower average operating costs per unit.⁵⁰
- Scale allows incumbents to offer higher flight frequency, better network connectivity, and sometimes lower fares due to cost efficiencies, making them more attractive to consumers.⁵¹
- Studies from the US, Australia, and New Zealand show that larger operators can sustain lower pricing, greater market reach, and superior resource deployment compared to smaller rivals, helping them defend or grow market share in duopolies.⁵² This allows these airlines to withstand competitive pressures better and often outlast challengers in prices wars or market share battles.⁵³
- In New Zealand, studies of the domestic duopoly found incumbents can use scale to react strongly to new entrants or LCCs, with larger carriers maintaining dominance unless the challenger finds unique cost or service strategies.⁵⁴
- Analysis from Turkey, India, and Brazil further highlights that the largest airlines in duopolistic and oligopolistic markets typically gain higher operational and financial performance, attributing this to their greater capacity, cash resources, and ability to optimize routes.⁵⁵
- Although scale provides a defensive advantage, studies caution that market structure, regulation, demand fragmentation, and competitive tactics (such as predatory pricing or slot hoarding) also shape the long-term equilibrium.⁵⁶
- In some cases, the smaller challenger might survive or thrive by targeting underserved niches or developing agile cost models, but generally, the larger incumbent maintains superior competitiveness in duopolistic airline markets.⁵⁷

Profitability analysis confirms that Air Niugini do have a scale advantage over PNG Air and this is reflected in their much higher financial returns (seen Section 8.8). While Air Niugini may not have used their advantage in an anticompetitive manner up till now, there is clearly opportunity for them to do so in future.

⁵⁰ <https://pmc.ncbi.nlm.nih.gov/articles/PMC7167062>

⁵¹ <https://www.sciencedirect.com/science/article/abs/pii/S136655451200083X>

⁵² <https://mro.massey.ac.nz/server/api/core/bitstreams/72fe72d3-d351-4c4f-8776-b3487250dbbd/content>

⁵³ <https://www.jstor.org/stable/20052792>

⁵⁴ <https://www.sciencedirect.com/science/article/abs/pii/S0965856418307481>

⁵⁵ <https://jemi.edu.pl/vol-19-issue-4-2023/results-of-competitive-dynamics-examination-of-the-factors-determining-the-operational-and-financial-performance-of-airlines-the-case-of-the-turkish-international-airline-market>

⁵⁶ https://www.comcom.govt.nz/_data/assets/pdf_file/0029/66719/comcom-ccdraftdeterminationgulliverspacificqantasairnzalliance.pdf

⁵⁷ https://treasury.gov.au/sites/default/files/2024-09/p2024-553588_0.pdf

7.14 Encouraging Competition

Competition in duopolistic airline markets like Papua New Guinea is difficult but not entirely unrealistic—several options exist to encourage more competition, although structural and demand-side barriers make the challenge significant. Most global evidence and regulatory analysis suggest competition can be fostered, but only through coordinated policy interventions and targeted industry support.⁵⁸

Potential interventions include the following.

- **Lower Barriers to Entry:** Regulators can facilitate access to airport slots, gates, and infrastructure for new entrants. Slot allocation reforms and incentives for secondary airports are widely recommended to help new airlines expand beyond core routes dominated by incumbents.⁵⁹
- **Transparency and Data Sharing:** Requiring incumbent airlines to share data on route performance, pricing, and demand can enable potential challengers to make informed market entry decisions. This is being implemented in Australia and recommended in several studies.
- **Regulatory Oversight:** Strong enforcement of competition laws (including anti-predatory pricing, slot hoarding, or unfair commission practices with travel agents) is critical to prevent entrenched duopoly behaviour.
- **Encouraging Alliances:** Allowing regional airlines to partner with larger international carriers or enter joint ventures can provide scale, resources, and network access that would otherwise be out of reach.

7.15 Level Playing Field Opportunities

To promote competition and ensure that aviation remains accessible and responsive to public needs, it is recommended that both Air Niugini and PNG Air accorded equal treatment by all government agencies. This should include reforms to the allocation of government travel contracts. Procurement processes should promote a competitive and level playing field. Instead of awarding bulk travel arrangements to a single carrier, contracts should be opened to all eligible airlines through transparent and competitive processes.

The introduction of an open domestic air policy should be considered, allowing qualified new entrants to access domestic routes without unnecessary regulatory or procedural hurdles. While the underlying economics may not be attractive to a third airline, allowance should still be made for the possibility that a new entrant could provide niche services where they do not currently exist.

In parallel, improvements to regional airport infrastructure, including navigational aids, passenger facilities, and safety upgrades, would enhance route viability and encourage market participation, if funding can be found to support this. An open domestic policy will allow innovative a potentially entrepreneurial solutions to infrastructure constraints⁶⁰.

Other ideas focus on subsidies. The idea of a subsidy always appears to be attractive and people often call for them. However, subsidies are generally difficult for PNG to sustain. To be successful, they need to have a guaranteed source of funding, and this is generally difficult for the PNG

⁵⁸ <https://www.consumer.org.nz/articles/domestic-aviation-competition-5-findings-from-the-commerce-commission-s-assessment>

⁵⁹ <https://www.abc.net.au/news/2023-06-05/accc-report-on-airlines-flights-qantas-jetstar-virgin/102439930>

⁶⁰ Safety standards still need to be maintained.

government of achieve. Subsidies also need to be limited to those that need them. Poorly designed subsidies will be expensive and remain ineffective at achieving the social goals that motivate them.

A public service obligation model could be explored to maintain air services to remote or commercially unviable locations. Under this approach, the government could competitively tender certain routes and provide financial subsidies in exchange for service guarantees. This would help ensure that all regions of PNG remain connected without burdening a single operator or distorting competition. If this policy were to be pursued then it should first be noted that current CSO policies have not been successful in PNG. To succeed reliable funding would need to be available on an ongoing basis.

If any subsidy policies were pursued then they should allow both Air Niugini and PNG Air to take part, possibly by a competitive tendering process.

7.16 Draft Findings and Recommendations

Draft Findings

Draft Findings 7.1	PNG is doing well to have two competing airlines in its domestic market. Many comparable countries only have one. Both airlines provide weekly services to all NAC's airports which means that competition is widespread.
Draft Findings 7.2	Markets with two providers are common around the world but studies show that the weaker operator may struggle to survive. This is confirmed by the difference in financial returns seen by Air Niugini and PNG Air. Air Niugini is in the dominant position with 70% of the domestic market. This gives them better scale economics leading to a stronger competitive position over PNG Air.
Draft Findings 7.3	PNG has fewer direct international flights is served by fewer international airlines than other comparable countries. This means that there is an opportunity for PNG to increase its international connectivity.
Draft Findings 7.4	Introducing 5 th Freedom Flights in PNG could enhance international connectivity by allowing foreign airlines to operate multi-stop routes that pick up and drop-off passengers between PNG cities and other international destinations, boosting economic benefits from increased passenger volumes.

Draft Recommendation

Draft Recommendation 7.1	Ensure that Air Niugini and PNG Air operate in a fair market environment with equal opportunities to win government contracts, and gain any financial assistance that may be available.
Draft Recommendation 7.2	Streamline approval processes for new passenger services to support faster expansion of current services when airlines request it.
Draft Recommendation 7.3	Ensure strong enforcement of competition laws. Monitor the market closely for predatory pricing, unfair commission practices with travel agents or other anticompetitive behavior. Ensure that the ICCC, under the ICC Act, has the resources to do this.
Draft Recommendation 7.4	Ensure potential new entrants are able to fairly access airport facilities.
Draft Recommendation 7.5	Pursue bilateral air service agreements to enable 5 th Freedom Flights for PNG, expanding airline options and international route connectivity.

Draft Recommendation 7.6	Consider mandatory data sharing by incumbents to help potential new entrants make informed market entry decisions.
Draft Recommendation 7.7	Service reliability statistics should be independently verified to so that actual performance can be measured to support improvement over time and to match customer perception with reality.
Draft Recommendation 7.8	Domestic code sharing should be discouraged as it reduces competition.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

8 COST DRIVERS IN THE AVIATION INDUSTRY

Aviation operations in PNG are shaped by a complex cost environment that reflects both global market forces and local logistical challenges. Understanding the key cost drivers is essential for assessing fare levels, the financial sustainability of airlines, and the broader accessibility of air transport services. This section identifies and analyses the main cost components in the aviation value chain, evaluates their impact on pricing, and explores strategies to contain costs and improve efficiency.

In the airline industry, economics are fundamentally shaped by both fixed and variable costs. Fixed costs typically relate to essential resources such as aircraft, maintenance infrastructure, ground support, regulatory compliance, distribution, and crewing—costs that are incurred whether or not any flights operate or passengers travel. In contrast, variable costs arise directly from operating specific routes; these include fuel, landing fees, taxes, and even foreign exchange fluctuations, as many expenses are denominated in US dollars.

Given these dynamics, commercial aviation is recognized as a high-cost sector where fare adjustments are often necessary to ensure financial sustainability and the continued viability of airlines. Historical experience demonstrates that airlines pricing their services below total marginal cost are generally unsustainable; several carriers in recent years—such as Travel Air, Airlink, Islands Nationair, and Talair—have exited the market after prolonged periods of unprofitable operations.

Key cost drivers identified by the two primary airline operators include:

- Fuel
- Air Navigation charges, landing and airport charges
- Maintenance
- Flight Crews and Ground Staff
- Engineering
- Aircraft Leasing or aircraft ownership costs
- Insurance
- Overheads including head office staff
- Financing costs

Most cost components incurred by major airlines are internalized within their overall cost base and reflected in the base fare charged to passengers. However, certain charges outlined in airfare tickets—such as some airport facility navigation fees levied by NAC—are passed directly onto consumers are sometimes itemized separately on the ticket information.

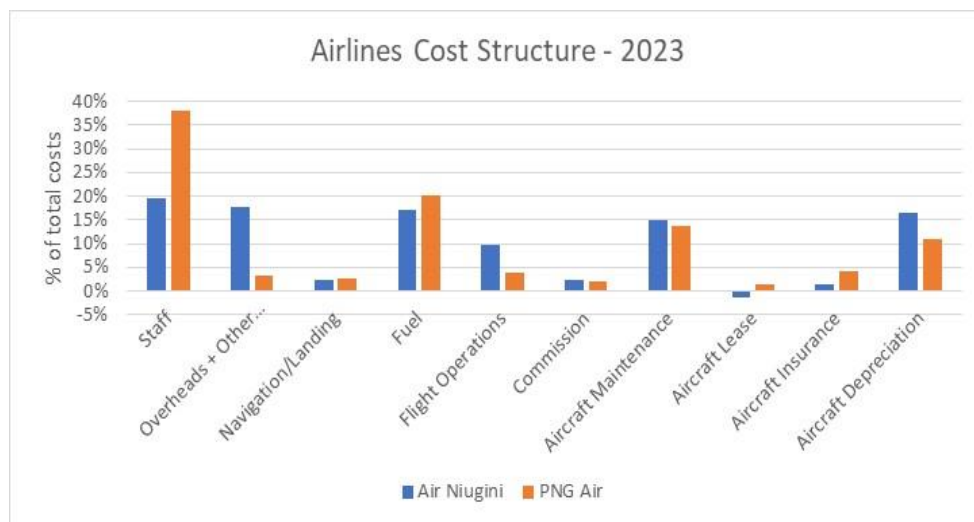
Based on past submissions (2019 ICCC Investigation of Airfare Prices) from these carriers, the ICCC has been able to quantify the relative scale of each cost source in the structure faced by PNG airlines.

8.1 Cost Comparison: Air Niugini vs PNG Air

Both airlines face substantial overheads and indirect costs. Understanding their costs and what drives them, will help target policy interventions to strengthen competitiveness, efficiency, or financial resilience for the sector as a whole.

A cost comparison⁶¹ of both airlines (see Figure 17: Airlines Cost Structure - 2023) shows that staff costs are their largest cost. For Air Niugini this was almost 20% of their operating costs (including depreciation) and for PNG Air staff costs represented 37% of their costs.

Figure 17: Airlines Cost Structure - 2023



Fuel and aircraft maintenance are the next most significant outlays for both airlines, though PNG Air's fuel share (20.20%) is notably higher, likely reflecting fleet composition or route structure differences.

Key Observations:

- Cost Structure Similarities: For both airlines their largest cost appears to be staff (Air Niugini 19% PNG Air 37%), then fuel (17% / 20%) and aircraft maintenance (15% / 14%).

⁶¹ The ICCC has a low level of confidence in these numbers because due to the quality of information available at the time of writing this draft report. It is hoped that more detail data will improved its quality and reliability.

- Air Niugini allocates a higher percentage to flight operations (9.66% vs 3.97%) and depreciation (16.45% vs 10.79%), pointing to a more asset-heavy fleet and network complexity.
- Cost Efficiency: Direct cost comparisons (in Kina) confirm that Air Niugini's absolute costs are substantially higher, consistent with its scale as the national carrier. However, as a percentage of total cost, both carriers reflect similar major cost on a proportional basis.
- Navigation and landing fees appear to be a relatively small portion of total costs. However, from the information provided it is not clear if these include all the costs imposed upon airlines by NAC and NiuSky. Other regulatory compliance costs are likely to be hidden in overheads.

8.2 Cost Drivers

Table 25 provides a brief description of the major cost components for airline services.

Table 25: Airlines costs drivers

Cost component	Prices	Volume
Fuel	The costs of Jet Fuel, which is primarily influenced by the Napanapa Project Agreement between the State and Puma Energy (PNG) Limited, foreign exchange movements, the world market price for crude oil and freight charges.	Volumes are driven by distance and weight. Most of the fuel is consumed getting an aircraft up to its cruising altitude. So longer flights use less fuel per km than short flights.
Airport fees	Set by NAC	Driven by the volume of passengers and the number of flights made
Air traffic control fees	Set by NiuSky	Based upon the route flown and the size of the aircraft.
Staff costs	Aircraft engineers and pilots are highly skilled which are internationally transferable. Their remuneration rates will therefore be driven by the international market demand for their skills. Cabin staff generally require high levels of training to ensure they deliver the airlines customer service requirements.	The number of air staff, engineering and maintenance staff will depend upon the number of flights and the size of the aircraft used. The number of grounds crew needed will depend upon the number passengers and freight volumes. Head office staff functions while scalable tend to more fixed in number and not driven directly by volumes.
Security screening costs	Set by NAC	Volumes are driven by the number of passengers and flights.
Taxes	Set by Government	Directly proportional
Aircraft costs	Aircraft can either be purchased or leased. Which approach will be cheaper is likely to depend upon international market supply at the time.	The number and size of aircraft is directly driven by the number of passengers carried, the number of routes flown and the frequency of the flights. Aircraft engines must be maintained to strict schedules based upon the number of hours of operation. Maintenance must be

	signed off by qualified aircraft engineers. If these maintenance requirements are not met then flights may be delayed or cancelled.
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Aircraft handling services, including ground support, passenger processing, and baggage services, constitute another major cost, particularly at smaller airports where economies of scale are limited. These services are often provided by a single operator, limiting price competition and service innovation. In the absence of centralized arrangements, each airline managing its own ground handling staff and equipment leads to duplication of resources, unnecessary capital expenditure, and inefficiency.

Regarding ground services, there is a need to balance promoting competition with maintaining a market size that allows all service providers to operate viably. Some stakeholders, such as the PNG Chamber of Commerce and Industry (PNGCCI), have suggested the adoption of a single contracted ground handler at each airport. This model, used internationally, could significantly reduce operational and capital costs for airlines and improve coordination at terminals.

Under such model, offering ground handling may seek to protect their market share (IATA), making it difficult for new entrants to establish themselves. Therefore, it is essential for the regulatory authority to ensure that no barriers to entry exist. It would be important to ensure contracts for managing ground services are awarded based upon regular periodic competitive tenders.

Security costs, including passenger screening and airport perimeter protection, have increased in recent years. At major terminals such as Port Moresby Domestic, outdated and inefficient screening equipment has been identified as a contributor to delays and compromised on-time departure rates. These issues not only raise operational costs but also affect the overall passenger experience.

Air navigation fees, charged by NiuSky for en-route and terminal control services, represent a further operational expense. While these charges are structured to recover costs, there is limited transparency in their calculation, and airlines have raised concerns about the lack of differentiation between high-density and low-density routes in the fee structure.

Infrastructure-related costs, including airport landing fees, terminal charges, and facility usage fees, significantly affect airfare pricing. Larger airports such as Jacksons International in Port Moresby may justify higher charges based on infrastructure investments and traffic volumes, but many provincial airports still apply standardized fee structures despite limited facilities. This may mean that cost signals provided by prices do not reflect the actual costs incurred which in turn drives inefficient allocation of resources. Smaller airports with less facilities and very low passenger volumes may be more expensive on a per passenger basis, but currently NAC do not provide any transparency that this is a consideration when they set their prices.

Regulatory compliance costs are also material consideration. The cost analysis was not able to quantify this cost. However regulatory compliance is likely to delay airlines in expanding their services and consume head office staff resources. Airlines must meet safety and maintenance standards under CASA PNG regulations, which involve routine inspections, certification fees, and training obligations as well as gaining approval for expanding their services to new routes. While these standards are critical for ensuring safe operations, the associated compliance costs can be burdensome, especially for smaller carriers with limited internal capacity.

Cumulatively, these infrastructure and regulatory expenses feed directly into the cost base of airlines, influencing fare levels and route economics. On marginal or low-demand routes, these fixed and semi-fixed costs often exceed potential revenue, resulting in either infrequent or no services or complete market withdrawal.

8.3 Variability Across Major Versus Remote Routes

A notable characteristic of the aviation market is the cost variability between high-volume trunk routes and services to remote or less-developed destinations. On major routes such as Port Moresby to Lae or Mt Hagen, higher passenger volumes allow airlines to spread fixed costs across more ticket sales, reducing the per-passenger cost and enabling more competitive fares.

In contrast, flights to remote regions such as the Highlands fringes, Gulf, or border provinces face a combination of short runways, limited fuel availability, and low passenger yields. Aircraft operating on these routes often fly below capacity, and maintenance or diversion requirements are more frequent. The result is a significantly higher cost per seat kilometer, which is either absorbed by the airline or passed on to passengers through higher fares.

This variability highlights the need for differentiated policy responses and pricing strategies that reflect route-specific challenges rather than a one-size-fits-all approach to cost recovery. While it is socially attractive to use cross subsidies to lower fares on high cost routes, this is likely to result in poor allocation of PNG's limited resources and inhibit the expansion and growth of PNG's aviation industry.

8.4 Transparency and Justifiability

Stakeholder consultations have revealed persistent concerns about the lack of transparency in several key cost areas. Airlines and civil society representatives report limited access to the underlying cost structures of airport charges, navigation fees, and security levies. For example, there is no publicly available breakdown of how navigation fees are calculated or how airport charges are adjusted over time in relation to capital improvements.

To address this, there is a growing call⁶² for an economic regulator to be given a formal mandate to assess and monitor cost structures across the aviation sector. This would include the authority to require disclosure of airport and airline operational costs, evaluate ground handling and security operations using cost-benefit analysis, and oversee procurement and contracting processes for shared services. The appropriate economic regulator should also monitor how infrastructure upgrades impact cost recovery mechanisms and ensure that service charges passed on to passengers remain fair and justifiable.

By publishing regular findings and recommendations, the regulator can improve transparency, promote competition, and advise government on necessary regulatory or policy adjustments to reduce costs and improve service delivery.

8.5 Fuel Costs

Fuel represents a major cost factor which may be 15% to 25% of the total operating costs for an airline.

⁶² Stakeholder submissions made in response to the Issues Paper for this Inquiry.

Jet fuel has been a topic of national significance in recent years due to supply constraints. Without fuel, all flights are cancelled. Fuel prices are influenced by global oil markets. In PNG prices tend to be higher due to local transportation costs and limited competition in fuel supply, and a lack of bulk storage capacity at regional airports. In some cases, the cost of jet fuel at remote airstrips can be several times higher than at major hubs, severely impacting the viability of certain routes. Fuel infrastructure costs are heavily dependent upon throughput volumes, so more investment in infrastructure at regional airports might result in higher per litre costs. So, infrastructure investment needs to be determined by market demand.

Fuel supply remains a critical area for reform. While there are some competing depots and tanker services, much of the market has been dominated by a single supplier, resulting in limited competition and probably higher prices.

Since late 2022, Papua New Guinea has faced repeated Jet A1 shortages caused by Puma Energy's inability to import enough fuel due to foreign exchange restrictions and strained relations with local banks. The situation led to multiple national emergencies, beginning in mid-2023, when Air Niugini and PNG Air were forced to cancel flights after Puma restricted supply. The company struggled to secure US dollars to pay for crude oil and fuel imports, while regulatory probes and banking suspensions further constrained operations. This fuel crisis exposed the fragility of PNG's supply chain, with the country relying almost entirely on Puma's Napanapa refinery for aviation and ground fuels.

By early 2024, the crisis worsened, prompting the government to coordinate emergency imports and develop plans for alternative suppliers. Kumul Petroleum, Islands Petroleum, and Ok Tedi Mining began establishing new import terminals and supply networks to reduce dependence on Puma. Despite partial recovery by 2025, small carriers and rural operators continued to face shortages, leading Prime Minister Marape to call for dismantling Puma's monopoly and accelerating construction of new storage infrastructure scheduled for late 2025.⁶³

To address supply constraints, the government is through Kumul Petroleum Holdings Limited (KPHL), is spending K100 million on a Jet A1 import and storage facility at Motukea Wharf, near Port Moresby. The facility will hold approximately four to six weeks of national jet fuel demand, providing a critical buffer against supply interruptions that previously grounded flights.⁶⁴

Stakeholders have recommended that competition in fuel provision be encouraged and expanded, with a preference for at least two suppliers operating at major airports. Introducing a second supplier and strategic onshore storage would enhance supply security, improve market efficiency, and ensure competitive pricing to support airline growth, connectivity, and broader economic development.

Where dual infrastructure is not feasible, shared or user-owned fuel facilities—potentially operated by airlines or airports—could be established or mandated under appropriate regulation.

Another idea is to introduce a fuel cost stabilization mechanism. Prices are set by international markets and can occasionally be volatile if unexpected events occur. There are several approaches that could be taken.

⁶³ <https://www.pmnec.gov.pg/prime-minister-marape-demands-action-on-fuel-crisis-calls-out-monopoly-impacting-small-airlines>

⁶⁴ <https://www.thenational.com.pg/k100-million-for-fuel-storage>

- **Price band or Ceiling Mechanism** – The government or a regulatory body such as the ICCC could set a benchmark aviation fuel price range (e.g., $\pm 10\%$ of a base price).
 - When world prices exceed the ceiling, a stabilization fund would reimburse airlines or fuel suppliers for the difference.
 - When prices fall below the floor, surcharges would be collected to replenish the fund.
 - This method mirrors commodity stabilization schemes used for oil-importing economies and could be funded via a levy on fuel sales.
- **Fuel Hedging Scheme** - Airlines could pool risk through collective fuel hedging, supported by the state or development partners. Using futures or swap contracts—commonly applied in global aviation—they can lock in stable jet fuel prices over periods of 6–18 months. For PNG carriers, small scale and limited market access mean this would work best if coordinated through a government-backed consortium (e.g. via Air Niugini as anchor participant).
- **Strategic Fuel Reserve** PNG could create a strategic aviation fuel reserve to stabilize supply and prices, financed through concessional loans or donor-backed facilities. This approach would mitigate disruptions like the 2024–2025 fuel crisis that forced operators such as MAF PNG to impose temporary surcharges.

While all these ideas would address physical supply constraints they are all likely to drive increased costs and more expensive airfares. Continuous hedging would likely increase fuel costs by 1% to 3% over the long term. And the capital cost of holding a 12 million litre strategic reserve would be likely to be about K3 million per year, which would need to be recovered through airfares.

The ICCC believes that promoting open competition supported by infrastructure will ultimately be cheaper for PNG. A substantial body of empirical research and regulatory analysis shows that open competition in fuel markets tends to produce lower prices for consumers, especially when barriers to entry are reduced and price transparency increases.⁶⁵

8.6 Opportunities for Efficiency Gains

Beyond fuel, modernizing airport services offers potential cost savings. The transition to a single contracted ground handler at each airport would help eliminate duplication of personnel and equipment across airlines, reducing both capital and operating costs. In addition, upgrades to passenger screening equipment—particularly at Port Moresby Domestic Terminal—would improve operational flow and reduce delays.

Efficiency improvements could also be supported by streamlining regulatory processes such as maintenance approvals and certification. Embracing digital systems, harmonizing training and compliance frameworks, and adopting risk-based approaches to inspections can reduce the administrative burden on airlines.

⁶⁵

https://www.comcom.govt.nz/_data/assets/pdf_file/0036/354978/Focus-report-Impact-of-changing-costs-on-retail-fuel-prices.pdf

<https://journals.sagepub.com/doi/abs/10.5547/01956574.44.6.xgon>

Performance benchmarking and economic regulation of state-owned service providers like NAC and NiuSky are necessary to ensure fees are cost-reflective and efficiency gains are passed through to users. Greater scrutiny of procurement practices, contractor selection, and project delivery would also help prevent cost blowouts and poor-quality infrastructure outcomes.

8.7 Infrastructure Quality, Cost Accountability, and Underutilization

Concerns have been raised regarding the performance of the NAC in managing airport upgrades and meeting minimum service standards. Instances of poor contractor oversight have resulted in substandard infrastructure outcomes, notably the failed runway upgrade projects in Mt Hagen and Kokopo. These failures have disrupted operations, reduced runway capacity, and increased costs for airlines due to unplanned maintenance, diversions, or cancelled flights.

At the same time, there is low utilization of many airports across PNG, with high operational costs being sustained by facilities that see only a handful of flights per week. Stakeholders argue that concentrating development and resources on a smaller number of strategic hubs—such as Port Moresby, Lae, and Mt Hagen—would increase throughput and reduce per-passenger costs. Port Moresby, in particular, has potential to be developed into a competitive regional hub, but this will require more efficient use of infrastructure, improved services, and stronger route development strategies.

Some argue that the NAC should be subject to stronger regulatory oversight to ensure that all infrastructure projects are conducted through transparent, competitive tendering processes and delivered to appropriate quality standards. Examples such as the successful JICA-supported Lae Nadzab terminal upgrade illustrate that effective project management and donor engagement can produce high-quality outcomes when managed appropriately.

In the longer term, alternative airport governance models—such as independent airport corporations or competitively contracted airport operators—may also be considered as a means to improve efficiency, encourage innovation, and attract additional traffic. However, in most developed countries (e.g. Auckland International Airport Limited, London Gatwick Airport, Sydney Airport and Denver International Airport) these types of models require regulation to avoid excessive monopoly rents. Second or third-tier countries with similar framework include Uganda (Entebbe International Airport and Zambia (Lusaka Airport).

8.8 Airline Returns

The Airlines have not formerly provided the ICCC with the financial data which would enable a thorough analysis of their profitability. Without this the ICCC has relied upon publicly available information, which has less detail than desired. So, the findings in this section should be regarded as interim.

The ICCC has formally requested additional data and expects to complete this analysis prior to the completion of this review.

8.8.1 Airline profitability - Methodology

To estimate profits and return on investment, the ICCC has used the building block model. The building block model uses three building blocks to estimate the economic costs a company incurs in carrying out its business. These are:

- operating costs
- return of capital (depreciation)
- return on capital.

The sum of these three components is equal to the economic costs of a business. If a business is operating in a competitive market, their economic costs should be approximately equal to their revenue. Therefore, deducting operating costs and return of capital from revenue is an estimate of, their return on capital.

$$\text{Return on Capital} = \text{Revenue} - \text{Operating costs} - \text{Return of capital}$$

Operating costs exclude finance costs such as interest and depreciation because these are included in the other building blocks. Each company’s operating costs were taken from their financial statements. And the value of their assets was based upon those stated in their balance sheets.⁶⁶

For leased aircraft the ICCC has treated these as Right of Use assets and used the values stated in the companies’ balance sheets. Therefore, the calculated returns in the analysis allow for an economic return on all the airlines assets including these.

As much as was possible with the information available, any financial assets, or financing costs were excluded from the analysis, to ensure a purely economic view of the returns.

8.8.2 *Airline profitability – Returns*

When evaluating if returns are acceptable, too low or excessive, it is necessary to decide what is reasonable level of return. To do this the ICCC has set a benchmark WACC based upon the capital asset pricing methodology. This is an internationally accepted methodology commonly used by the ICCC and regulators around the world. The details of this are described in Appendix C.

The methodology produces a pre-tax nominal WACC of 21.4%. This is an estimate of the level of return an indifferent investor would require before investing an airline in PNG. If returns are higher than this, the airline is achieving returns which are higher than its cost of capital and if returns are lower than this, then the airline is not covering its full economic costs.⁶⁷

Figure 18: Return on Capital shows the airlines return on capital using the ICCC’s methodology and compares them to the benchmark (the dashed line).

⁶⁶ The ICCC’s standard method for determining the value of companies assets is to use its asset register. This then enables a transparent evaluation of the total investment made by a business, allowing for gifted assets and avoiding windfall gains from revaluations. However, at the time of publishing this draft report, the airlines have not yet provided the ICCC with their asset register data.

⁶⁷ Note that accounting returns are typically different from economic returns as they do not place a cost on shareholder equity.

Figure 18: Return on Capital



From Figure 18: Return on Capital it can be seen that prior to covid, Air Niugini was making substantially positive returns exceeding its cost of capital. In 2020 (not shown⁶⁸), Air Niugini PNG were substantially negative, but bounced back to above 40% in 2021. In 2023 returns fell substantially and in 2024 they are negative.

In contrast PNG Air has never achieved an acceptable level of return over the period reviewed. This raises questions about why these results are as they are?

For Air Niugini, Figure 19: Air Niugini Costs shows that while revenues have increased, their operating costs and capital employed has increased at a faster rate. Figure 20: Air Niugini Capital Employed separates out Air Niugini's working capital from its long-term asset values. This shows that Air Niugini's working capital is negative which acts as a substantial subsidy to its cost of capital overall.⁶⁹ While its working capital has remains relatively stable over the last three years, its investment in long term assets has substantially increased.

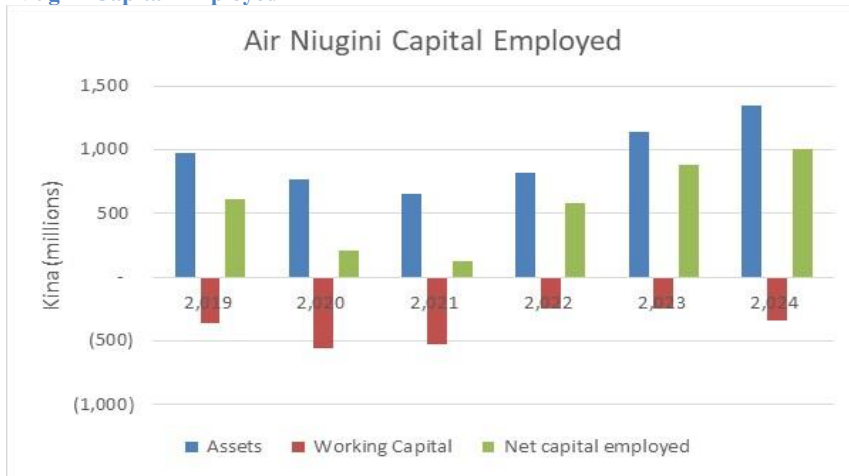
⁶⁸ 2020 has been left of the graph because the returns were substantially large and negative which changed the vertical scale such that it was difficult to see the returns in the other years. In 2020 Air PNG made a 1% return while Air Niugini made a negative 248% return.

⁶⁹ This is normal for Airlines. A review of 16 international airlines found that on average they had a working capital which was negative 13% of their long-term assets.

Figure 19: Air Niugini Costs



Figure 20: Air Niugini Capital Employed



At the time of publishing this draft report, the ICCC does not yet have all the data it needs to understand Air Niugini’s economic performance. One possibility is that Air Niugini have over invested in additional aircraft capacity. Alternatively, the results may reflect external cost pressures beyond their control. The ICCC hopes to investigate this further before completing the review and once Air Niugini supplies additional operational data.

Fuel supply has also been a major concern. Figure 21: Fuel Cost per Tonnage Kilometer shows Air Niugini’s fuel cost per tonne kilometer travelled. From this it can be seen that in 2024 fuel costs were about 51% higher than in 2019, but 7% lower than in 2022. So, fuel costs have not contributed to Air Niugini’s reduced profitability in 2024 compared to 2022.

Figure 21: Fuel Cost per Tonnage Kilometer



8.9 Draft Findings and Recommendations

Airlines provide a basic and essential service, but depend on volume and fleet utilization to generate profit. However, the following summarizes challenges that constrain efforts of both airlines to operate more profitably and efficiently:

Draft Findings

Draft Findings 8.1	In PNG, larger aircrafts (e.g. Fokker 100 or Dash-8 turboprops) cannot operate at their full payload capacity due to inadequate airport and other associated infrastructure.
Draft Findings 8.2	On many domestic routes, both airlines are unable to sell/utilise the full payload or number of seats, or their cargo capacity. This is due to issues with the infrastructure – specifically including: runway issues, poor or non-existent navigational aids on the ground, and lack of fuel at destination airport.
Draft Findings 8.3	Most airports cannot support (or cannot reliably support) night operations and also because of public safety reasons – meaning that outside of Port Moresby flights must be conducted in daylight hours. This means the fixed costs associated with owning or leasing an aircraft asset have to be amortized over a very limited number of daily flying hours.
Draft Findings 8.4	Most domestic airports do not have the runway capacity to support the operation of fully loaded aircraft, and lack the necessary equipment installed to allow airlines to safely and reliably operate a full schedule of flights (including during the hours of darkness and in bad weather), ground transportation and other supporting infrastructure is not reliably available, unlike other countries where there is competition amongst fuel companies and other service providers.
Draft Findings 8.5	Fuel currently accounts for as a major component of the average one-way ticket price. There is no competitive fuel provider, and fuel costs in PNG are extremely high. ANL has claimed that the cost of JetA1 in Port Moresby is 30% more expensive than in Brisbane, Australia. In the PNG domestic outer ports (if fuel is available at all) fuel is up to 125% more expensive than in Brisbane, and 75% more expensive than in Port Moresby. The very high cost of fuel in PNG, relative to nearby international airports, is one factor why domestic and international air fares are quite different and not comparable.
Draft Findings 8.6	Where fuel is not available at a domestic destination, airlines have to carry sufficient fuel from the previous airports to operate there and back. The extra fuel loads add

weight to the aircrafts (which costs the airlines money to carry), and at the same time reduces the weight available to carry revenue earning passengers and cargo.

Draft Findings 8.7 The unregulated and monopolistic nature of charges applied by NAC on the airline operators forces them to pass these charges on to the customer or absorb them into their cost base.

Draft Recommendations

Draft Recommendation 8.1 Promote fuel market competition with at least two suppliers at major airports, encourage strategic fuel storage, and consider fuel price stabilization mechanisms (price bands, hedging schemes, or strategic reserves) to improve supply reliability and reduce cost volatility.

Draft Recommendation 8.2 Enhance transparency and regulatory oversight of airport charges, air navigation fees, ground handling contracts, and security levies, including empowering the ICCC to monitor and evaluate cost structures, procurement processes, and service improvements.

Draft Recommendation 8.3 Support modernization and efficiency gains through consolidating ground handling services under competitive single contracts at each airport to reduce duplication and costs.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

9 CONSUMER PROTECTION AND SERVICE TRANSPARENCY

Ensuring strong consumer protection and service transparency is essential in building a fair and accountable aviation sector in PNG. With limited choice, high fares, and persistent service disruptions affecting passengers—especially in rural and remote areas—there is a need to introduce consistent consumer rights, transparent fare structures, and reliable service standards.

This section addresses the current gaps in consumer protection, examines the challenges of equitable service delivery, and presents a set of coordinated regulatory, institutional, and policy responses to support passenger rights and improve transparency.

9.1 Consumer Protection Rights

There is currently no dedicated legislative or regulatory framework that guarantees air passenger rights in Papua New Guinea. Airlines operate under general consumer protection laws and civil aviation safety regulations, but there are no enforceable standards specific to delays, cancellations, overbooking, or service obligations. As a result, passengers affected by schedule disruptions often have limited recourse, and airlines are not legally bound to provide remedies, alternative travel arrangements, or compensation.

Frequent complaints—particularly from regions like Morobe and Chimbu Provinces and other underserved provinces—highlight that passengers regularly face unannounced cancellations, long delays, and inconsistent schedules. The lack of structured airline contingency planning and poor communication with affected travelers exacerbates the disruption. Passengers are rarely informed of their options or entitled to assistance, such as rebooking through other airlines or partial fare reimbursement.

To address this gap, stakeholders recommend the introduction of a formal Passenger Rights Framework, anchored in law or regulation, which would establish minimum obligations for airlines, including providing:

- Alternative travel options through interline or code-share arrangements;
- Reimbursement or partial compensation in the event of cancellation or delays;
- Access to timely and reliable communication via help desks and digital platforms;
- Defined standards of customer care, especially during service disruptions.

9.2 Lack of Pricing Transparency

A persistent concern among consumers is the lack of clarity in airfare pricing and the absence of standardized information on ticket conditions. This includes opaque components such as fuel surcharges, airport levies, and service fees—many of which vary without explanation. Passengers, particularly those booking manually or through informal agents, often do not receive a clear fare breakdown or understand the conditions of sale, such as baggage allowances or refund restrictions.

This lack of transparency is more acute in rural areas, where digital booking access is limited, and where passengers rely on intermediaries who may not provide complete or accurate information. Poor terminal facilities and limited customer service desks further restrict access to assistance.

Improving fare transparency requires mandatory disclosure of all price components at the time of booking, whether online, via agents, or in-person. Terms and conditions should be made available in accessible formats and local languages to promote informed consent and reduce the risk of disputes.

The report recommends that the economic regulator be mandated to enforce transparency in airfare pricing by requiring airlines to:

- Publish a full breakdown of fare components;
- Standardized conditions of carriage and refund policies;
- Disclose ancillary charges and additional fees prior to purchase;
- Provide receipts and booking confirmations detailing all costs.

9.3 Service Redress, Delays, and Cancellations

At present, PNG lacks a centralized or independent complaints mechanism specific to aviation. Each airline operates its own complaints process, but these are unregulated, inconsistent, and often inaccessible to passengers—especially those in rural areas. Consumers facing unresolved disputes are typically required to raise their grievances through ICCC's general consumer complaint process or via the Department of Transport, both of which lack a targeted framework for aviation-specific matters.

To address this, it is recommended that a formal complaints and redress mechanism be established under the oversight of an appropriate independent economic regulator, with the following features:

- Mandatory registration of complaints by airlines and acknowledgement within a fixed timeframe;
- Tiered escalation process including referral to the regulator if unresolved;
- Annual publication of complaints data by airline and type of issue;
- Regular audits to ensure compliance with complaint-handling standards.

Additionally, an economic regulator for aviation sector should be empowered to mediate disputes, investigate systemic consumer issues, and issue binding directions where necessary.

9.4 Complaints Handling – Framework and Principles

The aviation sector currently operates without a dedicated regulatory regime or framework overseeing the handling of consumer complaints. This absence creates significant challenges for consumers, who often experience flight delays, cancellations, safety concerns, billing disputes, and poor customer service without effective means of redress. The lack of centralized complaint administration and enforcement mechanisms allows service disruptions and regulatory non-compliance to go largely unpenalized, undermining consumer confidence and limiting incentives for aviation service providers to improve performance. PNG’s unique geographical challenges, limited infrastructure, and market dynamics exacerbate these issues.

This regulatory gap necessitates a comprehensive, transparent, and accessible consumer complaint framework that empowers consumers, holds service providers accountable, and aligns PNG’s aviation sector with international best practices.

It would be necessary, therefore, for a Complaint Handling Framework to be introduced by the aviation regulatory authority. It would be logical for this to be managed by the ICCC—given its consumer protection mandates under *the ICCC Act*. An ideal framework would rectify existing problems by establishing a centralized, accessible, and transparent complaint administration system. It would aim to promote accountability among service providers, empower consumers with clear rights and remedies, and align PNG’s aviation consumer protections with international best practices.

However, the detailed establishment of such a framework is beyond the scope of this inquiry. It is anticipated that the future aviation regulator—or the ICCC until a dedicated regulator is established or mandated—would adopt certain governing principles to guide the framework’s development. These principles might include:

- **Transparency:** Clear communication about complaint procedures, timelines, and outcomes.
- **Accessibility:** Multiple channels for consumers to lodge complaints conveniently (e.g., phone, email, online portals, in person).
- **Timeliness:** Defined and reasonable timeframes for acknowledgment, investigation, and resolution of complaints.
- **Confidentiality:** Protecting sensitive consumer information throughout the complaint process.
- **Accountability:** Mechanisms for monitoring compliance and enforcing remedies when service standards are not met.

- Escalation Process: Defined pathways for consumers to appeal or escalate unresolved complaints, including independent review panels or ombudsman services.
- Continuous Improvement: Using complaint data to identify systemic issues and foster better industry practices

Adhering to such principles will enable an independent economic regulator to implement an effective and consumer-centric complaint handling framework, ensuring that PNG’s aviation sector operates in a manner that protects and advances the interests of its consumers.

This approach aligns with international best practices observed in comparable jurisdictions such as the United Kingdom, Australia, and Northern Ireland, where regulatory bodies have instituted similar principles within their complaint handling frameworks to enhance consumer protections and industry accountability.

9.5 Summary - Opportunities for Improvement

A service quality framework needs to be part of any economic regulation of airport services. To be effective there must be a direct and enforceable link between service pricing, quality, and the implementation of associated infrastructure planning. This framework should set clear, objective performance metrics—covering operational efficiency, safety, and customer service—developed in consultation with stakeholders and airport users. Such metrics should be subject to regular monitoring and evaluation by a regulator, with results informing continuous improvement and investment decisions. Embedding these requirements within regulation will promote cost-related pricing, enhance accountability, and ensure that airport services meet agreed standards in support of PNG’s aviation sector.

Therefore, a more proactive and structured approach is needed to protect consumer interests, improve travel reliability, and ensure equitable access to air transport. The following measures are proposed:

1. Declare the aviation sector for regulation of airfares and airfare transparency, enforcement of consumer protection rights, airport service quality and monitoring of the conduct of airlines.
2. Develop and enforce minimum reliability and service standards, including on-time performance targets and cancellation response obligations. These indicators should be published regularly to enhance transparency and accountability.
3. Mandate clear airline contingency plans for delays and cancellations, including backup options such as rebooking passengers through code-share or interline agreements.
4. Establish a centralized aviation complaints platform, accessible both digitally and through provincial offices, to support passengers seeking redress.
5. Promote inclusive consumer engagement, with targeted outreach in underserved areas to raise awareness of passenger rights and service standards.

Consumer protection and service transparency is not only a matter of fairness but also central to the sustainability and credibility of PNG’s aviation sector. A stronger regulatory framework, empowered institutions, and practical policy mechanisms reliability standards will ensure that the aviation system better serves the needs of all users.

9.6 Draft Key Findings and Recommendations

Draft Findings

Draft Findings 9.1	PNG lacks a dedicated legislative or regulatory framework protecting air passenger rights, resulting in limited remedies for delays, cancellations, and service disruptions, especially in rural areas.
Draft Findings 9.2	Airfare pricing is opaque, with unclear fare components and ticket conditions, causing confusion and unfairness, particularly for consumers relying on manual bookings and informal agents.
Draft Findings 9.3	No centralized or independent complaints mechanism exists for aviation issues; airline-specific complaint processes are unregulated, inconsistent, and often inaccessible.
Draft Findings 9.4	The absence of a formal complaint handling framework undermines consumer confidence and accountability, with service failures going unpenalized.
Draft Findings 9.5	Current service quality measurement and enforcement in airports are inadequate, with no clear, enforceable links between pricing, service quality, and infrastructure investment.
Draft Findings 9.6	Geographic and infrastructural challenges worsen inequitable access and service reliability for passengers in underserved provinces.

Draft Recommendations

Draft Recommendation 9.1	Declare PNG's aviation sector for economic regulation.
Draft Recommendation 9.2	Mandate clear airline contingency plans, including interline and code-share agreements to provide alternative travel options during disruptions.
Draft Recommendation 9.3	Implement targeted consumer education and outreach programs to improve awareness of passenger rights and transparent fare practices, focusing on rural and underserved populations.
Draft Recommendation 9.4	Apply consumer complaint framework principles including transparency, accessibility, confidentiality, timeliness, accountability, and escalation pathways, modeled after leading international best practices.
Draft Recommendation 9.5	Consider empowering another appropriate economic regulatory body to mediate disputes, investigate systemic consumer issues, and issue binding enforcement directions where necessary.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

10 BENCHMARKING AND REFORM MODELS

To effectively guide regulatory reforms in PNG's aviation sector, it is crucial to learn from international best practices and experiences in comparable jurisdictions. Examining successful models from countries such as Australia, New Zealand, Fiji, Samoa, and Caribbean nations provides valuable insights into how small island and developing economies have managed to balance safety, competition, consumer protection, and infrastructure development within constrained markets. This section explores these frameworks, evaluates their relevance to PNG's particular circumstances, and proposes key benchmarks and performance indicators to support ongoing reform efforts.

Many of these countries have established independent regulatory authorities responsible for both safety oversight and economic regulation of the aviation sector.

The ICCC recognizes the relevance of regulatory frameworks in Australia and New Zealand, which oversee airports and airport service providers to ensure transparency, accountability, and effective market outcomes. Structured mechanisms, such as New Zealand's Price Setting Events, prevent excessive pricing, safeguard fair returns, and maintain a level playing field for airlines and consumers, while promoting stakeholder consultation to enhance trust and service quality. In considering a similar framework for Papua New Guinea, the ICCC emphasizes the need for a structured, transparent, and evidence-based approach, drawing on these international benchmarks to support sustainable growth, connectivity, and efficient, consumer-focused aviation outcomes.

New Zealand uses a Price Setting Event (PSE) process.

- Airports must review and set prices for aeronautical services at least once every five years.
- Airports are required to consult extensively with airlines and substantial customers on proposed charges, cost structures, forecast demand, investment plans, and capital expenditure.
- After setting prices, regulated airports must disclose those prices, as well as the inputs and forecasts that underpin them, under an Information Disclosure regime.
- The Commerce Commission then reviews the price setting and publishes its view, especially assessing whether the charges target an excessive rate of return or profit. If the Commission finds the prices are excessive, airports are expected to adjust prices to bring them within an acceptable range, as occurred recently when Auckland Airport

Fiji's Civil Aviation Authority operates with a mandate to supervise safety standards, regulate economic aspects such as airport charges and airline licensing, and ensure transparency by regularly publishing detailed performance reports. This model is intended to foster accountability and trust among stakeholders by openly sharing how charges are determined and how service providers perform.

In Samoa, the introduction of a dedicated consumer protection code for aviation has helped define passenger rights clearly, especially during disruptions such as delays or cancellations. The code includes minimum service standards and structured processes for complaint resolution, which have contributed to increased passenger confidence and more reliable airline operations. Meanwhile, Caribbean nations benefit from regional cooperation through organizations like the Caribbean Aviation Safety and Security Oversight System, which allows pooling of regulatory expertise and harmonization of safety and economic oversight standards across multiple small markets. This collaborative approach has enhanced regulatory effectiveness in resource-constrained environments.

Successful pricing reforms observed in these jurisdictions emphasize the importance of establishing tariffs that accurately reflect the costs of providing airport and air navigation services. By setting cost-reflective fees, regulators can promote operational efficiency while ensuring that users are not burdened with unjustified charges. Economic regulation is designed to foster competition by enabling multiple carriers to operate on domestic and regional routes, while balancing this with community service obligations to maintain essential air links that are commercially unprofitable but socially necessary. Transparency and meaningful stakeholder consultation are central to pricing reforms, with regulators often publishing tariffs well in advance and engaging with industry participants to ensure fairness.

Another common feature of these models is the use of performance-based contracts for airport operators and service providers. Such contracts link remuneration and operational autonomy to measurable outcomes like quality of service, capacity utilization, and passenger satisfaction. This approach encourages service improvements, better asset management, and innovation, while safeguarding public interests.

Applying these international models in PNG is feasible, although PNG's distinct geographic and socio-economic factors must be considered. The country's dispersed population and challenging terrain create unique demands for air connectivity, making tailored community service obligation arrangements critical to sustaining vital routes that lack commercial appeal.

Existing institutions such as the NAC and NiuSky would benefit from reforms to strengthen their operational independence, governance, and technical capabilities, aligning them with global best practices. Reforms can be introduced progressively, starting with enhanced transparency measures and improved consumer protection, before advancing toward more comprehensive economic regulation and facilitation of competitive market entry. Regional cooperation with Pacific neighbors offers an avenue for sharing technical expertise, regulatory experience, and capacity building to support PNG's reform agenda. Achieving success will require strong political commitment, clear inter-agency coordination, and sustained stakeholder engagement to overcome historical inefficiencies and governance challenges.

To support effective oversight and track progress, the establishment of clear regulatory benchmarks and performance metrics is vital. These should include on-time performance targets for airlines, with results published by route and carrier to enhance accountability and enable consumers to make informed choices. Transparency in pricing should be enforced through mandatory disclosure of all charges related to airports, air navigation, and ancillary services, including the methodologies used to set fees. Monitoring consumer complaint handling is also important; key indicators would be

- resolution rates,
- average response times, and
- passenger satisfaction levels.

This would help to identify systemic issues and enforce service standards.

Airport infrastructure utilization should be measured to assess how efficiently assets are used, comparing passenger throughput to designed capacity. Similarly, cost-efficiency ratios for airports and air navigation service providers can be benchmarked against regional peers to highlight opportunities for operational improvements. Safety oversight compliant with international standards set by the International Civil Aviation Organization remains a foundational element, ensuring that reforms do not compromise essential protections. Finally, the implementation of community service obligation agreements should be regularly reviewed to verify that essential routes are maintained with acceptable service levels.

By adopting a comprehensive framework of measurable benchmarks, PNG will be better positioned to monitor sector performance, identify areas needing attention, and progressively align its aviation system with global best practices tailored to the country's unique needs.

11 INSTITUTIONAL POLICY, LEGISLATION AND REGULATION

The effectiveness and long-term development of PNG's aviation sector are closely tied to the institutional capacity, coordination, and legal mandates of the agencies responsible for regulation, oversight, and service delivery.

The ICCC recognises that airports and air navigation service providers in PNG operate as monopolies with considerable market power and no competition. Without appropriate regulation, these entities may impose excessive charges and deliver services inefficiently. To safeguard the interests of airlines and consumers, the ICCC supports implementing an economic regulatory framework that incorporates cost-efficiency targets, service quality standards, and preferably price-cap regulation. This will enable all stakeholder to scrutinize any newly introduced fees, including the recently legislated Green Fee, to ensure compliance with international principles and to prevent charges that could hinder the sustainable growth of PNG's aviation sector.

11.1 Ambiguities

At present, the sector appears to suffer from fragmented roles, unclear regulatory boundaries, and limited technical and enforcement capacity, all of which undermine efficient market functioning and public confidence.

As already noted, the Minister for Transport oversees national transport policy across all modes, while the Minister for Civil Aviation focuses specifically on aviation regulation, safety, and international connectivity.

On 11 August 2025, a stakeholder consultative workshop on the Sector Policy and Legislative Review, hosted by the Department, highlighted that dual oversight in the aviation sector can create potential conflicts. Various state agencies stated that the tensions create tensions between investment priorities, regulatory and development objectives, and alignment of long-term sector strategies.

This implies that without close coordination, aviation policy planning and regulatory oversight risk becoming fragmented, creating uncertainty for investors, slowing infrastructure development, and constraining the sector's contribution to economic growth. As such, a unified national aviation strategy is therefore essential to harmonise these roles and ensure coherent, sustainable sector development.

11.1.1 NAC

Under Section 147A and 147B of the *Civil Aviation Act 2010 (As amended)*:

- NAC is the exclusive provider of airport services in PNG.

- No other entity may own, operate, manage, or improve airports, unless authorised by the Minister and the Director (of CASA).
- NAC has broad authority to:
 - Provide and manage airport infrastructure;
 - Operate airports commercially;
 - Set charges for services;
 - Enter into contracts for service provision;
 - Develop policies that benefit the State and people of PNG.

This makes NAC a legally protected monopoly in airport service provision, with limited exceptions (e.g., private airstrips operated by mining companies, or contracted services with ministerial consent).

Given the importance of air travel in PNG due to geographical constraints, NAC's operations significantly impact airline costs, airfares, and overall service quality. The NAC's monopolistic position is reinforced by:

- The absence of alternative airport service providers.
- A lack of close substitutes, as airline companies cannot switch to competitive airports for particular routes.
- Compulsory reliance by consumers (including airlines) on NAC's services, often with concerns regarding service standards and pricing structures.

The above appears to suggest that introduction of an economic regulatory oversight of NAC, may be necessary to ensure transparency and accountability in NAC's pricing practices. Given its monopoly status and essential service role, this Inquiry should explore reasonableness of NAC been subjected to similar oversight mechanisms as other regulated SOEs in PNG.

11.1.2 Department of Transport

There is particular ambiguity surrounding the oversight of economic regulation and pricing in the aviation sector. While the Department has historically assumed the role in monitoring pricing practices across various aviation service providers, its authority is not grounded in any specific legislation or regulatory framework.

As a result, there is significant institutional ambiguity surrounding its authority and capacity to enforce or guide pricing decisions made by state-owned aviation entities such as the NAC, NiuSky, and national airlines.

This lack of clarity leads to fragmented regulatory oversight, inconsistent application of pricing principles, and a lack of accountability in how aviation charges are determined and adjusted. The absence of clear oversight also creates a regulatory vacuum, enabling monopolistic service providers to set prices without due consideration for cost-reflectiveness, market conditions, or service quality. Consequently, pricing structures lack transparency and efficiency, often leading to rent-seeking behavior and underperformance across the sector.

In contrast, the ICCC possesses the legal mandate, tools, and institutional framework to conduct effective economic regulation. *The ICCC Act* allows for price monitoring, control declarations, and enforcement aligned with principles of economic efficiency and public interest—functions more appropriate to economic price regulation than what the Department currently performs.

Addressing this issue requires first acknowledging the current fragmentation in roles and responsibilities through a policy review and institutional assessment. A practical solution would involve redefining the Department's focus toward high-level policy and planning functions, while assigning the ICCC or another appropriately qualified agency with formal responsibility for economic regulation of aviation pricing through legal or regulatory reform.

In the interim, if the ICCC is considered the best option, a formal collaboration mechanism such as a memorandum of understanding between the Department and the ICCC could help manage the transition and improve coordination.

Ultimately, resolving this regulatory gap will require institutional realignment, legislative clarity, and policy reform to ensure aviation pricing is fair, transparent, and aligned with national economic and consumer interests.

11.1.3 ICCC

On the contrary, the ICCC, established under the *ICCC Act*, holds a statutory mandate to regulate prices, monitor competition, and protect consumers across regulated sectors. But the ICCC's existing legislative powers do not currently extend comprehensively to service-level regulation or detailed cost-structure analysis in the aviation context. To address these gaps, strengthening the ICCC's mandate and establishing a dedicated aviation unit with specialist staff and technical capacity would be a practical and cost-effective step toward improving regulatory oversight, particularly on pricing and market conduct.

The ICCC currently has regulatory oversight across a wide range of industries. These include;

- Controlling prices for Water and Sewerage, Ports, Postal Services, Motor Vehicle Insurance, Fuel, PMV's and Taxis.
- And reviewing and monitoring prices for Flour, Rice, Sugar, Stevedores, Coastal Shipping and Motor Vehicles.

Extending these roles to include air traffic control and airport services would be a simple and easy to implement extension of the ICCC's responsibilities.

There is ongoing debate amongst stakeholders about whether PNG would benefit from establishing a stand-alone aviation economic regulator, distinct from the ICCC. Proponents of this approach argue that an independent regulator with deep industry knowledge would be better positioned to oversee sector-specific issues, including infrastructure pricing, performance benchmarking, consumer rights enforcement, and commercial oversight. However, given current resource constraints and the broader institutional capacity landscape, the creation of a new body may not be feasible in the short to medium term. A more realistic and immediate alternative would be to strengthen the ICCC through an aviation-focused division or expansion of existing teams within the ICCC, supported by inter-agency coordination and targeted legislative reform.

11.1.4 Alternative Aviation Economic Regulator

Alternatively, PNG's aviation industry could benefit from a stand-alone economic regulator, justified by the need for specialized expertise to oversee complex aviation-specific issues. Such regulator would have dedicated capacity to manage airport infrastructure pricing, airline performance benchmarking, consumer protection, and commercial oversight, without

compromising aviation safety. An independent body with deep industry knowledge could provide targeted regulation and stronger governance aligned with the unique dynamics and growth needs of the aviation sector.

11.2 Effectiveness of Institutional Governance

Coordination between existing institutions remains weak and uneven. The NAC currently operates without independent economic oversight, creating a potential conflict of interest in relation to pricing, investment decisions, and service delivery standards. NiuSky, also operates under limited economic scrutiny, and its pricing structures lack transparency and formal regulatory review. The CASA, while effective in its safety oversight functions, does not have a mandate in economic regulation or consumer affairs. And, the Department retains important policy and planning responsibilities but lacks the legislative authority or institutional capacity and capability to enforce implementation or monitor outcomes.

These coordination challenges are evident in infrastructure planning. For example, despite clear signals from airline operators regarding the need for runway upgrades to support larger aircraft, the NAC has not ensured that more than five airports are currently capable of handling Boeing 737 operations. This failure to plan and invest strategically limits airline flexibility, constrains network expansion, and undermines operational efficiency. The lack of proactive dialogue and collaboration between NAC and carriers illustrates the consequences of fragmented governance and unclear institutional mandates.

To address these issues, formal mechanisms for inter-agency collaboration must be established or strengthened. This includes clear protocols for information sharing, joint policy development, and coordinated oversight between the Department of Transport, ICCA, NAC, CASA, and NiuSky. Such collaboration is essential for aligning infrastructure investment with market demand, ensuring fair and efficient pricing, and promoting service quality across the sector.

Furthermore, capacity building remains a critical pillar of reform. Agencies across the aviation sector require enhanced technical expertise in areas such as economic regulation, cost modeling, market analysis, and consumer protection. Investments in institutional development should include staff training, the development of modern data and performance monitoring systems, and exposure to international regulatory best practices. Equally important are improvements in governance processes, including transparent procurement, stakeholder consultation, and regular public reporting, all of which contribute to greater accountability and trust.

Box 1: Comparable Air Navigation Service Models

Globally, there are three principal models for organizing and regulating air navigation and airport services. Each model reflects a distinct approach to balancing efficiency, transparency, and accountability in an industry characterized by monopoly structures and safety dependence. Evidence from international studies shows that while some models have delivered measurable benefits, others—especially those lacking independence and user consultation—have suffered from inefficiency, underinvestment, and poor service outcomes.

Corporatized and Regulated Model

Examples: Australia (Airservices Australia), New Zealand (Airways NZ), Netherlands (LVNL), Sweden, and the United Kingdom.

These are corporatized, state-owned entities regulated by independent authorities such as the ACCC or NZ Commerce Commission.

Key Features:

- Governed by boards with financial independence and transparency duties.
- Prices set under statutory frameworks with public reporting and consultation.
- Regulation typically uses price-cap (RPI-X) models.
- ICAO Doc 9734 mandates institutional separation of provider and regulator.⁷⁰

Evidence of Benefits:

- Independent regulation restrains monopoly pricing and links charges to performance outcomes⁷¹.
- European Commission and ICAO frameworks find corporatized ANSPs deliver greater investment efficiency⁷².
- World Bank and KPMG (2024) identify sustained cost reductions from technology adoption⁷³.
- Case reviews of Airservices Australia and Airways NZ note predictable pricing and improved discipline⁷⁴.

Limitations:

Benefits hinge on regulatory expertise; “light-handed” oversight. Auckland Airport continued to overcharge under this model⁷⁵.

Non-Profit, User-Governed Model

Example: NAV CANADA.

A user-owned non-profit operating under federal legislation, financed entirely by user charges with no government funding.

Key Features:

- Cost-recovery model; governance by airline, general aviation, and employee representatives.
- Safety oversight by Transport Canada; no economic regulator.

Evidence of Benefits:

- NAV CANADA achieves low costs and high service quality, pioneering ADS-B surveillance⁷⁶.
- GAO and Oster & Strong (2007) found corporatized and user-governed ANSPs maintain safety while reducing costs⁷⁷.
- User control aligns incentives toward efficiency rather than profit.

⁷⁰ <https://reason.org/air-traffic-reform/air-traffic-control-newsletter-122>

⁷¹ <https://www.iata.org/en/iata-repository/publications/economic-reports/economic-regulation>

⁷² https://transport.ec.europa.eu/news-events/news/single-european-sky-european-commission-advised-prioritise-environmental-performance-when-setting-2023-09-29_en

⁷³ <https://kpmg.com/ie/en/insights/aviation/air-navigation-service-providers-fs-aviation-2030.html>

⁷⁴ <https://www.ansr.transport.govt.nz/assets/ANSR-Phase-1-final-report-FINAL.pdf>

⁷⁵ <https://www.mbie.govt.nz/dmsdocument/31046-qag-effectiveness-of-the-economic-regulation-of-airport-services-submission>

⁷⁶ <https://reason.com/2016/02/14/converting-the-faas-air-traffic-control>

⁷⁷ <https://reason.org/air-traffic-reform/air-traffic-control-newsletter-122>

Limitations:

Requires strong institutional maturity and balanced governance to avoid domination by major airlines. Replication in low-capacity markets is likely to be difficult.

Government or Self-Regulated Model

Examples: United States (FAA/ATO), Japan (JCAB), South Korea, and many developing states.

These merge service delivery and regulatory oversight under ministries.

Key Features:

- Funded through state budgets or aviation taxes, not cost recovery.
- Limited transparency, weak consultation, and political budget control.

Evidence of Weaknesses:

- FAA comparisons show higher delays and slower modernization⁷⁸.
- ICAO warns such dual-role structures create conflicts of interest⁷⁹.
- Brookings and CRS find corporatized systems outperform government-run models⁸⁰.
- JCAB (Japan) exhibits limited transparency and consultation⁸¹.

Policy Rationale for PNG

The findings from this report show that PNG's aviation services suffer from weak transparency, perceived unreliable performance (in the absence of performance measurement), and no regulatory discipline.

Based upon these findings, it is recommended that in PNG, NiuSky and NAC should have:

- Economic regulation of prices by an independent regulator such as the ICCC or equivalent,
- Public reporting of performance metrics and
- User consultation.

11.3 Opportunities for Policy Coordination and Reform

Governance reforms should be supported by clearly defined legal mandates, adequate budgetary resources, and performance-based accountability mechanisms. Strengthening the legislative basis for economic regulation—whether through amendments to *the ICCC Act* or the introduction of a dedicated aviation regulatory framework—will help to clarify roles, improve enforcement, and align institutional incentives with sector development goals. Partnerships with regional and international aviation bodies, as well as development agencies, can play a valuable role in supporting these reforms through technical assistance and capacity-building support.

The government must adopt strategic, coordinated policies, given air connectivity is critical.

It is noted that PNG already has a number of reports and plans to develop the sector. These include the Civil Aviation Development Investment Program (CADIP)⁸² and the Medium-Term Development Plan IV (2023–2027)⁸³.

⁷⁸ <https://reason.org/air-traffic-reform/air-traffic-control-newsletter-122>

⁷⁹ <https://reason.org/air-traffic-reform/air-traffic-control-newsletter-122>

⁸⁰ <https://www.everycrsreport.com/reports/R43844.html>

⁸¹ https://www.amt-law.com/asset/res/publication_0027065_ja_001.pdf

⁸² https://pngnri.org/images/Publications/Discussion_Paper_197.pdf August 2022

⁸³ <https://www.treasury.gov.pg/wp-content/uploads/2023/08/MTDP-IV-2023-2027.pdf>

However, to achieve the things described in these documents requires continued coordination, across the industry and government agencies.

It is therefore, the ICCC’s view that the current regulatory arrangements in PNG’s aviation sector are inadequate to meet the growing demand for efficient, reliable, and equitable aviation services. Addressing the ambiguity surrounding pricing oversight, improving coordination between institutions, and building the capacity of key agencies—particularly the ICCC and the Department of Transport—are fundamental steps toward a more coherent, accountable, and sustainable regulatory framework. Achieving this transformation will require strong political leadership, legal reform, and sustained investment in institutional capacity.

11.4 Draft Findings and Recommendations

The ICCC appears to be well placed to take on the function of economic regulatory oversight responsibilities for the aviation sector. For instance, the ICCC could regulate charges set by NAC either through a price control regime or a price monitoring framework. However, alternative agencies or the establishment of a new agency may also be appropriate.

If the ICCC is regarded as preferred economic regulator, this would allow the ICCC to:

1. Require that any adjustments to fees or changes to pricing methodologies be subject to public consultation;
2. Evaluate the prudence and efficiency of NAC’s capital investments and operating expenditures, particularly where gifted assets are involved;
3. Assess NAC’s pricing models and adjustment mechanisms to ensure that charges reflect efficient cost structures and are justified by performance outcomes.
4. Establish service performance standard requirements.

A robust economic regulatory framework for NAC would help protect consumers, enhance transparency, and ensure that fees imposed on airlines and passengers are fair and services provided are efficient.

Draft Findings

Draft Findings 11.1	Fragmented regulatory roles and unclear boundaries between agencies such as the Department of Transport, the Minister for Civil Aviation, National Airport Corporation (NAC), Civil Aviation Safety Authority (CASA), and Independent Consumer and Competition Commission (ICCC).
Draft Findings 11.2	NAC’s status as a legally protected monopoly with no effective independent economic oversight, raising concerns about pricing transparency, service quality, and inefficient investment.
Draft Findings 11.3	Absence of a clear, enforceable economic regulatory framework for pricing and service standards, creating scope for monopolistic pricing and underperformance.
Draft Findings 11.4	Weak inter-agency coordination, leading to fragmented infrastructure planning, delayed upgrades, and inconsistent policy implementation.
Draft Findings 11.5	Insufficient legislative clarity regarding the economic regulatory authority responsible for aviation pricing and market oversight.

Draft Recommendations

Draft Recommendation 11.1	Implement a Comprehensive Economic Regulatory Framework
i.	Assign formal responsibility for economic regulation of airport and aviation service pricing to ICCC or a similarly empowered body.
ii.	Introduce price-cap regulation or price monitoring regimes to enforce cost-efficiency, prevent excessive charges, and link fees to service quality.
iii.	Require that fee adjustments and pricing methodologies undergo public consultation.
Draft Recommendation 11.2	Legislative and Institutional Reform
i.	Amend existing laws (e.g., <i>ICCC Act</i> , <i>Civil Aviation Act</i>) to clarify roles, granting ICCC formal regulatory authority over aviation pricing.
ii.	Redefine the Department of Transport’s role toward strategic policy planning, while ICCC, or another appropriate independent agency, assumes economic oversight.
iii.	Create formal collaboration protocols (e.g., memoranda of understanding) between ICCC, Department of Transport, NAC, CASA, and other stakeholders.
Draft Recommendation 11.3	Promote Coordinated Sector Development
i.	Develop and maintain a unified national aviation strategy to harmonize policy, regulatory oversight, investment priorities, and development goals.
ii.	Strengthen mechanisms for inter-agency coordination to improve infrastructure planning and airport upgrades aligned with airline needs.

Request for Comments

Stakeholders are invited to provide your views and comments on the draft findings and recommendations provided above. Stakeholders are also welcomed to provide additional recommendations where necessary.

12 RECAP – CONSOLIDATED DRAFT FINDINGS AND RECOMMENDATIONS

12.1 Draft Findings

Draft Findings 4.1	Airfares in PNG are reasonable by international standards. Benchmarking shows that they are at the lower end of the range of prices in comparable countries. This contrasts with perceptions that they are too high.
Draft Findings 4.2	Domestic Fares are lower and more stable on competitive routes which demonstrates the value of competitive to consumers.
Draft Findings 5.1	NAC holds a monopoly over all major airports in PNG.
Draft Findings 5.2	No institutional governance mechanisms to hold NAC to account to transparent performance measures
Draft Findings 5.3	Regulatory oversight of NAC is ambiguous or minimal, allowing potential misuse of market power.

Draft Findings 5.4	Airport charges are high and opaque, lacking transparent pricing or cost justification.
Draft Findings 5.5	Uniform pricing across all airports—regardless of traffic volume, cost, or profitability—creates cross-subsidization and inefficiencies.
Draft Findings 5.6	There is a lack of meaningful dialogue and consultation between NAC and airport users, particularly airlines. This leads to inconsistent infrastructure investment planning and execution, ultimately degradation at key airstrips and operational disruptions. It may also lead to over-capitalization and inefficient investments in airport infrastructure which will increase costs without proportional quality improvements.
Draft Findings 5.7	Limited public availability of NAC’s financial and cost data hampers accountability and review.
Draft Findings 5.8	Charges for non-aeronautical services (e.g., terminal rentals, transit fees) increase with limited industry consultation.
Draft Findings 5.9	NAC’s prices are high compared to airports in comparable countries.
Draft Findings 5.10	Absence of effective economic regulation leaves consumers vulnerable.
Draft Findings 6.1	NiuSky operates as an unregulated monopoly which creates the opportunity to extract monopoly rents. This increases the risk of inefficiency and reduces accountability.
Draft Findings 6.2	NiuSky’s financial performance indicates potential overpricing following recent charge increases, suggesting extraction of monopoly rents.
Draft Findings 6.3	Prices are not set using a transparent public process which undermines stakeholder confidence.
Draft Findings 6.4	NiuSky continues to face operational inefficiencies despite infrastructure improvements, including system downtime, aging equipment, and workforce skill and planning gaps.
Draft Findings 6.5	There is limited performance measurement and data collection by NiuSky, hindering effective assessment and improvement of service reliability.
Draft Findings 6.6	Cross-subsidization risks exist between domestic and international flights with 70% of revenue coming from international flights flying over PNG.
Draft Findings 6.7	Service quality concerns persist, with airline complaints about delays and inconsistencies, and no formal accountability mechanisms in place. There are no standardized Key Performance Indicators (KPIs) to monitor delays or operational efficiency, limiting performance comparison and improvement across air navigation services in PNG.
Draft Findings 6.8	The adequacy of investment in domestic infrastructure is unclear
Draft Findings 7.1	PNG is doing well to have two competing airlines in its domestic market. Many comparable countries only have one. Both airlines provide weekly services to all NAC’s airports which means that competition is widespread.

Draft Findings 7.2	Markets with two providers are common around the world but studies show that the weaker operator may struggle to survive. This is confirmed by the difference in financial returns seen in by Air Niugini and PNG Air. Air Niugini is in the dominant position with 70% of the domestic market. This gives them better scale economics leading to a stronger competitive position over PNG Air.
Draft Findings 7.3	PNG has fewer direct international flights is served by fewer international airlines than other comparable countries. This means that there is an opportunity for PNG to increase its international connectivity.
Draft Findings 7.4	Introducing 5 th Freedom Flights in PNG could enhance international connectivity by allowing foreign airlines to operate multi-stop routes that pick-up and drop-off passengers between PNG cities and other international destinations, boosting economic benefits from increased passenger volumes.
Draft Findings 8.1	In PNG larger aircrafts (e.g. Fokker 100 or Dash-8 turboprops) cannot operate at their full payload capacity due to inadequate airport and other associated infrastructure.
Draft Findings 8.2	On many domestic routes, both airlines are unable to sell/utilise the full payload or number of seats, or their cargo capacity. This is due to issues with the infrastructure – specifically including: runway issues, poor or non-existent navigational aids on the ground, and lack of fuel at destination airport.
Draft Findings 8.3	Most airports cannot support (or cannot reliably support) night operations and also because of public safety reasons - meaning that outside of Port Moresby flights must be conducted in daylight hours. This means the fixed costs associated with owning or leasing an aircraft asset have to be amortized over a very limited number of daily flying hours.
Draft Findings 8.4	Most domestic airports do not have the runway capacity to support the operation of fully loaded aircraft, and lack the necessary equipment installed to allow airlines to safely and reliably operate a full schedule of flights (including during the hours of darkness and in bad weather), ground transportation and other supporting infrastructure is not reliably available, unlike other countries where there is competition amongst fuel companies and other service providers.
Draft Findings 8.5	Fuel currently accounts for as a major component of the average one-way ticket price. There is no competitive fuel provider, and fuel costs in PNG are extremely high. ANL has claimed that the cost of JetA1 in Port Moresby is 30% more expensive than in Brisbane, Australia. In the PNG domestic outer ports (if fuel is available at all) fuel is up to 125% more expensive than in Brisbane, and 75% more expensive than in Port Moresby. The very high cost of fuel in PNG, relative to nearby international airports, is one factor why domestic and international air fares are quite different and not comparable.
Draft Findings 8.6	Where fuel is not available at a domestic destination, airlines have to carry sufficient fuel from the previous airports to operate there and back. The extra fuel loads add weight to the aircrafts (which costs the airlines money to carry), and at the same time reduces the weight available to carry revenue earning passengers and cargo.
Draft Findings 8.7	The unregulated and monopolistic nature of charges applied by NAC on the airline operators forces them to pass these charges on to the customer or absorb them into their cost base.

Draft Findings 9.1	PNG lacks a dedicated legislative or regulatory framework protecting air passenger rights, resulting in limited remedies for delays, cancellations, and service disruptions, especially in rural areas.
Draft Findings 9.2	Airfare pricing is opaque, with unclear fare components and ticket conditions, causing confusion and unfairness, particularly for consumers relying on manual bookings and informal agents.
Draft Findings 9.3	No centralized or independent complaints mechanism exists for aviation issues; airline-specific complaint processes are unregulated, inconsistent, and often inaccessible.
Draft Findings 9.4	The absence of a formal complaint handling framework undermines consumer confidence and accountability, with service failures going unpenalized.
Draft Findings 9.5	Current service quality measurement and enforcement in airports are inadequate, with no clear, enforceable links between pricing, service quality, and infrastructure investment.
Draft Findings 9.6	Geographic and infrastructural challenges worsen inequitable access and service reliability for passengers in underserved provinces.
Draft Findings 11.1	Fragmented regulatory roles and unclear boundaries between agencies such as the Department of Transport, the Minister for Civil Aviation, National Airport Corporation (NAC), Civil Aviation Safety Authority (CASA), and Independent Consumer and Competition Commission (ICCC).
Draft Findings 11.2	NAC's status as a legally protected monopoly with no effective independent economic oversight, raising concerns about pricing transparency, service quality, and inefficient investment.
Draft Findings 11.3	Absence of a clear, enforceable economic regulatory framework for pricing and service standards, creating scope for monopolistic pricing and underperformance.
Draft Findings 11.4	Weak inter-agency coordination, leading to fragmented infrastructure planning, delayed upgrades, and inconsistent policy implementation.
Draft Findings 11.5	Insufficient legislative clarity regarding the economic regulatory authority responsible for aviation pricing and market oversight.

12.2 Draft Recommendations

Draft Recommendation 4.1	Promote increased competition on domestic airline market routes to reduce monopolistic pricing and lower fares.
Draft Recommendation 4.2	Encourage transparent fare structures and require clear disclosure of all charges and fees to reduce consumer confusion.
Draft Recommendation 4.3	Support policies that balance affordability and airline sustainability, particularly protecting rural connectivity.
Draft Recommendation 4.4	Monitor and regulate anti-competitive behavior that may arise from dominant carriers on certain routes.

Draft Recommendation 5.1	Declare economic regulation of NAC.
Draft Recommendation 5.2	Establish an Infrastructure Investment Steering Committee involving NAC, airlines, government, local stakeholders, and donors.
Draft Recommendation 6.1	Declare NiuSky for economic regulation.
Draft Recommendation 7.1	Ensure that Air Niugini and PNG Air operate in a fair market environment with equal opportunities to win government contracts, and gain any financial assistance that may be available.
Draft Recommendation 7.2	Streamline approval processes for new passenger services to support faster expansion of current services when airlines request it.
Draft Recommendation 7.3	Ensure strong enforcement of competition laws. Monitor the market closely for precatory pricing, unfair commission practices with travel agents or other anticompetitive behaviour. Ensure that the ICCC has the resources to do this.
Draft Recommendation 7.4	Ensure potential new entrants are able to fairly access airport facilities.
Draft Recommendation 7.5	Pursue bilateral air service agreements to enable 5 th Freedom Flights for PNG, expanding airline options and international route connectivity.
Draft Recommendation 7.6	Consider mandatory data sharing by incumbents to help potential new entrants make informed market entry decisions.
Draft Recommendation 7.7	Service reliability statistics should be independently verified to so that actual performance can be measured to support improvement over time and to match customer perception with reality.
Draft Recommendation 7.8	Domestic code sharing should be discouraged as it reduces competition.
Draft Recommendation 8.1	Promote fuel market competition with at least two suppliers at major airports, encourage strategic fuel storage, and consider fuel price stabilization mechanisms (price bands, hedging schemes, or strategic reserves) to improve supply reliability and reduce cost volatility.
Draft Recommendation 8.2	Enhance transparency and regulatory oversight of airport charges, air navigation fees, ground handling contracts, and security levies, including empowering an economic regulatory for aviation sector to monitor and evaluate cost structures, procurement processes, and service improvements.
Draft Recommendation 8.3	Support modernization and efficiency gains through consolidating ground handling services under competitive single contracts at each airport to reduce duplication and costs.
Draft Recommendation 9.1	Declare PNG's aviation sector.
Draft Recommendation 9.2	Mandate clear airline contingency plans, including interline and code-share agreements to provide alternative travel options during disruptions.
Draft Recommendation 9.3	Implement targeted consumer education and outreach programs to improve awareness of passenger rights and transparent fare practices, focusing on rural and underserved populations.
Draft Recommendation 9.4	Apply consumer complaint framework principles including transparency, accessibility, confidentiality, timeliness, accountability, and escalation pathways, modeled after leading international best practices.

Draft Recommendation 9.5	Consider empowering the ICCC or another appropriate body to mediate disputes, investigate systemic consumer issues, and issue binding enforcement directions where necessary.
Draft Recommendation 11.1	<p>Implement a Comprehensive Economic Regulatory Framework</p> <ul style="list-style-type: none"> i. Assign formal responsibility for economic regulation of airport and aviation service pricing to ICCC or a similarly empowered body. ii. Introduce price-cap regulation or price monitoring regimes to enforce cost-efficiency, prevent excessive charges, and link fees to service quality. iii. Require that fee adjustments and pricing methodologies undergo public consultation.
Draft Recommendation 11.2	<p>Legislative and Institutional Reform</p> <ul style="list-style-type: none"> i. Amend existing laws (e.g., <i>ICCC Act</i>, <i>Civil Aviation Act</i>) to clarify roles, granting ICCC formal regulatory authority over aviation pricing. ii. Redefine the Department of Transport’s role toward strategic policy planning, while ICCC or an appropriate independent agency, assumes economic oversight. iii. Create formal collaboration protocols (e.g., memoranda of understanding) between ICCC, Department of Transport, NAC, CASA, and other stakeholders.
Draft Recommendation 11.3	<p>Promote Coordinated Sector Development</p> <ul style="list-style-type: none"> i. Develop and maintain a unified national aviation strategy to harmonize policy, regulatory oversight, investment priorities, and development goals. ii. Strengthen mechanisms for inter-agency coordination to improve infrastructure planning and airport upgrades aligned with airline needs

13 CONCLUSION

PNG’s aviation sector faces significant structural, regulatory, and operational challenges that affect service quality, affordability, and sector sustainability.

The NAC operates as a monopoly across major airports, charging high and uniform fees regardless of traffic volumes, costs, or profitability. Limited consultation with airlines, low transparency of financial data, and fragmented infrastructure planning result in inefficient investments and suboptimal service outcomes. Establishing formal economic regulation and creating a collaborative infrastructure investment committee would improve oversight, transparency, and strategic planning.

Air navigation services provided by NiuSky also face persistent inefficiencies, including aging equipment, system downtime, and workforce gaps. Weak performance monitoring, unclear pricing structures, and minimal stakeholder consultation constrain service reliability and may enable monopoly pricing. Independent regulatory oversight would strengthen accountability, ensure efficient cost recovery, and support sustainable service delivery.

Airline operations are limited by infrastructure constraints, including inadequate runways, insufficient navigational aids, restricted night operations, and limited fuel availability. These factors reduce aircraft utilization, limit payload capacity, and increase operational costs, which are ultimately passed on to passengers. Measures to encourage fuel market competition, improve storage and supply reliability, and consolidate ground handling services under competitive arrangements would enhance efficiency and reduce costs.

Passenger protections remain underdeveloped. There is no dedicated legislative framework to safeguard rights, fare structures are opaque, and complaints processes are inconsistent or inaccessible. Implementing regulatory oversight, mandatory contingency planning, targeted consumer education, and a standardized complaint handling framework would improve accountability and consumer confidence.

Fragmented regulatory responsibilities across agencies, weak coordination, and unclear legislative authority impede effective governance. Clarifying agency roles, assigning formal economic regulatory authority, and developing a unified national aviation strategy would harmonize policy, infrastructure planning, and sector development priorities.

Domestic air policies, procurement practices, and infrastructure deficiencies further constrain competition and market access. Government travel contracts have historically favored specific carriers, regional airport facilities remain inadequate, and previous subsidy and public service obligation programs have failed due to unreliable funding. Equal treatment of carriers, transparent procurement, liberalized access for qualified entrants, targeted infrastructure investment, and carefully designed, sustainably funded subsidy programs are essential to support connectivity, market development, and equitable access.

In conclusion, strengthening PNG's aviation sector requires coordinated regulatory oversight, enhanced transparency, infrastructure investment, and policies that promote competition, consumer protection, and financial sustainability. Implementing these measures will improve service reliability, reduce costs, and ensure equitable access to safe and efficient air transport across the country.

APPENDICES

A: Issues Paper – Questionnaire

Inquiry Questions

1. To what extent should the ICCC be empowered to establish and enforce an economic regulatory framework for pricing, service quality monitoring, and consumer protection in PNG's aviation sector?
2. What legal, institutional, or political barriers currently prevent the ICCC from exercising full oversight of the aviation market?
3. How could these barriers be addressed through legislative reform, inter-agency coordination, or policy directives?
4. What mechanisms should be established (e.g., airfare transparency, passenger rights, complaint resolution processes) to enhance consumer protection in aviation services?
5. How can the ICCC strengthen its consumer protection role in the absence of effective competition, particularly in route monopolies or underserved regions?
6. What regulatory instruments should be considered to address fare affordability, service quality, and redress mechanisms for air travelers?
7. Should the ICCC be responsible for routinely controlling or monitoring airfare levels on key domestic routes and assessing anti-competitive behaviour by dominant carriers or airport operators?
8. How can this be implemented without discouraging private investment or essential air services to remote areas?
9. Would a sector-specific aviation economic regulator be more effective than relying solely on ICCC's general competition oversight?
10. If so, should the ICCC be designated as that sector-specific regulator, or should a new independent agency be considered?
11. How does the ICCC coordinate with sector regulators like NAC, CASA, and NiuSky to align market oversight with safety, infrastructure, and service delivery goals?
12. Which features of the regional airport regulatory frameworks do you believe are most relevant or adaptable to the PNG context (e.g., price monitoring, tariff setting, service quality benchmarking)?
13. What pricing model oversight should PNG adopt for its aviation industry?
14. Should PNG establish a dedicated aviation economic regulator, or expand ICCC's mandate to include proactive monitoring and tariff setting for airports?
15. Which airport services should be subject to economic oversight in PNG? (Aeronautical charges, ground transport and car parking, terminal access and retail leases, all of the above, or others)
16. How should PNG's regulatory approach be shaped by its market environment, particularly considering the low competition and public ownership of key airports?
17. Would you support the introduction of formal performance standards and benchmarking (e.g., service quality ratings, complaint resolution, passenger satisfaction)?
18. What institutional or capacity constraints might PNG face in implementing structured airport regulations? How can these be addressed?
19. Do you believe NAC's monopoly position justifies the introduction of formal economic regulation for airport services?
20. Has NAC's monopoly status adversely affected the affordability, transparency, or quality of airport services?

21. How should NAC be held accountable for service delivery and pricing, given the absence of competitive pressures?
22. What is the methodology NAC uses to determine aeronautical and non-aeronautical charges?
23. What pricing structure should NAC follow?
24. Should aeronautical charges be tied more closely to operational and infrastructure costs at each airport?

B: Price Comparison Data

The following tables provide more information supporting the price comparison carried out in Chapter 4 of the report.

Table 26: Passenger Volume and Route Information

Country	Route Name	Airline	Passenger Volume / Notes	Data Year	Source / Reference
Bolivia	La Paz – Santa Cruz	Boliviana de Aviación (BoA)	BoA total passengers: 4.3 million (domestic + international). Major domestic route.	2022	Aviacionline
Bolivia	Santa Cruz – Cochabamba	Boliviana de Aviación (BoA)	Part of Bolivia’s domestic network (~5.1 million domestic pax total 2024).	2024	Aviacionline (ALTA report)
			Santa Cruz Airport handled 4.12 million pax; Cochabamba 2.69 million pax.	2023	Wikipedia – Viru Viru Intl. , Jorge Wilstermann Intl.
Cameroon	Douala – Yaoundé	Camair-Co	Camair-Co operated 11,606 flights and carried 549,303 pax domestically.	2024	Business in Cameroon
Cameroon	Douala – Bafoussam	Camair-Co	Route active; data not disaggregated by pair.	—	FlightConnections – Camair-Co route map

Cambodia	Techo Int'l – Siem Reap	Air Cambodia	No route-specific data; Cambodia's total domestic pax ≈ 1.1 million (pre-COVID) mainly Phnom Penh–Siem Reap.	2019 (est.)	State Secretariat of Civil Aviation (Cambodia)
Ghana	Accra – Kumasi	Africa World Airways	Ghana total domestic traffic ≈ 600k–700k pax annually (mainly this route).	2023	Ghana CAA Annual Stats
Ghana	Accra – Tamale	Africa World Airways	Key secondary domestic route.	—	FlightConnections
Guatemala	Guatemala City – Flores	TAG Airlines	Guatemala domestic traffic ≈ 400k–500k pax total (pre-COVID).	2019	DGAC Guatemala Stats
Honduras	Tegucigalpa – Roatán	CM Airlines	No route data; Roatán Airport handled 0.6 million pax (2023).	2023	ACI Airport Stats
Kyrgyz Republic	Bishkek – Osh	Hahn Air Tech / TezJet	Most popular domestic route; carries >1 million pax/year (estimated).	2023	CAPA – Centre for Aviation
Laos	Vientiane – Luang Prabang	Lao Airlines	Total domestic pax ≈ 700k (2023); this is top route.	2023	Lao CAA Annual Report 2023
Nicaragua	Managua – Corn Islands	La Costeña	Small domestic market, < 200k pax/year total.	2022	INAC Nicaragua Reports
Papua New Guinea	Port Moresby – Lae / Mt Hagen / Madang	PNG Air & Air Niugini	PNG domestic pax ≈ 1.5 million (2023). Port Moresby handled 1.88 million pax.	2023	NAC PNG Annual Report 2023

Senegal	Dakar – Cap Skirring	Air Senegal	Seasonal route; total domestic pax ≈ 300k.	2023	ASECNA Senegal Stats
Tunisia	Tunis – Djerba	TunisAir Express	Djerba Airport handled 1.3 million pax (2023).	2023	ONDA Tunisia Annual Stats
Fiji	Nadi – Suva	Fiji Airways	Fiji total domestic pax ≈ 850k (2023).	2023	Fiji Airports Ltd Annual Report 2023
Solomon Islands	Honiara – Munda	Solomon Airlines	Total domestic pax ≈ 250k–300k (2023).	2023	Solomon Airlines / CAASI Reports
Nepal	Kathmandu – Pokhara	Yeti Airways	Domestic pax ≈ 2.1 million; route is largest share.	2023	CAAN Nepal Annual Stats 2023

Table 27: Comparison of prices on a per km basis

Country	Unit	Median	Mean	Minimum	Maximum
Bolivia	<i>Kina per km</i>	1.02	1.09	0.66	1.52
Cambodia	<i>Kina per km</i>	1.50	1.65	1.16	2.84
Cameroon	<i>Kina per km</i>	1.69	1.90	1.69	2.30
Ghana	<i>Kina per km</i>	2.49	2.33	1.12	5.99
Guatemala	<i>Kina per km</i>	0.97	1.18	0.97	2.09
Honduras	<i>Kina per km</i>	2.79	2.84	2.53	6.34
Kyrgyz Republic	<i>Kina per km</i>	1.68	1.80	1.07	2.52
Laos	<i>Kina per km</i>	0.87	0.82	0.69	1.02
Nicaragua	<i>Kina per km</i>	1.89	1.87	1.69	2.12
PNG	<i>Kina per km</i>	1.35	1.47	0.92	3.29
Senegal	<i>Kina per km</i>	2.40	2.36	1.73	2.79
Tunisia	<i>Kina per km</i>	1.37	4.25	1.37	10.39
Fiji	<i>Kina per km</i>	2.95	3.34	2.65	5.76
Solomon Islands	<i>Kina per km</i>	3.36	3.33	3.22	3.86
Nepal	<i>Kina per km</i>	2.29	2.28	1.76	2.92

Table 28: Comparison of Airfares in Kina terms.

Country	Unit	Median	Mean	Minimum	Maximum
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Bolivia	<i>Kina</i>	358.70	393.26	234.78	665.22
Cambodia	<i>Kina</i>	318.70	352.17	246.96	605.65
Cameroon	<i>Kina</i>	347.83	377.72	347.83	473.91
Ghana	<i>Kina</i>	547.83	560.14	460.87	1,108.70
Guatemala	<i>Kina</i>	260.87	317.97	260.87	565.22
Honduras	<i>Kina</i>	578.26	601.67	552.17	1,313.04
Kyrgyz Republic	<i>Kina</i>	356.52	382.17	226.09	534.78
Laos	<i>Kina</i>	286.96	302.44	234.78	439.13
Nicaragua	<i>Kina</i>	517.83	508.77	454.17	581.48
Papua New Guinea	<i>Kina</i>	565.22	637.06	343.48	1,626.09
Senegal	<i>Kina</i>	608.70	598.41	439.13	708.70
Tunisia	<i>Kina</i>	460.87	991.16	460.87	2,213.04
Fiji	<i>Kina</i>	339.13	591.67	304.35	1,278.26
Solomon Islands	<i>Kina</i>	1,108.70	1,099.79	1,065.22	1,273.91
Nepal	<i>Kina</i>	417.39	408.91	395.65	430.43

C: Weighted Average Cost of Capital

This section covers the Weighted Average Cost of Capital (WACC) determined for the following entities:

- PNG Air Limited;
- Air Niugini Limited;
- National Airports Corporation Limited; and
- NiuSky Pacific Limited.

i) WACC

The WACC reflects the risk adjusted rate of return demanded by a hypothetical investor in the business, and is determined based on the cost of an entity's debt and equity weighted by the proportion of debt and equity used.

The WACC can be derived using the following formula:

$$WACC = \left(\frac{E}{V} \times K_e \right) + \left(\frac{D}{V} \times K_d \times (1 - t_c) \right)$$

Where:

K_e	=	cost of equity capital
K_d	=	cost of debt
t_c	=	corporate tax rate
E/V	=	proportion of enterprise funded by equity
D/V	=	proportion of enterprise funded by debt

The adjustment of K_d by $(1 - t_c)$ reflects the tax deductibility of interest payments on debt funding. The ICCC has historically applied a real pre-tax WACC in its pricing framework. The nominal post-tax WACC has been first converted into a nominal pre-tax WACC by adjusting for the effect of corporate tax as follows:

$$\text{Nominal pre tax WACC} = \frac{\text{Nominal post tax WACC}}{(1-t_c)}$$

The approach adopted to convert the nominal pre-tax WACC to a real pre-tax WACC is the Fisher equation as follows:

$$\text{Fisher equation} = (1 + WACC_{\text{REAL}}) = \frac{1 + WACC_{\text{NOM}}}{1 + \text{inflation}}$$

This approach is consistent with the WACC calculations used in other regulatory determinations in PNG.

ii) Draft determination

In assessing of the appropriate WACC applicable to the selected aviators, we take number of factors into consideration, including (but not limited to):

- The principles alluded to under *the ICC Act* (Section 35) ;
- Market benchmarks for both the parameters and the overarching approach to estimation.
- The nature of country risk premiums, risk-free-rates and beta estimate applicable to public and private owned entities.
- Current market data for other key parameters.

Importantly, our analysis also draws from the following observations:

- We think that because NiuSky and NAC are government owned agencies which act as monopolies that they have very little exposure to market forces and so the traditional WACC determination approach is not appropriate.
- We note that in New Zealand, the Government has different rates it uses for government agencies that provide public infrastructure and serve the public good.
- We note that the PNG Government issues bonds in Kina and that a PNG 10-year Bond yield is probably a better reflection of a base line cost of capital in PNG than US 10-year bond yield.

Hence, apart from PNG Air and Air Niugini, we find it rationale to estimate a cost of capital to use for the purpose of evaluating investment returns especially for both NAC and NiuSky.

▪ *WACC parameters*

The following section discusses key parameters to the Draft Decision and include:

- Cost of equity capital, including:
 - Risk free rate
 - Country risk premium
- Equity market risk premium
- Beta estimate
- Cost of debt.

▪ *Cost of equity capital (Ke)*

The cost of equity, K_e , is the rate of return that investors require to make an equity investment in a firm.

The ICCC applied the Capital Asset Pricing Model (CAPM) approach to estimate K_e for the selected aviation firms, in accordance with the following formula:

$$K_e = R_f + \beta (R_m - R_f)$$

Where:

- K_e = required return on equity
- R_f = the risk-free rate of return
- R_m = the expected return on the market portfolio
- β = beta, the systematic risk

Each of the components in the above equation is discussed below.

▪ *Risk free rate (Rf)*

The risk-free rate compensates the investor for the time value of money and the expected inflation rate over the investment period. The frequently adopted proxy for the risk-free rate is the long-term Government bond rate.

For both NAC and NiuSky, we have applied zero-coupon government bond issued by the PNG Government. For both Air Niugini and PNG Air, we applied an international risk free rate determine applicable risk-free rate.

The methodology used for both rates uses the following framework:

$$Rf_{PNG} = \left[\left(\frac{1 + Rf_{US}}{1 + Inflation_{US}} \right) (1 + inflation_{PNG})(1 + CRP_{PNG}) \right] - 1$$

Where:

- $Rf_{PNG, non-SOE}$ = the long-term international risk free rate of return applied to PNG
- $Rf_{PNG, SOE}$ = the long-term domestic risk free rate of return
- Rf_{US} = the long-term risk free rate of return in the United States (US)
- $Inflation_{US}$ = US forecast inflation
- $Inflation_{PNG}$ = PNG forecast inflation
- $CRP_{PNG, non-SOE}$ = Country Risk Premium for PNG

PNG government bond rate

Government agencies such as NAC and NiuSky naturally would seek funding from the government to raise capital rather borrowing from banks. This would mean that publicly owned entities will adopt a risk-free rate using domestic bond yields rather than bond yields issued in other countries to determine zero-risk of default risk-free rate.

Private firms do not have full government backing to raise capital. Such instances will consider use of the yield to maturity of the 10-year US Government bond as a proxy for the long-term risk-free rate in US and adjusted for the country risk and inflation differential applicable to PNG to arrive at an international risk-free rate.

US government bond rate

In determining an international risk-free rate for PNG, a 20-day average yield to maturity of the 10-year US Government treasury constant maturity bonds was calculated. This results in an international risk-free rate of 3.61% in 2024.

Inflation differential

As discussed above, an estimate of the expected US inflation rates and the future PNG inflation rates is required to determine an appropriate projected inflation differential between the US and PNG.

US inflation rate

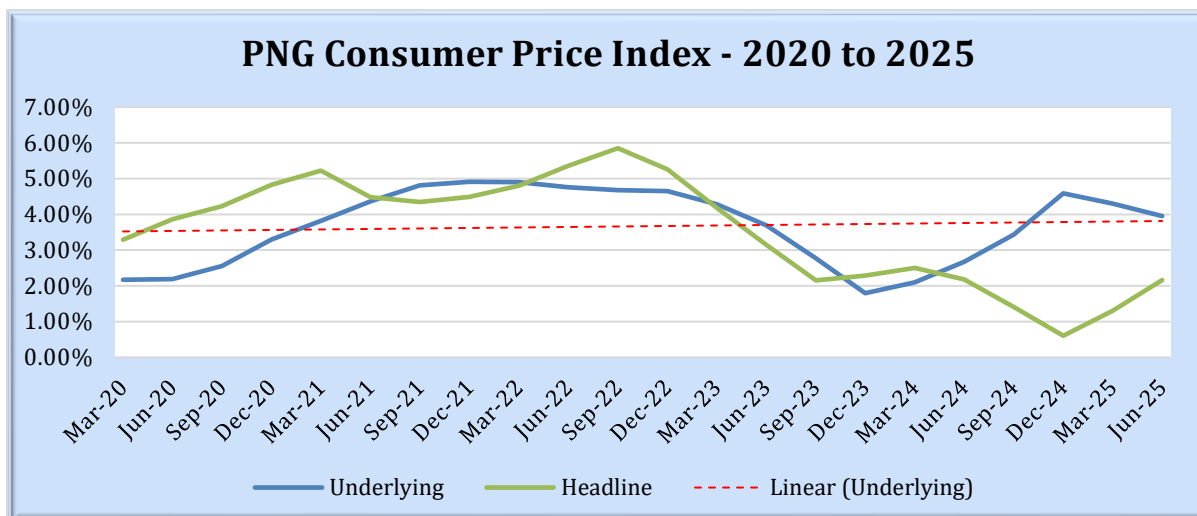
In determining the future US inflation rate, we have considered the projections included in the Monetary Policy Report to Congress, Trading Economics and also the US inflation projections prepared by the Economist Intelligence Unit (EIU) and the International Monetary Fund (IMF).

Based on these sources, and having particular regard to the longer-term projections, a US inflation rate of 3.0% was selected when determining the inflation differential between the US and PNG in the ICCC's draft assessment.

PNG inflation rate

In estimating the future inflation for PNG, the ICCC has considered the Consumer Price Index (“CPI”) data published by the PNG National Statistics Office (“NSO”). According to this data, the ICCC notes that the quarterly movement observed in underlying CPI was averaging at 3.82% per annum from 2020 to 2025.

The follow graph shows the trend of quarterly CPI movements from 2020 to 2025.



Source: PNG NSO Publication for 2025 June Quarter

We have used the average inflation rate to determine PNG risk free rate applicable to both SOE's and non-SOEs.

In the case of PNG Air and Air Niugini, we adjusted the US inflation for PNG inflation, applying the following calculation:

$$\begin{aligned}
 \text{Risk Free Rate (PNG Inflation Adjusted)} &= (1+\text{US Risk Free Rate}) * (1+\text{PNG Inflation}) / (1+\text{US Inflation}) - 1 \\
 &= (1+3\%)*(1+3.8\%) / (1+3\%) - 1 \\
 &= 5.99\%
 \end{aligned}$$

Therefore, the Risk-Free Rate for PNG is 5.99%.

Country risk premium

The country risk premium (CRP) is the risk arising from an unpredictable change in government policy or behaviour of a regulatory agency and other risks attributable to an unstable political or civil environment.

We acknowledge that market perception of a country risk is subjective and conclusions drawn require the exercise of professional judgement. To arrive at a reasonable approximation of the additional return required to compensate for the risk inherent in investing in PNG, the following factors have been considered:

- Current general macroeconomic and political conditions facing PNG
- Country ratings attributed by ratings agencies such as Moody's, Standard & Poor's (S&P), and other market analysts such as EIU
- The differential between US Government bond rates and US Dollar (USD)-denominated government bonds issued by countries with a similar credit rating to PNG

For purposes of this inquiry, our assessment of CRP is based on the USD-denominated Government bonds issued by countries with a similar credit risk rating to PNG, and the yield on US Government bonds of a similar maturity.

We have used appropriate CRP published by Trading Economics, to adjusting the cost of equity for country risk. In determining this CRP, we considered weights for actual market data from both PNG and countries with a similar risk rating to PNG, liquidity concerns in addition to concerns that the yields on these bonds can be influenced by factors relevant to the level of country risk in PNG.

Using above approach, our CRP for PNG is set at 6.03%.

Conclusion on the risk-free rate

The international risk-free rate for PNG has been calculated using the inputs in the table below.

Table 29: International Risk Free Rate

Parameter	PNG Air and Air Niugini	NAC	NiuSky
US 10 year Government zero coupon bond rate	3.61%	-	-
US inflation	2.00%	-	-
PNG Risk Free Rate		9.50%	9.50%
PNG inflation	3.80%	3.80%	3.80%
CRP	6.03%	-	-
International risk free rate for PNG¹	10.73%	5.49%	5.49%

Note: International risk free rate for PNG = $((1 + 3.61\%)/(1 + 2.00\%)*(1 + 3.80%*(1 + [6.03\%]))) - 1$
Domestic risk free rate for PNG = $((1 + 9.50\%)/(1 + 3.80\%)) - 1$

▪ Equity market risk premium (EMRP)

The EMRP ($R_m - R_f$) represents the risk associated with holding a market portfolio of investments, that is, the excess returns a shareholder can expect to receive for the uncertainty of investing in equities as opposed to investing in a risk-free alternative. The size of the EMRP is dictated by the risk aversion of investors – the lower (higher) an investor’s risk aversion, the smaller (larger) the equity risk premium.

The EMRP is not readily observable in the market and therefore must be determined via an estimate based on available data.

There are generally two main approaches used to estimate the EMRP, the historical approach and the prospective approach, neither of which is theoretically more correct or without limitations. The former approach relies on historical share market returns relative to the returns on a risk-free security; the latter is a forward-looking approach which derives an estimated EMRP based on current share market values and assumptions regarding future dividends and growth.

There are no available studies on the EMRP in the PNG market. However, in a recent decision on Coastal Shipping Industry Review, the ICCC has applied 5.70% as its MRP.

We find that there is currently no common ground on which to base a clear argument for moving from the 5.70% MRP used by the ICCC in recent determinations. This position is also supported by the fact that the majority of practitioners and regulators in Australia and ICCC’s previous regulatory contract reviews have maintained a MRP of 6%.

To maintain consistency with previous decisions by the Commission, we have applied 5.70% MRP in this inquiry.

- *Debt Margin*

The cost of debt reflects the cost the company has to sustain in order to get capital to finance its activity, either from financial institutions or through loans from other companies. It is related to current interest rates and the company's financial capacity and risk.

The cost of debt (R_d) is calculated by adding a debt margin to the risk-free market rate.

$$R_d = R_f + DM$$

Where

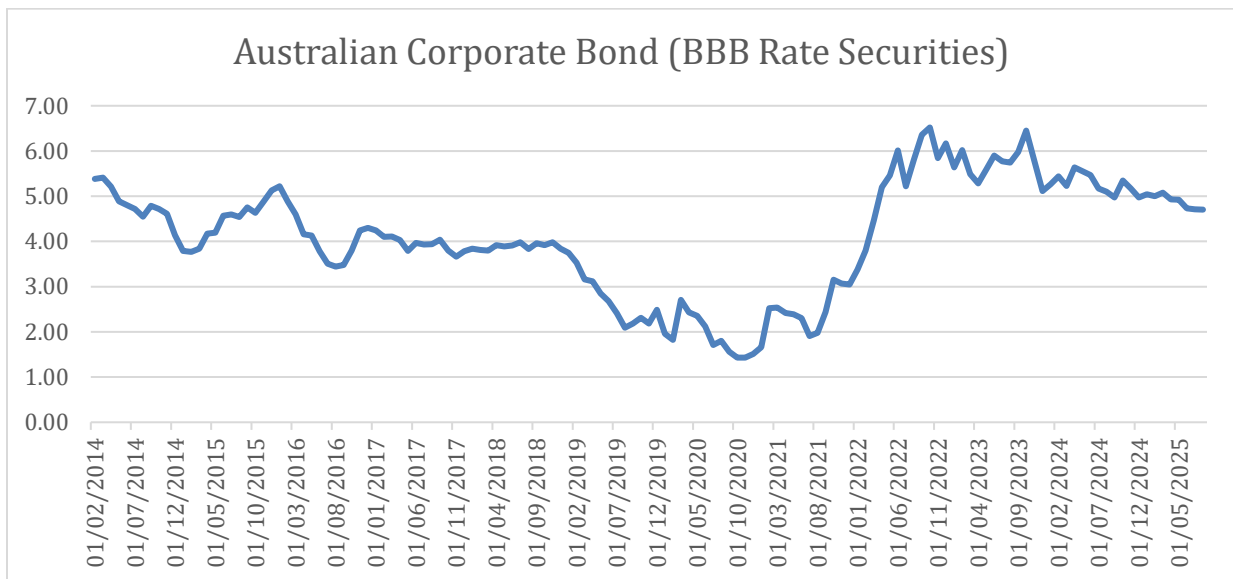
R_f is the risk-free rate; and

DM is the debt margin

The Debt Margin (“DM”) is calculated with reference to credit rating or yields observed for a benchmark firm that operates in a competitive market and faces similar risks as to the business under review.

The Reserve Bank of Australia compiles credit spreads for Australian non-financial corporate bonds which form the base regulatory debt margin to be used in Australia.

The graph below shows spreads or debt margins against Government Securities for the last 10 years.



Source: Reserve Bank of Australia – Statistics and Tables

This graph shows a spike post Covid-19 pandemic after 2022 with marginally increases since compared to earlier credit spreads.

More so, as at December 2025, using the Bloomberg business credit ratings, the average margin for corporate bonds issued by Australian companies with a credit rating of BBB was averaging at 549 basis points.

We have applied this rate as Corporate Debt rate for both PNG Air and Air Niugini only.

▪ *Beta estimate (β)*

The beta coefficient measures the systematic risk or non-diversifiable risk of a company in comparison to the market as a whole. Systematic risk, as separate from specific risk as discussed below, measures the extent to which the return on the business or investment is correlated to market returns. A beta of 1.0 indicates that an equity investor can expect to earn the market return (i.e. the risk-free rate plus the EMRP) from this investment (assuming no specific risks). A beta of greater than one indicates greater market related risk than average (and therefore higher required returns), while a beta of less than one indicates less risk than average (and therefore lower required returns).

Betas will primarily be affected by three factors which include:

- The degree of operating leverage employed by the firm in that companies with a relatively high fixed cost base will be more exposed to economic cycles and therefore have higher systematic risk compared to those with a more variable cost base
- The degree of financial leverage employed by a firm in that as additional debt is employed by a firm, equity investors will demand a higher return to compensate for the increased systematic risk associated with higher levels of debt
- Correlation of revenues and cash flows to economic cycles, in that companies that are more exposed to economic cycles (such as retailers or energy and resources companies), will generally have higher levels of systematic risk (i.e. higher betas) relative to companies that are less exposed to economic cycles (such as regulated utilities).

They can also be influenced by the index against which they have been calculated, the time period over which they were calculated and the level of trading in the share of the relevant company.

The geared or equity beta can be estimated by regressing the returns of the business or investment against the returns of an index representing the market portfolio, over a reasonable time period. However, there are a number of issues that arise in measuring historical betas that can result in differences, sometimes significant, in the betas observed depending on the time period utilised, the benchmark index and the source of the beta estimate. For unlisted companies it is often preferable to have regard to sector averages or a pool of comparable companies rather than any single company's beta estimate due to these measurement difficulties.

Market evidence

In estimating an appropriate beta for PNG Aviation Sector, consideration has been given to the betas of listed companies that are distinct to Airlines service providers and aviation infrastructure service providers. These betas, which are presented below, have been calculated based on five year, compared to a relevant domestic index.

Table 30 Beta Analysis - Air Niugini_PNG Air

Firm	Equity (observed) beta	Tax rate	Asset Beta
Auckland Airport	0.55	0.28	0.47
COPA Airlines	1.30	0.34	0.75
Singapore Airlines	1.00	0.17	0.61
Airlines Thailand	0.90	0.20	0.56
Fraport AG	1.05	0.20	0.79
Qantas Airways	1.30	0.30	0.22
Cebu Pacific Air	0.80	0.25	0.10

Airways New Zealand	1.65	0.28	0.67
LATAM Airlines	1.75	0.30	-0.62
Gol Linhas Aéreas	2.15	0.34	4.91
Average	1.25	0.27	0.85

Table 31 Beta Analysis - NAC

Airport/Company	Country	Unlevered Beta
Flughafen Wien AG (Vienna Airport)	Austria	0.18
Copenhagen Airports (CPH)	Denmark	0.28
Flughafen Zürich AG (Zurich Airport)	Switzerland	0.51
AENA (Spanish Airports)	Spain	0.53
Auckland International Airport (AIA)	New Zealand	0.55
Fraport AG (Frankfurt Airport)	Germany	0.59
Aéroports de Paris (ADP)	France	0.60
Average		0.46

Unlike the Airlines and NAC, we adopted asset value as zero, given NiuSky has internally funding all of its operations costs internally.

The observed beta is a function of the underlying risk of the cash flows of the company, together with the capital structure and tax position of that company. This is described as the levered beta.

The capital structure and tax position of the entities in the table above may not be the same as that of target aviation firms. The levered beta is often adjusted for the effect of the capital structure and tax position. This adjusted (Asset) beta is referred to as the unlevered beta. The unlevered beta reflects the underlying risk of the pre-financing cash flows of the entity.

Selected beta (β)

In the draft assessment we adopted an unlevered beta 0, 0.46 and 0.82 for NiuSky, NAC and both airlines (PNG Air and Air Niugini) respectively, a corporate tax rate of 30% and the debt to enterprise value mix of 28%, resulting in a relevered beta using the Hamada formula.

We used the Monkhouse approach to relever the beta with the same gearing and tax rate assumptions of 30% and 28%.

For reference the Hamada formula is:

$$\beta_e = \beta_a \times \left(1 + (1 - t_c) \frac{D}{E}\right)$$

Where:

β_e = Equity beta

β_a = Asset beta

D = Proportion of debt funding

E = Proportion of equity funding

t_c = Tax rate

For reference the Monkhouse formula is:

$$\beta_e = \beta_a + (\beta_a - \beta_d) \left(1 - \frac{K_d}{(1 + K_d)} \times t_c\right) \left(\frac{D}{E}\right)$$

Where:

β_e = Equity beta

β_a = Asset beta

β_d = Debt beta

K_d = Cost of debt

D = Proportion of debt funding

E = Proportion of equity funding

t_c = Tax rate

Based on the above factors a cost of equity, K_e for respective firms has been calculated as follows:

Table 32: Cost of Equity - Respective Firms

	PNG Air and Air Niugini	NAC	NiuSky
Risk free rate (R_f)	10.73%	5.49%	5.49%
Equity market risk premium (EMRP)	5.70%	5.70%	5.70%
Beta (ungeared β)	0.85	0.46	0.16
Calculated K_e	17.37%	9.14%	6.67%

iii) Draft WACC

Based on above assessment outcomes, the ICCC has estimated a nominal post-tax WACC for respective entities as follows:

Table 33: Draft WACC - PNG Aviation Sector

	PNG Air and Air Niugini	NAC	NiuSky
Nominal post-tax WACC	14.97%	7.66%	5.88%
Nominal pre-tax WACC	21.39%	10.94%	8.40%
Real pre-tax WACC	16.93%	10.94%	8.40%