

Regulatory review of air and sea port operations

Analysis to inform the future pricing
framework

March 2024

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Executive Summary

The Jersey Competition Regulatory Authority (the Authority) is responsible for regulating Jersey's air and sea ports, for which Ports of Jersey Limited (PoJL) is the only entity designated with significant market power in the relevant markets. The existing price control for Jersey's air and sea port operations expires on 31 December 2024, and in 2023 the Authority launched a regulatory review to consider the appropriate approach for the next price control period starting in 2025.

The Authority has engaged EY to support its regulatory review process, with this support comprising the development of a financial model using information received from PoJL, together with analysis and input on a range of financial assumptions. The Authority's considerations of this analysis are set out in the Draft Decision on the pricing framework, published alongside this report.

Our analysis determines a range of real price path outputs that enable PoJL to recover its projected costs by the end of the price control period in 2029. Our output produces a range for the potential future price path, between Retail Price Index (RPI) and RPI plus 3%.

The range has been informed through sensitivity testing of key financial variables and PoJL's capital investment programmes in the Strategic Business Plan (SBP). The proposed Master Plan programmes account for the majority of the capital spend over the relevant period. It is our understanding that, formal government approval for the SBP will be granted, with the Master Plan programmes also requiring planning – and related – permissions. The range accounts for this uncertainty by examining a number of scenarios in relation to the projected capital expenditure in the SBP. The range has also been shaped by consideration of the sensitivity to the Weighted Average Cost of Capital (WACC), using values of 7.5%, 8% and 8.5%.

To inform the outputs, the following additional key assumptions have been made:

- A Regulated Asset Base (RAB) approach is used for cost recovery.
- The price control is based on a 'single till' (i.e., including both regulated and non-regulated services).
- Efficiency of 1% per annum is applied to operating costs (capital investment programmes are assumed to be efficiently specified through a public procurement process and Government approval).
- A forecast of Jersey RPI is used as the measure of inflation.

1. Introduction

1.1 Background

The Jersey Competition Regulatory Authority (the Authority) is responsible for promoting competition in the supply of goods and services in Jersey, and regulating the telecommunications, ports and postal sectors. In the context of ports, the Authority's primary duty is to “protect and further the interests of users of port operations, where appropriate, by promoting competition” in the provision of port operations.¹

Incorporated in 2015, Ports of Jersey Limited (PoJL) is the state-owned, arm's-length entity responsible for operating and managing Jersey Airport and all the island's ports and harbours. PoJL is the only entity designated with significant market power in the relevant air and sea port markets and is regulated by the Authority.²

The Authority last conducted a regulatory review of PoJL in 2019 and is now developing the approach and policy for the next five-year period starting in 2025. In 2023, the Authority engaged EY to support its regulatory review process, with this support comprising the development of a financial model using information received from PoJL, together with analysis and input on a number of financial assumptions.

1.2 PoJL: business overview

PoJL plays a central role in supporting Jersey's economy, providing lifeline services and connectivity that is vital to support the island's economy. PoJL's operations are categorised into four key service groups: the airport, the harbour, the marinas and the coastguard. These include PoJL's commercial operations, as well as public service obligations such as the Channel Islands Control (Airspace) Area, the Jersey Coastguard for territorial waters, custodianship of historic harbours and support for air ambulance transfers to the UK.

All PoJL activities are funded from the profits of operations; incorporation was intended to establish PoJL as self-sufficient and commercially sustainable. PoJL has multiple revenue streams within the four service groups, generated primarily through the operations of the airport and air traffic control, Jersey's harbours, marinas and moorings, and property. These include a range of regulated revenues such as airport and harbour passenger dues, aircraft charges and freight dues, as well as other service income including commercial concession income, and parking and property rentals (see Appendix A1).

While the financial position of PoJL improved in 2022 following a loss of £0.7m in 2021, as at 2022, PoJL indicate that financial performance remains below pre-pandemic levels.³ The majority of the PoJL revenue is generated from the air and sea ports (comprising harbour and marinas) service groups; of the £43 million reported revenue in 2022, 53% is attributable to the airport and 44% to the sea port. The remaining income is derived from outlying harbours and corporate income.

PoJL plans to undertake major investment programmes between 2024 and 2029. The Airport Master Plan (AMP) aims to meet future demand by increasing operational capacity and delivering service improvements. The Harbour Master Plan (HMP) is a significant investment programme designed to improve the resilience of the port infrastructure and Jersey's connectivity. The HMP involves two major undertakings: marine works and landside redevelopment. The expected costs associated with these investments are set out in PoJL's 2024 – 2028 Strategic Business Plan (SBP) and the analysis in this report is based on this SBP.

¹ [Ports of Jersey | JCRA](#).

² [PoJ1204J - Final Notice - Ports of Jersey - assessment of market power | JCRA](#).

³ [Annual-Report-2022.pdf \(ports.je\)](#).

1.3 Existing and upcoming price controls

The existing price control, based on PoJL's projected cash flows, expires on 31 December 2024. This control allows PoJL to increase the prices of its regulated services by RPI +1% per annum. PoJL must also manage cumulative revenues, calculated on a single till basis (both regulated and non-regulated revenue) in line with the cumulative forecast but within 'tramlines' recognising a +/- 5% tolerance (both positive and negative).

The regulatory review to which this report and analysis relate covers the price control period beginning on 1 January 2025 and ending on 31 December 2029. Set out below is our understanding of the key milestones and dates in the process of developing the future price control and wider regulatory framework:

Figure 1: Key milestones and dates⁴

March 2023	The Authority issued a CFI to gather inputs from PoJL and other stakeholders.
April - October 2023	Assimilation and review of data; development of regulatory control framework based on inputs.
July 2023	Industry and wider stakeholder review sessions.
August 2023	Information note published by the Authority.
December 2023	Further Information note published by the Authority.
December 2023 – March 2024	Assessment of PoJL's revised SBP and development of an updated price control framework.
Q2 2024	The Authority to publish Draft Decision on pricing framework and Quality of Service.
Q3/4 2024	Authority to publish Final Decision covering pricing framework and Quality of Service and undertake required statutory steps.

1.4 Report structure

This report has been published alongside the Draft Decision for the pricing framework and should be read alongside it. It is structured as follows:

- Section 2: Outline of quantitative analysis.
- Section 3: Consideration of an appropriate Weighted Average Cost of Capital (WACC).
- Section 4: Achievable levels of efficiency.
- Section 5: Outputs from the modelling exercise.

⁴ As stated in its Information Note published December 2023, the Authority planned to release a Draft Decision – for consultation – in October 2023, with a range of policy proposals on the future pricing framework. However, on 9 October PoJL informed the Authority that capital investment figures – and other cost variables – used in the financial model required an update. As a result, the Authority took the decision to postpone publication of the Draft Decision until it had the opportunity to properly consider and review the proposed updates and revisions.

2. Outline of quantitative analysis

This section provides an outline of the quantitative analysis carried out to support and inform the Authority’s proposals for a future price control.

2.1 Regulatory approach and model structure

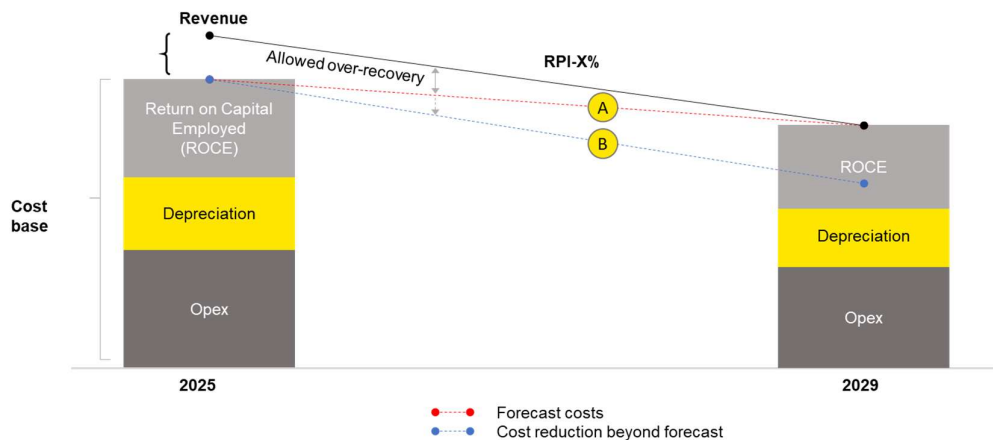
The following sub-sections outline the overarching regulatory approach, and the structure of the financial model.

2.1.1 Regulatory approach

Price cap regulation is commonly adopted by regulators when intervening to constrain market power and aims to incentivise efficiency and mimic prices consistent with a competitive outcome.

This approach is characterised by the establishment of the maximum prices a regulated entity may charge for regulated services in each year of the price control period. This is consistent with current practice and the existing price control, which limits price increases in any given year to a maximum of RPI +1%. Figure 2 is an illustrative example as to how the price cap can be determined for a future price control period (albeit illustrating a ‘glide path’ methodology):

Figure 2: Illustrative regulatory control schematic



The revenue at the start of the regulatory control (2025) is compared to a forecast of efficiently incurred costs at the end of the period (2029), to derive an ‘X-factor’. The X-factor, when applied to inflation, aims to bring regulated charges in line with total allowable forecast costs by the end of the period. This results in a ‘glide path’, where prices gradually adjust over time, in line with the rate of inflation plus or minus the predetermined amount (RPI +/- X%).

This type of price cap regulation sets the level of forecast costs at the outset (cost function A). To the extent that the regulated entity is able to ‘outperform’ through efficiency gains beyond those projected, it is permitted to benefit from this outperformance through additional returns during the period. This, stylised by path B, creates strong incentives for the regulated entity to outperform the specified control, thereby aligning the interests of the regulated entity with those of consumers.

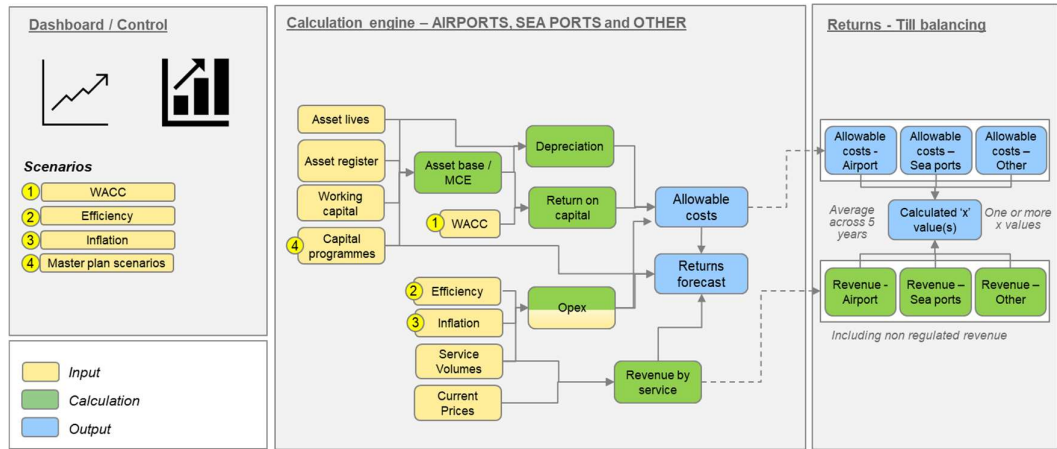
In certain cases, such a regulatory approach can result in prices increasing (i.e., the glide path is upward sloping). This may occur where efficiently incurred costs are rising over time, or where revenues are below costs at the beginning of the period.

Our analysis is based upon a price cap modelling framework, consistent with PoJL's existing regulatory framework.

2.1.2 Model structure

In line with the regulatory approach outlined above, Figure 3 below sets out the overarching structural design of the model.

Figure 3: Model structure



The diagram above illustrates the key inputs of the financial model, including the asset base, capital programmes, and assumptions in respect of the Weighted Average Cost of Capital (WACC), efficiency, and service growth (e.g., growth in passenger numbers and freight volumes). Each of these is discussed in Section 2.2.

The Regulatory Asset Base (RAB) model has been used to inform the efficient level of costs to be recovered; this is discussed in more detail in Section 2.2.3. The costs are compared to income forecasts for PoJL to provide an indication of the price control required to enable revenues to recover efficiently incurred costs.

2.2 Key assumptions and model characteristics

There are a number of characteristics to consider in the development of the model, as outlined above. The following sub-sections discuss these in more detail and set out the analysis and information used to inform the Authority's proposals for the future price control.

2.2.1 Regulated markets

The existing markets in which PoJL has significant market power are:⁵

- The airport (excluding private users).
- Private airport users.
- The commercial sea port.
- Marine leisure port users.

PoJL offers multiple services within each of the markets listed above. We have aligned the model with the decision issued by the Authority at incorporation regarding markets in which

⁵ [PoJ1204J - Final Notice - Ports of Jersey - assessment of market power | JCRA](#).

PoJL has been determined to hold significant market power. We have therefore assumed no changes to the regulated service baskets or regulated markets.

The Authority considers the market power of PoJL as a whole within the airport area and sea port areas by reference to a grouping of airport operating services and sea port operating services respectively. Our modelling has been conducted in accordance with this finding, which provides a degree of flexibility and balancing of pricing across the service portfolio. Specifically, our modelling considers separately the financial information for PoJL's operations at the airport, sea port and 'other operations',⁶ which we consider to be proportionate to this exercise and is consistent with the availability of cost and revenue information.⁷

The model calculates airport and sea port services separately, where airport services include services to both the airport (excluding private users) and private airport users, and sea port services include both commercial sea port and marine leisure port users.

2.2.2 Basis for regulated charges

It is recognised that a degree of flexibility in respect of service returns across the portfolio may be appropriate, given the nature of operations covered by PoJL and the prevailing investment programmes across the business. This will enable PoJL to deliver appropriate financial performance whilst yielding reasonable and stable prices for users across the service portfolio. PoJL may also, under the single till approach, generate income from non-regulated services to contribute to funding its operations.

Under a single till approach, both regulated and non-regulated revenues are considered when setting the price cap. Whilst regulated service prices are determined by the price cap, assumptions on how non-regulated prices increase or decrease are required. Our analysis assumes a portion of non-regulated service prices are also set by RPI +/-X% to calculate the aggregate income for PoJL. The pricing treatment of each revenue line to determine the value of 'X-factor' is outlined in Appendix A1.

Revenue lines modelled on an RPI +/-X% basis represent c.70% of PoJL's total income in 2022. The remaining non-regulated service prices are assumed to increase in line with RPI.⁸ This approach is consistent with PoJL's pricing assumptions in the SBP and is discussed further in Section 5.2.

Our model adopts a 'single till' approach.

2.2.3 Regulatory Asset Base (RAB) model

The recovery of a regulated entity's operating and capital expenditure over the course of a price control period can be modelled in several ways.

The RAB model is a common approach adopted by regulators in the UK and other jurisdictions, particularly for infrastructure industries. It is used by most UK regulators, including the CAA, Ofwat and Ofgem, covering the airports, water and energy sectors respectively. Given the nature of PoJL's operations, we consider a RAB approach is well suited for regulatory pricing purposes.

⁶ Other operations include outlying harbours, property rental income and corporate income amounting to c.2% of total PoJL revenue in 2022.

⁷ Whilst the air- and sea port views have been calculated and reviewed separately, these have been aggregated together to form the single till view.

⁸ Except in the case of grants which have been modelled in line with the information provided to us by PoJL.

The RAB represents the value of the assets used to efficiently provide regulated services, and represents the basis for determining both the return of investment (through depreciation) and the appropriate return on investment (through the application of the WACC).

Under this approach, the allowable costs for a given period are calculated as follows:

$$\text{Allowable costs} = \text{Operating costs} + \text{Depreciation} + \text{Return on Capital Employed}$$

The RAB model spreads out the recovery of investments over the remaining economic life of the assets while contributing to price stability for users. This approach also ensures investors receive a fair return (in the form of the WACC), thereby further encouraging future investment. In light of the significant prospective investments by PoJL, and the related benefits of a RAB-based approach, a RAB model has been developed to enable efficient cost recovery.

The model can be built on a 'nominal' or 'real' basis: the nominal approach considers revenues and costs including the effect of inflation, whereas a real approach removes the effect of inflation. We have adopted a nominal basis for modelling, to be consistent with PoJL's modelled cash flows in the SBP, and to provide consistency with debt servicing requirements.

The financial model establishes a RAB, consistent with relevant regulatory precedent from the UK and other jurisdictions. The model is constructed on a nominal RAB basis.

2.2.4 Asset base valuation

As part of the asset base calculation, we have considered whether the asset base should be valued on a Historical Cost Accounting (HCA) or a Current Cost Accounting (CCA) basis:

- HCA: Asset values are expressed on a 'book value' basis and depreciation is calculated based on these historical costs, with the depreciated asset values being expressed in Net Book Value (NBV) terms.
- CCA: Assets are revalued each year to reflect prevailing market prices (on a replacement cost basis). Depreciation is applied to this revalued asset base to yield Net Replacement Cost (NRC).

The benefits of using an HCA approach are simplicity and predictability of investment recovery, whereas a CCA approach provides efficient entry and exit signals to the market and therefore efficiency in investment incentives.

Due to greater transparency, simplicity, and proportionality, as well as the existence of material barriers to entry, we have conducted our modelling on an HCA basis. The starting point ('base year') for the RAB is the NBV from PoJL's Fixed Asset Register (FAR) for the financial year 2022. This is then forecast over the price control period, based on PoJL's projected capital expenditure and depreciation.

We have used the latest view of PoJL's investment plans provided in its SBP, which include planned investments in the Master Plan programmes. The magnitude of these programmes has a material bearing on the modelled RAB, and, by definition, the estimated price control. We note that, at the time of developing the model, formal government approval and planning permission for these programmes are still pending.⁹ Any material changes to the scale or timing of such investments may therefore require reconsideration of the price control.

It is important to note that, we assume PoJL's procurement process and the Government's approval of the proposed investment, act as effective tests for relevance and efficiency of the

⁹ Government Officials have indicated it will be approved but we note planning permission is yet to be granted.

planned investments. As a result, the proposed investments included in our analysis are sourced without review or adjustment (from PoJL's SBP).

Our modelling approach assumes the asset base will be valued on an HCA basis. Further, the asset base is forecast using PoJL's existing asset base together with the planned capital spend as set out in the SBP, adjusting for depreciation.

2.2.5 Inflation

Inflation is used in the model to ensure all inputs and outputs are expressed on a consistent nominal basis. The model uses two different measures of inflation for such conversions: Jersey's RPI and Jersey's Average Earnings Index. Staff costs are assumed to change in line with the Average Earnings Index, with all other model costs and revenues projected to follow changes in RPI. Jersey RPI is the most common measure of inflation in Jersey. It is used in the existing price control framework and is used by PoJL in constructing its SBP.

Table 1 below sets out the latest inflation forecast published by the Jersey Fiscal Policy Panel (FPP), which has been used in the model.

Table 1: Jersey inflation forecast¹⁰

Year	Actual		Forecast				
	2023	2024 ¹¹	2025	2026	2027	2028	2029
RPI	10.4%	10.1%	0.8%	1.2%	2.4%	2.4%	2.4%
Average Earnings Index	6.2%	8.1%	2.6%	2.4%	2.8%	2.8%	2.8%

Levels of inflation in 2023 and 2024 are – as with other countries – high compared with recent periods. According to the FPP, the level of inflation is expected to reduce considerably from 2025 onwards.

Consistent with the existing framework, Jersey RPI is applied to all relevant costs and revenues except for staff costs, which are forecast in line with the Average Earnings Index.

2.2.6 WACC and efficiency

The WACC and efficiency assumptions in the model are based on different sources including previous UK, and on-island, regulatory determinations. These are discussed in further detail in sections 3 and 4 respectively.

2.2.7 Quality of Service

The significant investments planned to redevelop both the air and sea ports are expected to deliver an enhanced level of service for its users. We have not reviewed these in detail, and understand the Authority will be progressing work on Quality of Service (QoS), to be given effect concurrent with the new price control.

2.2.8 Normalising adjustments

In developing a regulatory cost model, it is important to consider any one-off events or impacts that have affected or could affect the cost base and/or other factors. Without making

¹⁰ Source: Jersey's Fiscal Policy Panel 2023 Annual Report (November 2023).

¹¹ 2024 inflation assumption based on September 2023 values, consistent with PoJL's approach in applying its annual price increases.

the necessary normalising adjustments, the model outputs may not represent the level of required costs, which could lead to potential over- or under-recovery of costs. In this context, we understand there are a series of factors for consideration when using 2022 as the base year for modelling purposes.

The main factor that needs to be considered is that the business is still adjusting from the Covid-19 pandemic and associated travel restrictions etc., with volumes below pre-pandemic levels. Airport volumes are forecast by PoJL to return to pre-pandemic levels in 2024. Further, although PoJL reduced its cost base during the pandemic, the presence of fixed costs means that this was not in proportion to the fall in income, as is evident when analysing operating costs per passenger over this period.

As a result, we have made one-off normalising adjustments to the operating costs to reflect the assumption that volumes return to pre-pandemic levels during 2024. This has been addressed by applying an additional efficiency assumption in 2023 and 2024, which negates the impact of higher volumes on the operating cost base in both these years.

Additionally, PoJL informed us that a series of one-off costs were also incurred in both 2022 and 2023, such as redundancy payments, debtor provisions and restructuring costs. Where there have been one-off changes to the value of these cost lines in either 2022 or 2023 compared to the underlying trends, we have adjusted the base year costs to be in line with either the 2023 or 2024 forecast provided in PoJL's SBP. This helps to ensure forecasts align more closely with the costs expected to be incurred by PoJL during the price control period.

2.3 Model data sources

Throughout this exercise there has been engagement between the Authority and PoJL. We have developed an understanding of the business, as well as inputs for the modelling exercise described above, using a range of documents and information supplied by PoJL, as well as various external sources. These include PoJL's statutory accounts, capital investment plans and the SBP. Appendix A2 provides a detailed list, and we summarise the main components and their uses below.

2.3.1 Ports of Jersey statutory accounts

2022 has been used as the base year of the model since this is the most recent full year for which we have audited financial information. The base year revenue, operating cost and depreciation information has been sourced from PoJL's audited statutory accounts. These provide the basis on which any necessary forecast calculations are then developed.

2.3.2 Ports of Jersey Strategic Business Plan (SBP)

The SBP is a financial forecast which projects revenues, operating costs and capital investment beyond 2040.¹² As part of its SBP process, we understand the subsequent four year period (i.e., 2024-2028) is modelled in detail and submitted to Government for approval. Whilst the statutory accounts have been used to provide the base year inputs for the model, the SBP has been used to inform forecast revenues, operating costs, investment and depreciation. This has informed a separate view of the airport, sea ports and 'other operations' and enables separate calculations of these services.

2.3.3 Ports of Jersey Fixed Asset Register (FAR)

PoJL's 2022 FAR and associated depreciation has been used to derive the starting asset base and projected depreciation for existing assets. Additionally, details of the investment property assets have been used to complete the existing asset information.

¹² Our analysis has been based on the revised SBP file shared with EY in November 2023 titled '2024 – 2028 SBP.' This reflects an updated financial model which the Authority was informed of on 9 October 2023 by PoJL.

2.3.4 Volume drivers and Cost Volume Elasticities (CVEs)

Revenues and operating costs are forecast in the model using volume drivers and CVEs. The growth rate for each revenue and cost line depends on the appropriate volume driver. The volume driver determines the percentage change in volume each year (itself derived from changes in service volumes) and is used in the model to forecast the year-on-year changes in revenues and cost.

The CVE is used in combination with the volume driver to determine the impact of any volume changes on the cost base. Applying CVEs provides a mechanism to account for the existence of economies of scale and/or scope and the resulting relationship between costs and volumes.

The CVEs were established through engagement with PoJL and applied on a disaggregated basis to the operating costs. We have applied a CVE of 0.5 (i.e., for every 1% increase in volume, costs increase by 0.5%) for those cost items identified by PoJL as having high sensitivity to volumes, 0.25 for those with a medium sensitivity and 0.1 for those with a low sensitivity.¹³ These estimates have been 'tested' through comparison with the relationship between costs and volumes in PoJL's SBP.

¹³ The CVE assumptions apply to all cost categories except for charter costs, which are more directly influenced by the number of vessels in the fleet. For charter costs we have assumed a CVE of 0.75, and tested this against PoJL's SBP.

3. Consideration of an appropriate WACC

The WACC represents the required return on debt and equity for an efficient business. The WACC is applied to the Mean Capital Employed (MCE) – derived from the RAB – each year to estimate the cost of invested capital, which is typically included as a component of the total allowable costs for regulated entities. The MCE is calculated by subtracting current liabilities from total assets.¹⁴

3.1 Calculating the WACC

The Capital Asset Pricing Model (CAPM) is the standard approach to determining the cost of capital. Under this approach the WACC is usually calculated using the following equation:¹⁵

$$WACC = R_e * (1 - g) + R_d * g$$

$$\text{Where } R_e = RFR + ERP * \beta, \text{ and } R_d = RFR + dp.$$

The return on equity (R_e), is estimated by adding the risk-free rate (RFR) to the product of the equity risk premium (ERP) and equity beta (β). The cost of debt (R_d) is calculated by adding the debt premium (d_p) to the RFR.

- The RFR is the rate of return investors require from an investment that is free of risk and is usually estimated using the yield on government bonds given the negligible risk of default.
- The ERP is the return investors require over and above the RFR in order to compensate for the higher risk of investing in the equity market. It is calculated as the difference between the total market return (TMR) and RFR.
- The equity beta represents the volatility of a particular company's share price relative to the return from the entire market. When it cannot be directly observed, for instance if a company is not publicly listed as is the case with PoJL, it may be inferred by using a set of comparable companies as benchmarks.
- In some cases, certain risk premia like the country-specific, company-specific and company size risk premia are also added on to the cost of equity. These represent the additional risk associated with investing in a particular business, which in turn might increase the return required by investors.
- The cost of equity is then multiplied by 1 minus the notional gearing (g), which is forward-looking, and representative of the assumed financial structure of the business (comprising debt and equity).
- The cost of debt (R_d) is calculated as the sum of the RFR and debt premium (d_p).
- The debt premium represents the additional risk of investing in corporate debt over government debt.

¹⁴ PoJL plans to utilise institutional lending to fund a portion the capital investments in its SBP. For the purpose of this exercise, we have treated institutional lending as a non-current liability in keeping with its long-term nature. Consequently, these liabilities have not been subtracted from assets in the MCE calculation, although we note that PoJL has indicated it may treat such funding as a current liability.

¹⁵ This equation represents the 'Vanilla WACC', which excludes any implications of tax on the cost of capital.

3.2 Variation of WACC used in model

We have applied a pre-tax WACC to the MCE of PoJL each year. When calculating the allowable regulated returns, it is appropriate to consider the impact of tax on the entity's returns. The pre-tax WACC – reflecting the effective tax rate¹⁶ – is used to account for tax effects, and is calculated using the formula below:

$$WACC (pre - tax) = 1/(1 - t) * R_e * (1 - g) + R_d * g$$

Where t is the corporation tax rate.

3.3 Real vs Nominal WACC

The use of a real or nominal approach for the WACC is determined by the treatment of the asset base, as described in Section 2.2.3. We have adopted a nominal model and, consistent with this, a nominal WACC has been used to generate the allowed returns in the model.

3.4 PoJL WACC submission

PoJL has provided the Authority with an estimate of the appropriate WACC.¹⁷ Our understanding is that these estimates were developed for a separate business purpose,¹⁸ for which separate WACCs were calculated for each of the air and harbour operations. We have considered these estimates, and their constituent parts, in the context of developing the model inputs for the RAB-based financial model.

¹⁶ An effective tax rate of 20% has been assumed.

¹⁷ It should be noted that EY has not been supplied with an existing WACC estimate for PoJL in relation to the current price control.

¹⁸ Our understanding is this was produced by a third party in the context of financing investments.

3.5 Review of recent regulatory determinations

3.5.1 Recent UK decisions

We have reviewed recent regulatory precedent in respect of WACC determinations and decisions in other infrastructure industries. These are set out in table 2 below, alongside PoJL's proposed WACC:

Table 2: Recent regulatory decisions on the WACC and proposed PoJL view

	Recent UK regulatory decisions ¹⁹					PoJL proposed
	CAA (Heathrow)	Ofcom (Openreach)	Utility Reg (NI Water ²⁰)	Ofgem	CMA (Water)	(Harbour / Airport)
	Jun 22	Mar 21	Mar 21	Dec 20	Aug 20	Jul 23
Risk free rate, real	0.6%	-2.0%	-2.2%	-2.4%	-2.3%	1.8%
Equity risk premium, real	5.3%	7.9%	8.1%	7.2%	8.1%	5.9%
Total market return, real	5.9%	6.7%	5.9%	4.8%	5.9%	7.7%
Equity beta	0.95 – 1.47 ²¹	0.88	0.64	0.76	0.71	0.75 / 0.93
Gearing	60%	45%	50%	60%	60%	49.1% / 38.2%
Premiums (country/ company size)	0%	0%	0%	0%	0%	6.8%
Cost of debt (real)	0.4%	0.5%	1.0%	1.2%	2.8%	3.2%
RPI assumption	4.6%	3.0%	2.7%	2.8%	2.9%	2.4%
Post-tax WACC, nominal	7.7%	5.6%	4.6%	4.7%	5.5%	10.1% / 11.9%
Pre-tax WACC, nominal	8.6%	6.9%	5.0%	5.1%	6.4%	12.6% / 14.9%
Pre-tax WACC, real	4.0%	3.9%	2.3%	2.3%	3.5%	10.2% / 12.5%

Table 2 above shows PoJL's assessment of the WACC as being significantly higher than recent regulatory determinations, with the majority of the difference explained by the application of additional (i.e., country and firm size) risk premia. In addition, the real total market return assumed is also higher than other recent regulatory determinations.

3.5.2 Jersey-specific determinations

In addition to reviewing recent regulatory decisions in the UK, we have reviewed the WACC set by the Authority for Jersey Telecom (JT) in its price review of wholesale broadband access services in Jersey in 2021.²² The analysis was carried out on a WACC submitted by JT and arrived at a pre-tax nominal WACC of 8.7%. It drew on a variety of sources for evidence, including the previous price control review of JT and UK regulatory precedent.

As part of its WACC proposal, JT proposed a small company risk premium, suggesting a range between 0.9% and 2.25%. However, in its review the Authority considered there to be limited supporting academic evidence relating to the adoption of a small company premium and, as such, a risk premium in the range of 0%-0.9% was allowed. Specifically, the Authority determined the bottom of its range by citing recent decisions by Ofwat to exclude any small company premiums. No other risk premium was proposed by JT.

¹⁹ [UKRN Cost of Capital – Annual Update Report July 2023.](#)

²⁰ Northern Ireland Water.

²¹ The average of the given range has been used to calculate the cost of equity.

²² [Price control for wholesale broadband services in Jersey \(icra.je\).](#)

3.5.3 Consideration of risk premia

The treatment of risk premia is of particular relevance to PoJL's proposed WACC, and this is discussed below. The risk premium put forward by PoJL consists of three elements:

Company-specific risk premium

- A company-specific risk premium (CSRP) is the additional return required by investors to bear the risk of investing in a given company. The CSRP reflects the market position of the company, the extent of competition it faces, as well as its financial performance in comparison to comparable firms through liquidity and profitability metrics.
- PoJL Proposal for CSRP: 1.0%.

Firm size risk premium

- Smaller companies (in terms of, for example, revenue and assets) may pose higher risks in the form of limited access to capital and liquidity constraints, requiring investors to demand an additional premium.
- The nature of operations should also be considered when assessing firm size risk premiums. Cash flows from infrastructure assets are typically recurring and predictable with high levels of liquidity irrespective of the size of the asset. Accordingly, we have found that typically such assets do not command firm size premia.
- PoJL proposal for firm size risk premium: 4.8%.

Country risk premium

- Country risk premium (CRP) is the additional return demanded by investors to compensate for the higher risk associated with investing in a particular country, for example in terms of political instability, economic risks, currency fluctuations and adverse government regulations.
- PoJL proposal for CRP: 1.0%.

PoJL risk premia

The application of the risk premia proposed by PoJL with respect to regulatory reviews is uncommon, and we note that, for infrastructure companies, firm size premia are not typically used for valuation purposes.

The Authority's decision on JT's WACC is consistent with this view, with no additional premia for country or company-specific risk. Consistent with the evidence presented, we have adjusted the WACC by removing specific risk premia; this results in a WACC more consistent with regulatory precedent.

The impact of removing these risk premia is set out in the table below.

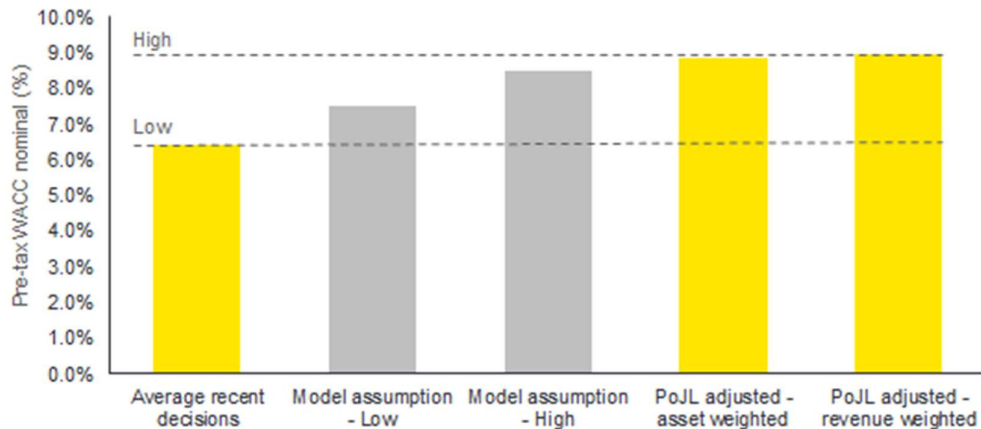
Table 3: Adjusted WACC comparison

	Recent regulatory decisions					PoJL adjusted
	CAA (Heathrow)	Ofcom (Openreach)	Utility Reg (NI Water)	Ofgem	CMA (Water)	(Harbour / Airport)
Risk free rate, real	0.6%	-2.0%	-2.2%	-2.4%	-2.3%	1.8%
Equity risk premium, real	5.3%	7.9%	8.1%	7.2%	8.1%	5.9%
Total market return, real	5.9%	6.7%	5.9%	4.8%	5.9%	7.7%
Equity beta	0.95 – 1.47	0.88	0.64	0.76	0.71	0.75 / 0.93
Gearing	60%	45%	50%	60%	60%	49.1% / 38.2%
Cost of debt (real)	0.4%	0.5%	1.0%	1.2%	2.8%	3.2%
Pre-tax WACC, nominal	8.6%	6.9%	5.0%	5.1%	6.4%	8.2% / 9.6%
RPI assumption	4.6%	3.0%	2.7%	2.8%	2.9%	2.4%
Pre-tax WACC, real	4.0%	3.9%	2.3%	2.3%	3.5%	5.8% / 7.2%

On this basis, the nominal pre-tax WACC based on PoJL’s analysis reduces from 12.6% to 8.2% for the harbour and from 14.9% to 9.6% for the airport.

In determining the WACC value for modelling purposes we have considered the recent regulatory decisions together with the adjusted PoJL figures in Table 3. The average of the pre-tax nominal WACC assumptions from recent regulatory decisions produces a value of 6.4%. Weighting the PoJL adjusted WACC for the harbour and the airport on both an asset value and revenue basis, results in values of 8.9% and 9.0% respectively. Figure 4 sets out these values, showing the high and low parameters together with the assumed model range. We have assumed a WACC in the range of 7.5% and 8.5% for our model with the midpoint, 8%, used as a base model assumption.

Figure 4: WACC levels to inform modelling



In line with our nominal RAB approach, we assume a single nominal pre-tax WACC to be applied across the combined PoJL RAB in the range of 7.5 – 8.5%, with a base assumption for modelling purposes of 8%.

4. Achievable levels of efficiency

Price controls seek to mimic competitive outcomes and aim to set prices reflective of efficiently-incurred costs. This requires an estimation of – the extent to which the business can deliver – efficiency gains over time and is typically represented as the X-factor in the RPI-X framework.

4.1 Operating cost efficiency

As part of our review, we have considered reasonable efficiency improvements to operating costs based on:

- A review of the observed reduction in PoJL's unit operating costs over time; and
- Regulatory precedent in respect of efficiency adjustments.

These are discussed further in the following sub-sections.

4.1.1 Unit operating costs observed in the PoJL SBP

We have carried out a high-level assessment of both historical and future unit operating costs implied in PoJL's SBP. Performing a more detailed efficiency analysis requires an in-depth assessment of operating costs and the allocation of these to appropriate segments of the operations. In this case, however, a broad approximation of efficiency is considered by calculating a cost per passenger at both the air and sea port level. Changes in cost per passenger (i.e., unit costs) over time are used as a basis for considering efficiency gains; a ratio adjusts for the impact of service volumes on total costs.

As a result of a significant reduction in passenger volumes coupled with continuing fixed costs, we note a significant (e.g., 340%) increase in the airport operating cost per passenger during the pandemic years. Adjusting for this impact (see Section 2.2.8 above), PoJL's SBP suggests, from 2024 onwards, annual unit operating cost reductions of 2.8% for the airport, and 1.7% for the sea port.²³

We have taken account of the different sea port operations and how costs are driven by various types of operations across the harbour and marina. The main operations are ferry passengers (foot passengers and vehicle), freight and charter services involving numerous different businesses with individual contracts and constraints. Whilst a useful indicator, the multiple sea port operations suggests that any analysis of cost per passenger should be treated with a degree of caution.

²³ Although a helpful indicator, these figures may reflect unit cost changes resulting from economies of scale or scope and therefore overstate genuine efficiency improvements.

4.1.2 Regulatory precedent on efficiency assumptions

In order to inform our assessment of achievable efficiency improvements when forecasting PoJL's operating expenditure, we have conducted a review of recent efficiency assumptions adopted by regulators across the UK. The table below sets out our findings from the review:

Table 4: Recent regulatory decisions on efficiency assumptions²⁴

Entity	Regulator	Review (year)	Efficiency assumption
Heathrow airport	CAA	H7 (2022) ²⁵	1.0% per annum
Gatwick airport	CAA	Gatwick economic regulations ²⁶	1.2% per annum
DNOs ²⁷	Ofgem	RIIO-ED2 (2022) ²⁸	1.0% per annum
Various	Ofwat	PR19 (2019) ²⁹	1.1% per annum

The table above suggests that regulators have tended to adopt an efficiency improvement assumption of 1.0% – 1.2% per annum.

Taking into consideration the variety of sources, including regulatory precedent and the implied levels of efficiency in PoJL own plans, we have adopted for modelling purposes an annual efficiency improvement of 1%.

Based on the evidence above, we assume a level of efficiency of 0.5% to 1.5% per annum. For modelling purposes, the midpoint (1%) is used as a base assumption.

4.2 Capital cost efficiency

The Master Plan programmes have been established following a competitive tender process and as such, we have assumed these plans already reflect a level of efficient expenditure in relation to investment. Further, it is our understanding that the PoJL SBP, which includes all the capital investment spend projections, has received initial approval by the Jersey Government.

No further efficiency adjustments have been made relating to capital expenditure in the model. We do, however, consider through sensitivity analysis the appropriate timing and treatment of the forecasts of capital expenditure. This is covered in Section 5.3.

Asset volume elasticities (AVEs) are commonly used in regulatory models to reflect the relationship between capital costs and volumes in the presence of significant fixed costs. We do not consider it appropriate to apply AVEs in this context, as the forecasted capital expenditure has been based on expenditure projections in PoJL's SBP, which implicitly assume the impact of AVEs.

²⁴ Ofgem and Ofwat apply the efficiency assumption to total expenditure, while the CAA does so to operating expenditure only.

²⁵ [Review of H7 Opex and Commercial Revenues: Final Assessment and Forecasts \(Opex\) \(caa.co.uk\)](#).

²⁶ [CAP 1102 - Economic regulation at Gatwick from April 2014 : Final Proposals \(caa.co.uk\)](#).

²⁷ DNOs are the Distribution Network Operators, companies licenced to distribute electricity in the UK.

²⁸ [RIIO-ED2 Final Determinations Overview document.pdf](#).

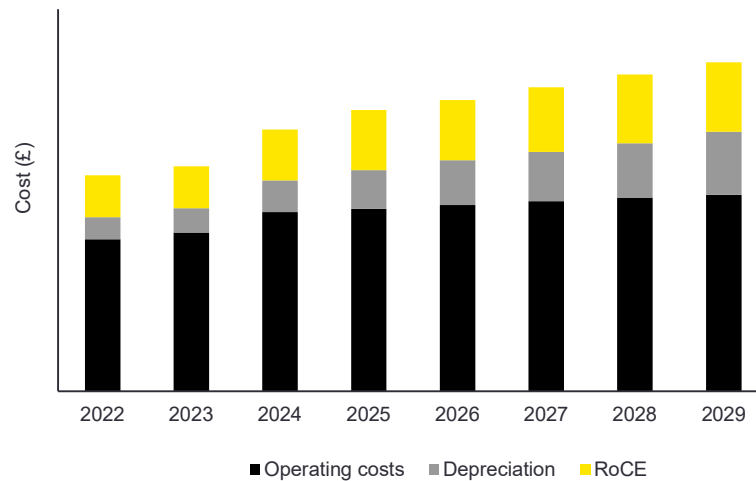
²⁹ [PR19-final-determinations-Securing-cost-efficiency-technical-appendix.pdf \(ofwat.gov.uk\)](#).

5. Outputs from the modelling exercise

5.1 Forecast cost profiles

The three major components that contribute to PoJL's allowable costs are operating expenditure, depreciation and Return on Capital Employed (RoCE). In forecasting these costs, the capital expenditure is assumed to equal the planned investment levels in PoJL's SBP (the 'SBP Investment Case'). The chart below shows the composition of PoJL's modelled costs under this scenario.

Figure 5: Cost forecasts and breakdown (nominal)



Operating costs increase at 3.7% Compound Annual Growth Rate (CAGR) between 2022 and 2029, whereas the RoCE grows at 7.4% CAGR and depreciation grows at 16.2% CAGR. This is consistent with the significant planned investments in the air and sea port Master Plans.

5.2 Revenue forecast

PoJL's income is generated from a combination of regulated and non-regulated services. Regulated service income contributed to c.60% of total income in 2022, with over 80% of regulated income generated from the dues relating to its airport and sea port operations. PoJL's non-regulated income consists of commercial income, property income and grants. For the purposes of our analysis, and to allow for differing pricing treatment, non-regulated revenue items have been categorised as either 'Commercial' or 'Other'. Commercial revenue includes hire car and parking income, and Other revenue includes property income and events. The individual revenue items in the model have been listed in Appendix A1.

Our model calculates the required pricing paths for both Regulated and Commercial services over the price control period. Other service prices have been forecast to increase by RPI through to the end of 2029. Any grants have been forecast in line with information provided by PoJL. This is consistent with the pricing approach adopted by PoJL in its SBP.

In addition to the income lines above, PoJL has a range of commercial projects that have recently launched or that will be established during the future price control period. These include enhanced duty-free services, advertising and premium security. We have assumed prices increase in line with RPI for these commercial projects.³⁰

³⁰ POJL's SBP includes 'Management Adjustments' which reduce the commercial revenues forecasted towards the end of the regulatory control period. These adjustments reduce both forecasted commercial revenues (by 35%) and forecasted returns (by 30%) in 2029. These adjustments have been excluded from the analysis.

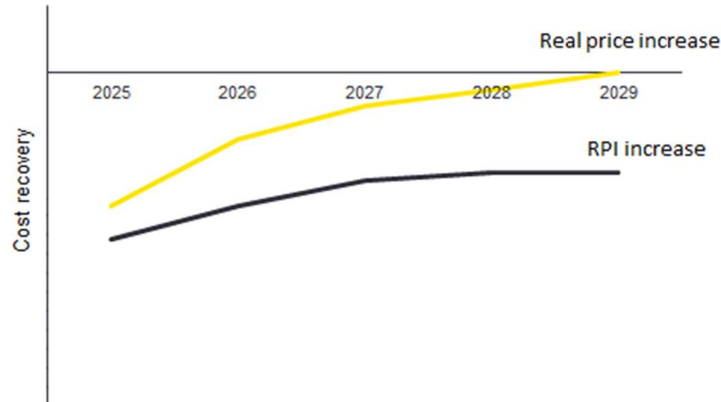
5.3 Price control scenarios

The SBP Investment Case has been used as a scenario to model price paths to deliver forecast cost recovery. This scenario suggests that increasing prices in line with RPI would not enable PoJL to recover its allowable costs over the price control period, and that it would also be under-recovering against its allowable costs at the end of the period (2029). To specify a glide path to cost recovery (including a reasonable return) by the end of the price control period (2029) requires prices to increase in real terms, per annum.

Such an approach would yield price increases in a smooth and predictable manner and avoid significant shocks to the market through steep (or one-off) price increases. It would also preclude forecast over-recovery during and at the end of the price control period. Further, adopting a glide path approach to the price control, enabling cost recovery toward the end of the period, also provides a reasonable basis for all subsequent price control periods).

The end of period recovery pricing scenario is illustrated alongside annual price increases equal to RPI in the chart below:

Figure 6: Illustrative paths of cost recovery, SBP Investment Case



The above scenario assumes PoJL will deliver the capital investment plans consistent with the SBP. However, the capital investment plans in PoJL’s SBP are significant. Over the price control period, PoJL’s SBP assumes total capital expenditure of £275m, against an existing asset base of £160m in 2022, with the projected Master Plan capital expenditure being over £160m during the price control period. It is our understanding that, while formal government approval for the SBP is expected, the Master Plan programmes also require planning – and related – permissions.

Considering the potential risk associated with the Master Plans, the level of investment spend throughout the price control period remains uncertain. To account for this uncertainty, we have examined a number of scenarios in relation to the projected capital expenditure in the SBP.

1. **Assets In the Course of Construction (AICC) adjustment** – The scale of the investment associated with the Master Plan programmes is likely to lead to material levels of AICC during the price control period. These assets, which have yet to be registered or utilised, are appropriately excluded from the RAB. This scenario assumes the proportion of AICC to total fixed assets remains constant at 2022 levels.³¹ As the value of fixed assets increase significantly over the price control period, the assumed AICC increases, thus reducing the RAB compared with the SBP Investment Case scenario.

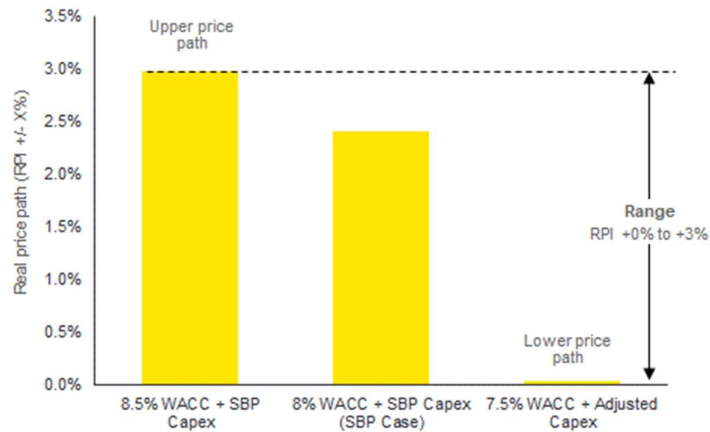
³¹ AICC as a proportion of total fixed assets in 2022 was 11.5%.

2. **Harbour landside exclusion** – The landside element of the HMP appears most uncertain in terms of realisation within the price control period, given the majority of the spend is planned for 2029. This scenario removes the projected spend associated with the landside programme.
3. **AICC adjustment + Harbour landside exclusion** – This scenario models the combined effect of scenarios (1) and (2).

We have therefore evaluated the effect on the potential price control in each of our capital scenarios together with sensitivities on the WACC to create an upper and lower real price path range.

The following chart illustrates the range of real price changes required to enable PoJL to fully recover its costs by the end of the price control period. The outputs on the left and right represent the upper and lower price paths against the SBP Investment Case. The upper price path models the SBP Investment Case together with an 8.5% WACC. The lower price path is the output of the capital expenditure Scenario 3 above and applying a 7.5% WACC. This results in a range of outcomes from RPI to RPI +3% based on the assumptions made.

Figure 7: Range of pricing remedies – RPI +/- X%



Appendix A Service list and sources

A1. List of services

Table 5: Airport revenue lines

Revenue line	Service group	Model category	Single till price assumption
Pax due	Airport	Regulated	RPI +/-X%
Pax security due	Airport	Regulated	RPI +/-X%
Aircraft Charges	Airport	Regulated	RPI +/-X%
Air Freight Dues	Airport	Regulated	RPI +/-X%
Extension Charges	Airport	Regulated	RPI +/-X%
Fixed Electrical Ground Power (FEGP)	Airport	Regulated	RPI +/-X%
Fuel Concessions	Airport	Other	RPI
Ground Handling	Airport	Other	RPI
Terminal Concessions	Airport	Other	RPI
Hire Car Concessions	Airport	Commercial	RPI +/-X%
Advertising Income	Airport	Commercial	RPI +/-X%
Airport Parking	Airport	Commercial	RPI +/-X%
CICA	Airport	Grants	PoJL SBP
Property Rentals	Airport	Other	RPI
Licence Income	Airport	Other	RPI
Electricity Recharges	Airport	Other	RPI
Air show	Airport	Other	RPI
Airport Other	Airport	Commercial	RPI +/-X%

Table 6: Harbour revenue lines

Revenue line	Service group	Model category	Single till price assumption
Harbour Pax Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Vehicle Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Harbour Freight Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
T.Car Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Fuel Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Crane Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Ramp & Link Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Pilotage	Sea Port (Harbour)	Regulated	RPI +/-X%
Ship Dues	Sea Port (Harbour)	Regulated	RPI +/-X%
Charter Income	Sea Port (Harbour)	Other	RPI
Port Towage (sale of services)	Sea Port (Harbour)	Regulated	RPI +/-X%
Terminal Concessions	Sea Port (Harbour)	Other	RPI
Parking	Sea Port (Harbour)	Other	RPI
Fuel Concessions	Sea Port (Harbour)	Other	RPI
Ground Handling	Sea Port (Harbour)	Other	RPI
Misc Income	Sea Port (Harbour)	Other	RPI
Property Rentals	Sea Port (Harbour)	Other	RPI
Licence Income	Sea Port (Harbour)	Other	RPI
Electricity Recharges	Sea Port (Harbour)	Other	RPI
Registrations	Sea Port (Harbour)	Other	RPI
Boat show	Sea Port (Harbour)	Other	RPI
Harbour other	Sea Port (Harbour)	Other	RPI

Table 7: Marina revenue lines

Revenue line	Service group	Model category	Single till price assumption
Marina Contracts	Sea Port (Marina)	Regulated	RPI +/-X%
Marina Visitors	Sea Port (Marina)	Regulated	RPI +/-X%
Boat Park Income (Including Hoist)	Sea Port (Marina)	Regulated	RPI +/-X%
Parking Income	Sea Port (Marina)	Commercial	RPI +/-X%
Marina Electricity Recharges	Sea Port (Marina)	Commercial	RPI +/-X%
Marina Property Rentals	Sea Port (Marina)	Other	RPI
Marina Licence Income	Sea Port (Marina)	Other	RPI
Marina Other	Sea Port (Marina)	Other	RPI

Table 8: Other revenue lines

Revenue line	Service group	Model category	Single till price assumption
Outlying harbours	Other	Regulated	RPI +/-X%
Property Rentals	Other	Commercial	RPI +/-X%
Licence Income	Other	Commercial	RPI +/-X%
Corporate Income (Airport Apportioned)	Other	Other	RPI
Corporate Income (Harbour Apportioned)	Other	Other	RPI
Corporate Income (Charter Apportioned)	Other	Other	RPI
Corporate Income (Marinas Apportioned)	Other	Other	RPI
Corporate Income (CG+HH Apportioned)	Other	Other	RPI

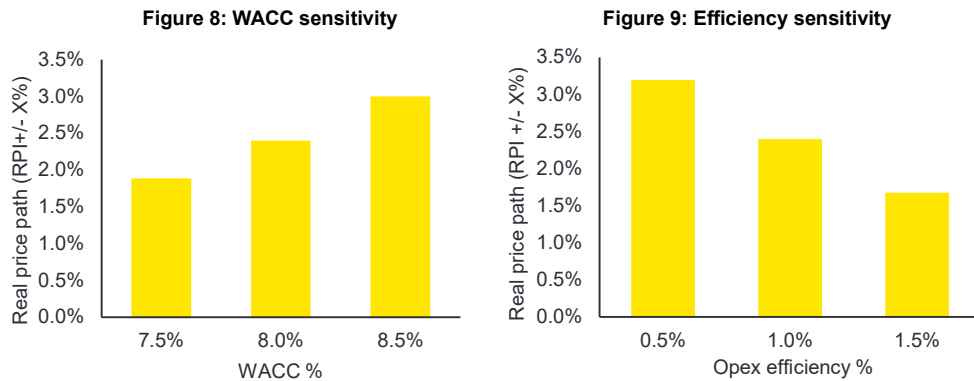
A2. Documents received

1. Regulatory Review of Air and Sea Port Operations – Authority’s Non-Statutory Call for Information (February 2023).
2. Ports of Jersey’s response to the Authority’s Regulatory Review of Air and Sea Port Operations – Non-Statutory Call for Information.
3. Port Operations – Price Regulated Services Consultation Document.
4. Ports of Jersey Pricing Framework – Final Decision (2020-2024).
5. PoJL’s Pricing Submission for 2020-2024.
6. PoJL Strategic Business Plan (2024-2028).
7. PoJL Harbour Master Plan Model.
8. WACC Review (PoJL’s Independent WACC build-up).
9. Elizabeth Harbour Redevelopment Planning Statement.
10. HMP Business Case_ The Strategic Case.
11. Harbour Master Plan Review by MDS Transmodal.
12. PoJL 2022 Fixed Asset Register download.
13. PoJL Investment property schedule.

A3. Sensitivity of key input assumptions

We have modelled the impact on outputs with sensitivities in respect of the WACC and efficiency assumptions. In performing this sensitivity analysis, we have set out the impact on the required real price changes for full recovery at the end of the period relative to the SBP Investment case scenario.

The central scenario assumes a WACC of 8%, and for the sensitivity analysis we have modelled the impact of using a WACC of 7.5%, 8% and 8.5%. The central scenario assumes 1% per annum efficiency improvement in respect of operating costs, and the sensitivity analysis models the impact of assuming PoJL could achieve 0.5% or 1.5% annual efficiency gains. The charts below set out the required real price paths for each of these cases.



Increasing (or decreasing) the WACC by 0.5% increases (or decreases) the real price path by c.0.5% over the price control period; increasing (or decreasing) the annual efficiency gain by 0.5% reduces (or increases) the real price path by c.0.7% over the course of the price control period.³²

³² For simplicity, we have conducted the analysis on an undiscounted basis.