AirNav Ireland Operating Expenditure: Bottom-up Efficiency Assessment

Irish Aviation Authority

FINAL REPORT

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EXECUTIVE SUMMARY

Scope of work

CEPA has been commissioned by the Irish Aviation Authority (IAA) to assess, on a bottom-up basis, the efficiency of AirNav Ireland's operating expenditure (opex).

This study provides an independent forecast of the efficient level of opex at AirNav Ireland over Reference Period 4 (RP4), which covers the period 1st January 2025 to 31st December 2029. This study will inform IAA in setting AirNav Ireland's opex allowance, which is one of the building blocks for setting the cost efficiency target.

The forecasts in this report have been developed on a 'bottom-up' basis, where AirNav Ireland's opex is taken at its most granular level, assessed for efficiency and projected forward. This means independently assessing individual areas of cost (e.g. staffing of air traffic controllers, power costs, etc.), to determine the efficient level of these costs in 2023, our base year, and then projecting those efficient costs forward over the RP4 period. The projections are linked to volume drivers (mostly traffic growth) and/or an assessment of step-changes in cost, such as increases in input cost prices beyond inflation, changes in operational efficiency due to capital investment, and improvements in service quality that require additional opex.

Although the analysis is undertaken at a granular level, its ultimate use is to inform the overall level of opex required by AirNav Ireland. As such the line by line analysis reported here does not result in granular cost targets. It is AirNav Ireland's role to determine how best to deploy the opex allowance.

In each of the report sections that follow, we set out stakeholder comments on our draft forecasts and discuss our consideration of the issues raised before presenting final forecasts. A summary of our final forecasts is provided below:

Staff

Staff costs, including pensions, accounted for over two-thirds of AirNav Ireland's opex in 2023, and nearly two-thirds of these staff costs related to the payroll of air traffic control officers (ATCOs).

Our final headcount forecast is presented in the table below. Over the RP4 period, our forecast of headcount is approximately 2% lower than AirNav Ireland's.

Table E.1: CEPA estimates of efficient headcount, 2025-2029

Staffing Group	2025	2026	2027	2028	2029
Operational ATCOs	280	296	301	314	317
Station Managers	31	31	31	31	31
ATM Specialists	16	16	16	16	16
Corporate Services	65	66	66	66	66
Data Assistant	48	48	48	48	48
FMP/AMC*	5	10	10	10	10
Engineer	116	117	117	118	119
Operations Management Support	77	79	82	83	83
Total CEPA forecast	636	661	670	686	690
AirNav Ireland business plan	638	672	687	699	710

Source: CEPA analysis of AirNav Ireland data

In Table E.2, we show our estimates of efficient payroll costs compared to AirNav Ireland's business plan. Over RP4, our forecast of total payroll costs is approximately 3% lower than AirNav Ireland's.

Table E.2: CEPA and AirNav Ireland forecast payroll costs, 2025-2029 (€ million, 2022 prices)

	2025	2026	2027	2028	2029	RP4 Total
Base payroll	72.3	75.9	77.3	79.2	80.1	**384.9**
Overtime	3.3	1.7	1.8	1.9	2.0	**10.7**
Pension	13.6	13.9	13.9	13.9	13.9	**69.2**
Total CEPA payroll forecast	89.2	91.5	93.0	95.1	96.0	**464.8**
AirNav Ireland business plan	**88.9**	**93.5**	**95.6**	**99.0**	**101.3**	**478.3**

Source: CEPA analysis of AirNav Ireland data

Non-staff

Non-staff operating expenses include costs related to training, travel, operations, administration, utilities, telecommunications and subscriptions. We disaggregated non-staff opex into 24 cost categories and for each category assessed efficient baseline expenditure for 2023 through benchmarking, expert judgement, or other quantitative methods. We then projected these cost categories forward through RP4 using volume drivers including traffic, capex, and staff headcount.

Table E.3 presents our forecast efficient expenditure on non-staff opex compared to AirNav Ireland's business plan. Over RP4, our forecast is approximately 8% lower than AirNav Ireland's proposals.

Table E.3: Forecast non-staff costs, 2025-2029 (€ million, 2022 prices)

	2025	2026	2027	2028	2029	RP4 Total
Total CEPA non-staff forecast	41.8	45.7	43.6	44.7	46.5	**222.4**
AirNav Ireland business plan	46.2	49.4	48.0	48.1	50.8	**242.5**

Source: CEPA analysis of AirNav Ireland data

Total operating expenditure

Table E.4 summarises our assessment of total operating expenditure, which is approximately 5% lower than AirNav Ireland's business plan over RP4. Operating expenditure is forecast to increase by approximately 9% over RP4, which is slightly more than the 8% increase in IFR movements over the same period. The elasticity greater than 1 is driven by step changes in opex related to large capital projects such as TopSky ATC One and our assessment of ATCO under-resourcing at the start of RP4.

Table E.4: Forecast operating expenditure, 2025-2029 (€ million, 2022 prices)

	2025	2026	2027	2028	2029	RP4 Total
CEPA opex forecast	131.1	137.3	136.7	139.8	142.5	**687.2**
AirNav Ireland business plan	135.2	142.9	143.6	147.1	152.1	**720.9**

Source: CEPA analysis of AirNav Ireland data

1. INTRODUCTION AND CONTEXT

CEPA has been commissioned by the Irish Aviation Authority (IAA) to assess, on a bottom-up basis, the efficiency of AirNav Ireland's operating expenditure (opex). The IAA is responsible for developing and submitting a Performance Plan, which includes performance targets for AirNav Ireland. The performance targets are set in the four Key Performance Areas of safety, capacity, environment and cost efficiency.

Our draft report, published in July 2024, provided an independent forecast of the efficient level of opex at AirNav Ireland over the period 2025 to 2029, which was used by the IAA to set AirNav Ireland's cost efficiency target for Reference Period 4 (RP4) Performance Plan.

In our bottom-up assessment, we analysed the efficiency of different categories of expenditure at AirNav Ireland, taking into account the impact of its capital plan as well as the IAA's draft performance targets in relation to safety, capacity, and environment. We assessed costs separately for each operational area (e.g., staffing of air traffic control, power costs, etc.), and determined an efficient level of cost using a combination of quantitative methods, expert judgement, and benchmarking. The projections were linked to volume drivers (mostly traffic growth) and/or an assessment of step-changes in cost, such as movements in the prices of inputs beyond general inflation, changes in operational efficiency due to capital investment, and improvements in service quality that require additional opex.

Since the publication of the Draft Decision on RP4 Performance Plan, IAA has received a number of submissions commenting on their proposals, and our report, from the following stakeholders:

- AirNav Ireland
- The AirNav Ireland staff panel
- IAG
- Aer Lingus
- Ryanair
- Met Éireann

This report details our review of these submissions where they make reference to our opex forecasts. We summarise the comments made during the consultation process for each opex category, then assess whether these comments warrant a change to our forecasting approach. Where they do, we outline the rationale for this change and present the effect of this change on our forecasts. If our assessment of a comment indicates that no change to our forecasting approach is required, we also provide a rationale for maintaining our position. Ultimately, this report provides a revised set of opex forecasts in support of IAA's final cost efficiency target for AirNav Ireland.

The remainder of this report is structured as follows:

- In Section 2, we present the results of our top-down benchmarking of AirNav Ireland's historic opex.

- In Section 3 we present our overall forecast of staffing levels.

- In Section 4 we present our overall payroll forecasts including pension costs.

- In Section 5 we present our overall forecast of non-staff operating expenditure.

- In Section 6 we present our conclusions and overall operating expenditure forecast.

Note: Minor discrepancies within report tables or between this report and our draft report are due to rounding.

2. AIRNAV IRELAND'S OVERALL OPEX

In this section, we provide context for AirNav Ireland's cost base. We also present top-down benchmarking of its' historical opex relative to peer ANSPs, and an analysis of trends in AirNav Ireland's opex.

As shown in

Figure 2.1 below, AirNav Ireland's opex in 2023 totalled €102 million in 2022 prices. Approximately two-thirds of this expenditure relates to staff costs, of which ATCOs form the single largest component at €43 million. A breakdown of the cost categories that we have assessed is provided in figure 2.1 below.

Figure 2.1: Breakdown of 2023 opex at AirNav Ireland (€ million, 2022 prices)
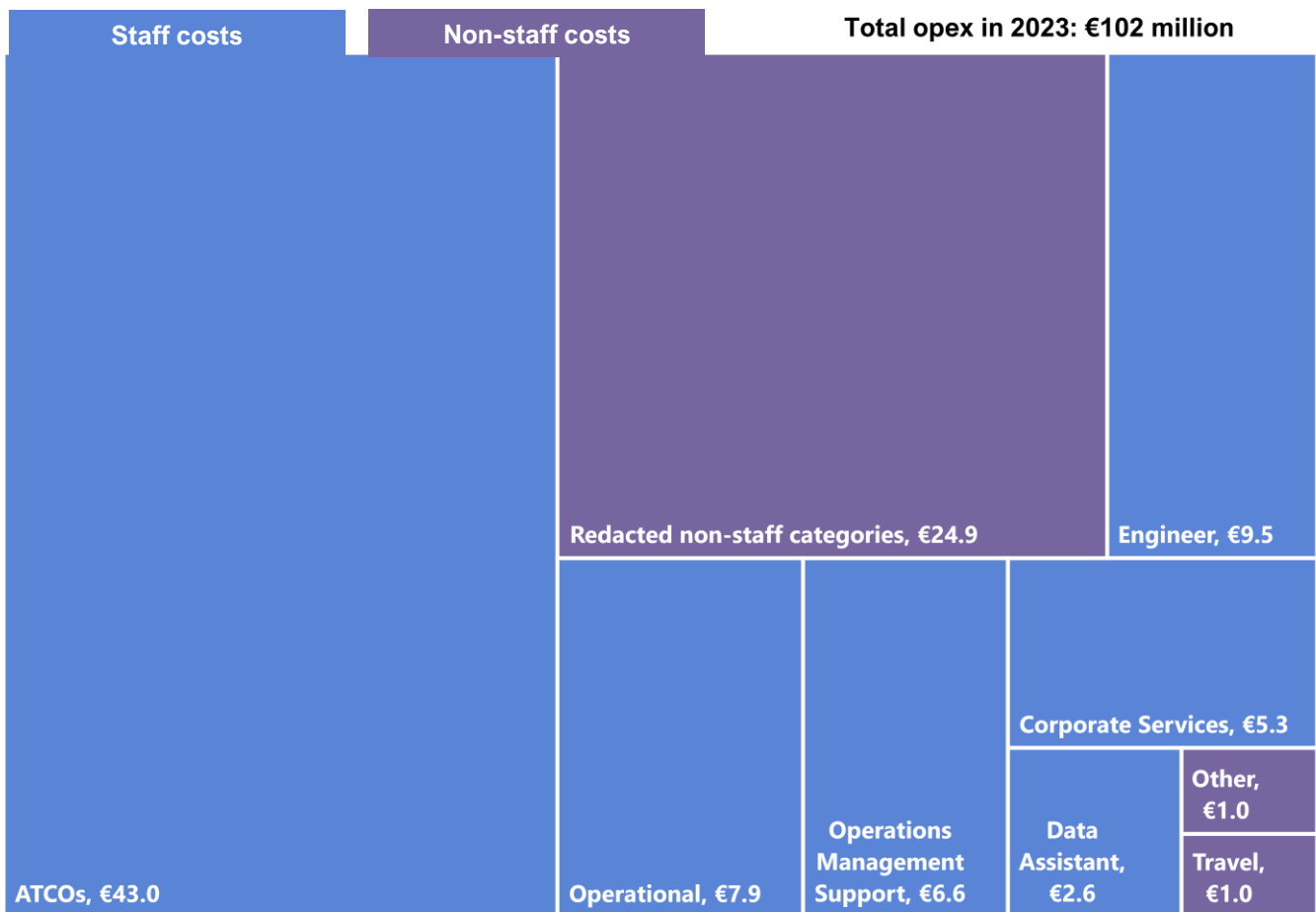
Source: AirNav Ireland

Through top-down benchmarking of Eurocontrol and ANSP data, we find that AirNav Ireland's overall opex has historically been in line with or below its peers, after normalising for differences in traffic and price levels between countries. We also note that AirNav Ireland's opex in 2023, was lower than at any point in our sample period once inflation and traffic levels have been accounted for. AirNav Ireland's performance in terms of en-route air traffic flow management delays, one of the key performance indicators in the SES Performance Plan, shows a sharp increase in delays in 2023, to levels significantly higher than historic levels. While AirNav Ireland's delay performance is still significantly better than most of its peers, the deterioration combined with lower expenditure levels tend to suggest that its 2023 operation was under resourced. However, this does mask differences between staff costs and non-staff costs that we investigate further through our bottom-up analysis. **Our analysis also indicates that AirNav Ireland's 2023 operation may have been under resourced, which again we investigate further in subsequent sections.**

3. FORECAST OF STAFFING LEVELS

In this section, we present stakeholder comments on our draft forecasts of staffing levels for each staff category and discuss our considerations of the issues raised before presenting our final forecasts. Comments were focused on the headcount forecast of Air Traffic Control Officers (ATCOs), Engineers and Corporate Services staff.

3.1. ATCOs

3.1.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of ATCO staffing levels in 2023 to estimate an efficient base year headcount. For ATCO roles where resourcing requirements are primarily driven by traffic volumes (i.e. roles at the two area control centres), we projected our estimate of efficient base year headcount using forecasts of traffic growth, estimates of productivity improvements from capex initiatives, and estimates of how quickly AirNav Ireland could recruit new ATCOs. For other roles, such as operational ATCOs at Shannon and Cork towers, we applied step-changes to the forecasts with reference to proposals within AirNav Ireland's Business Plan, assessing any proposed step increases against a three-part need, additionality and efficiency test.

In our draft report we agreed with AirNav Ireland's view that its 2023 operation was under resourced. We found that ATCO staffing levels in 2023 were at a level that was likely suboptimal in ensuring operational resilience. However, our draft forecast of efficient headcount for the later years of RP4 was lower than AirNav Ireland's forecast. This was primarily because we concluded that AirNav Ireland's forecast did not fully account for improvements in ATCO productivity following investment in its air traffic management (ATM) systems.

The table below compares our draft forecast with AirNav Ireland's Business Plan forecasts.

Table 3.1: Comparison of CEPA draft forecasts of ATCO staffing levels with AirNav Ireland's Business Plan forecasts

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	328	340	352	363	374
CEPA Draft Forecast	326	337	342	354	353
Difference	-2	-3	-10	-9	-21

Source: CEPA Draft Report

3.1.2. Stakeholder responses to the RP4 Draft Decision consultation

In its response to IAA's Draft Decision, AirNav Ireland criticised our methodology for estimating efficient ATCO levels for the two Area Control Centres (ACCs), suggesting that it is theoretical and based almost exclusively around traffic movements. AirNav Ireland proposed that we take the same approach we took when producing an efficient forecast for other roles; by assessing the efficiency of AirNav Ireland's own proposed step-changes within its business plan.

AirNav Ireland also raised three specific points in relation to our forecast of efficient ATCO headcount:

- **Use of service units instead of instrument flight rule (IFR) movements as the proxy for traffic growth.** AirNav Ireland disagrees with our use of service units as a proxy for traffic growth and argue that IFR movements provide a more appropriate approximation.

- **Assumed productivity improvements related to CP1 compliance and TopSky ATC One capex projects.** AirNav Ireland suggests that the TopSky ATC One project will not deliver any efficiencies within RP4 as the system will only be commissioned in the final year of the period, and it will take time for the system and associated operational processes to mature enough sufficiently to deliver productivity improvements. Similarly, for the CP1 compliance projects, AirNav Ireland states that it does not expect productivity improvements to exceed ✂✂✂.

- **Accounting for step-changes.** AirNav Ireland argued that our approach did not take sufficient account of the step-changes proposed within its business plan. The step-changes can be grouped into the following categories:

  - changes in statutory leave requirements and general work-life balance improvements to improve recruitment and retention;
  - overtime reduction, roster resilience, and fatigue management;
  - an additional departure ATCO position to help facilitate parallel runway operations at Dublin Airport; and
  - additional time for non-operational activities including ATCO instructor time for the new TopSky ATC One system, as well as dedicated roles for ATM Occurrence Investigation and Operational Support Group staffing.

Three other stakeholders responded specifically in relation to our forecast of ATCO headcount:

- IAG stated that while it accepts the need for an increase in ATCOs, it nevertheless expects to see efficiencies in the use of these ATCOs and expects overtime costs to become negligible.

- Similarly, Ryanair and Aer Lingus stated that while both support additional ATCO staffing to close the resourcing gap and ensure resilience, the increased headcount should be proportionate so as not to compromise productivity levels.

- The AirNav Ireland staff panel echoed the comments made by AirNav Ireland in relation to statutory leave entitlements, fatigue management and efficiencies related to the introduction of TopSky ATC One. In relation to statutory leave entitlements, the staff panel highlighted three statutory leave entitlements specific to parents:

  - **Paternity and maternity leave** of 2 weeks of leave following the birth or adoption of a child.
  - **Parent's leave** of 9 weeks (recently increased from 7 weeks) to be taken in the first two years following the birth or adoption of a child.
  - **Parental leave** of up to 26 weeks in the first 12 years of a child's life.

- While an employer has a right to postpone parent's leave and parental leave under certain limited circumstances, it may not deny such leave. ✕✕✕.

- Separately, the staff panel response highlighted that Eurocontrol guidelines on fatigue management provide values that are in some cases more stringent than that used by AirNav Ireland, which may in turn require the AirNav Ireland to bring its values in line with the Eurocontrol guidelines. These factors, it argues, will serve to increase the ATCO requirement over RP4.

3.1.3. Our response to stakeholder views

Our overall methodology

Our approach to forecasting efficient staffing levels within the two ACCs uses a different methodology than that used by AirNav Ireland, but we disagree with the implication that this makes our methodology less valid for the purposes of setting an overall cost-efficiency target for RP4. We have used a different methodology, so we can estimate an efficient ATCO staffing requirement *independently* of AirNav Ireland's Business Plan and compare the estimates.

Beyond the three specific points raised, which relate to specific assumptions and which we address below, AirNav Ireland has not identified any specific deficiencies in the approach we have taken that result in a headcount forecast that is biased downwards. As such, we do not consider that AirNav Ireland's representations provide a compelling argument for changing our overall approach.

![CEPA economics matters logo]

Use of service units instead of IFR movements as proxy for traffic growth

The STATFOR forecast produces forecasts of en-route service units, terminal service units and IFR movements. Service units are calculated as a function of distance flown and maximum take-off weight while IFR movements are based on the number of flights that fly through a country's airspace, either as overflights or originating/terminating at one of the country's airports.

Both service units and IFR movements are imperfect proxies for traffic growth in the context of ATCO workload, as the former includes maximum take-off weight which is unrelated to ATCO workload, while the latter does not account for distance flown within a country's airspace, which is a driver of ATCO workload. Neither reflects the complexity of the controller task; another driver of workload. IFR movements do not distinguish between en-route movements and terminal movements, with the former being a more direct driver of ATCO workload for the ACCs.

Nevertheless, we accept AirNav Ireland's argument that IFR movements, in general, are arguably a more appropriate proxy for traffic growth, and so adjust our forecast accordingly. We retain separate forecasts for growth in en-route IFR movements versus growth in terminal IFR movements, based on forecast growth in en-route versus terminal service units, but scale each forecast so that they match the overall forecast growth in IFR movements.

Productivity improvements from capital projects

We acknowledge AirNav Ireland's argument that the TopSky ATC One system will not immediately achieve a 2% per annum efficiency improvement, due to the time required to ensure the new system operates efficiently and effectively. However, we consider that a small efficiency improvement is achievable immediately on the assumption that the benefit will accrue over time, and we have therefore allowed a notional 0.5% in RP4. The efficiency improvement will scale up to 2% per annum from 2030 onwards, ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂.

Regarding the CP1 compliance projects, we continue to believe that these capital initiatives, alongside other general productivity improvements, should deliver efficiencies starting in 2026. Our initial estimate of a 2% efficiency gain was based on the assessment provided by the IAA in the RP3 Performance Plan,[1] which itself was informed by the SESAR proposal concerning CP1.[2] The SESAR proposal estimated efficiency savings of over 12% from the implementation of CP1, leading the IAA to conclude that a 2% efficiency saving was reasonable over RP3. Although delays in the implementation of CP1 have prevented some of these savings from being realised thus far, it is reasonable to expect that they will be achieved during RP4, either as a direct result of CP1 or due to ancillary activities[3], for example resulting in more accurate and granular traffic load predictions and improvements in rostering.

We also note the European Commission's decision to revise the CP1 implementation timeline, where it also adjusted downward its estimate of expected efficiency savings to 2-2.5%.[4] This figure is in line with the estimate used by the UK CAA regarding savings to NATS En-Route Limited (NERL) from its CP1 investments.[5] Therefore, we continue to apply our estimate of a 2% efficiency saving from CP1.

Accounting for step changes

We disagree with AirNav Ireland's view that we have not adequately taken account of the step-changes included within its business plan. We have reviewed the narrative underpinning each of the step-changes and concluded that

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[1] IAA (2022), Performance Plan Ireland (page 20). Available at - link.

[2] SESAR Joint Undertaking (2013). Proposal on the Content of a Pilot Common Project. Brussels (page 34). Available at - link.

[3] For example, fast time simulations, tactical traffic load prediction and improved rostering tools.

[4] European Commission (2022). Commission Deciision approving the SESAR deployment programme 2022. Available at - link.

[5] CAA (2019). Reference to the CMA of NERL RP3 price controls: CAA response to NERL's Statement of Case. Available at - link.

these were adequately accounted for through our estimate of efficient base-year headcount or through other adjustments to our forecast:

- The methodology we used to produce efficient 2023 headcount accounted for many of the factors highlighted by AirNav Ireland. For the two ACCs we determined an optimal 2023 headcount by targeting roster efficiency of 85%, which we concluded was sufficient to provide roster resilience, limit the risk of fatigue, avoid excessive reliance of overtime, and provide an improved work-life balance.[6] This compared with actual roster efficiency in 2023 ranging from 87% to 99%. Our resultant estimate of efficient 2023 headcount was nearly 20 higher than AirNav Ireland's outturn headcount. By contrast, AirNav Ireland has proposed increasing headcount by 33 to account for these factors but has not provided sufficiently compelling evidence that this is proportionate. While we recognise that the fatigue management values used by AirNav Ireland may change during RP4, AirNav Ireland and the AirNav Ireland staff panel responses have not demonstrated that an 85% roster efficiency would be insufficient to meet these revised guidelines.

- We also separately made a downward adjustment for the proportion of time ATCOs spend on operational activities in 2028 and 2029, from 85% to 83%, to account for the need for more ATCO instructor time. This adjustment, which we introduced from the year before TopSky ATC One is introduced, had the effect of increasing our forecast headcount by 6 in each of 2028 and 2029, in line with AirNav Ireland's own proposals.

- In response to submitted comments, we have undertaken a bottom-up sense-check of the adequacy of the adjustment detailed above, and estimate that it would allow 5 days of instructor time per ATCO.[7]

- Our linking of staffing levels to traffic growth implicitly accounts for AirNav Ireland's requirement for a new departure position at Dublin Airport. AirNav Ireland has not explained why it considers this to be insufficient.

- Finally, in our draft forecasts, we accepted AirNav Ireland's proposals to assume dedicated roles for ATM Occurrence Investigation and Operational Support Group staffing and reflected that in our forecasts accordingly. As such, it is unclear what AirNav Ireland is disagreeing with.

The one aspect of AirNav Ireland's step-changes we did not explicitly adjust for was changed statutory and discretionary leave entitlements. In its Business Plan, AirNav Ireland did not provide sufficient explanation as to why these were not adequately reflected within the base year forecast. Following the IAA Draft Determination Consultation, we have requested further clarification from AirNav Ireland on this, and understand the requirement to be as follows:

- **Statutory leave changes:** AirNav Ireland cite the difficulty it has in accommodating existing statutory leave entitlements and on that basis, it has proposed an additional 5 FTEs to provide the necessary resourcing flexibility to accommodate such requests.

- **Job sharing:** Similarly, AirNav Ireland have experienced an increase in the number of applications for job-sharing since the end of the COVID-19 pandemic, which it estimates increases its ATCO staffing requirement by 5 FTEs.

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[6] Based on proprietary operational efficiency and human performance studies across the aviation and other safety critical industries, 85% staff utilisation is generally accepted as a good balancing point between efficiency, resilience/continuity and workforce well-being. Although a precise utilization figure is seldom cited explicitly, a recent Office of the Inspector General of the US Department of Transportation audit that finds that 77% of the FAA's critical facilities are staffed below the FAA's 85% threshold (Report AV2023035, 12 June 2023).

[7] AirNav Ireland ATCOs work 33 hours per week on average, and 1,700 hours a year. A 2% adjustment to utilisation provides 34 hours of instructor time per ATCO.

- **Annual leave:** Finally, AirNav Ireland cites the difficulty it has in accommodating existing annual leave requests, particularly during peak periods, which it considers to be a material driver in high attrition levels. On that basis, AirNav Ireland has estimated an increased staffing requirement of 11 FTEs.

Noting that our model allows already for annual leave and other statutory leave requirements meaning we only amend it in circumstances where requirements have changed, we address each of the following in turn below.

- **Statutory leave changes:** AirNav Ireland has confirmed that there have been limited changes in statutory leave entitlements since 2023 (our base year), though we also note that the AirNav Ireland staff panel has cited increased parent's leave entitlements.

  - **For parent's leave,** we estimate the impact of this increase in entitlement, using data from the CSO on the proportion of staff typically in receipt of maternity and paternity benefits, and the increased entitlement in weeks, to assess the overall annual impact on the staffing requirement to be 0.5 FTEs. We incorporate this additional half FTE into our forecast.

    This approach is a conservative estimate, as a) not all parents in receipt of maternity and paternity leave choose to take up parent's leave; b) ✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕✕ ✕✕ ✕✕✕✕✕✕✕✕✕✕;[8] and c) we are assuming such leave is taken equally throughout the year even though AirNav Ireland has the right to postpone such leave requests.

  - **For other statutory leave entitlements,** we do not consider that AirNav Ireland or the AirNav Ireland staff panel have provided sufficient evidence to justify any change to our forecast. The responses do not provide any evidence of either statutory leave entitlements changing or of increased take-up of existing statutory leave entitlements. As such, we conclude that the needs case for an increase in the staff forecast has not been made.

- **Job sharing:** Here, we conclude that the needs case for an increase in the staff forecast for job sharing has not been met. While we accept that there may be an increase in job sharing rates, we would expect the net impact on staffing costs to be neutral. In other words, while the headcount may increase, the unit payroll cost will reduce commensurately so that the net effect is neutral.

- **Annual leave:** Finally, for annual leave, we consider that the needs case has likely been made though the additionality and efficiency cases have not.

  - **For the needs case,** we find AirNav Ireland's arguments compelling, that it has been unable to accommodate annual leave requests during the summer months, though the evidence provided has been lacking. While AirNav Ireland demonstrate that this has been raised through various engagement sessions with staff and is a key driver of staff attrition, no management reporting information has been provided to verify these claims.

  - **For the additionality case,** we conclude that this has been adequately addressed through our base year adjustment for roster efficiency. As this adjustment was applied top-down to operational ATCO FTEs, it adjusted both rostered and non-rostered time upwards, providing an increased allowance for annual leave entitlement. AirNav Ireland has not demonstrated why it considers this insufficient, nor has it demonstrated why it considers its estimate more appropriate (as discussed below).

  - **For the cost-efficiency case,** AirNav Ireland has not provided any calculation or any explanation of how it has estimated its increased staffing requirement of 11 FTEs. We also consider such an increase to be disproportionate – an increase in 11 FTEs by the end of RP4 would imply a 3.5%

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[8] Central Statistics Office. Employer pay during maternity. Available at - link.

increase in the ATCO staffing requirement, which would in turn imply an increase in annual leave entitlement equivalent to 8.75 days (assuming 250 working days a year).

Proportionality of overall ATCO staffing increase

We agree with airline stakeholders of the need to be proportionate in relation to the overall ATCO staffing increase. On that basis, we have tried to ensure any adjustment in our forecast is driven by the evidence. We have also worked with IAA to make sure that the increased headcount is aligned with the safety, capacity and environment KPIs within the broader Performance Plan. Finally, on our forecast, we have considered opportunities for AirNav Ireland to drive further efficiencies through capital initiatives and made sure that such efficiency targets are appropriately challenging.

3.1.4.   Our final forecasts

Our final forecast of ATCO headcount is as per table 3.2 below. We conclude that the adjustments that we have made to our forecast adequately allow for statutory leave changes, job sharing, and annual leave requirements. We also note that our forecast requires a significant and potentially challenging to deliver step up in ATCO headcount, and airlines and AirNav Ireland cite high levels of ATCO attrition in previous periods.

Table 3.2: Final forecast of efficient ATCO headcount over RP4

	2025	2026	2027	2028	2029
Operational ATCOs	280	296	301	314	317
Station Managers	31	31	31	31	31
ATM Specialists	16	16	16	16	16
CEPA total headcount forecast	**326**	**343**	**348**	**361**	**364**
AirNav Ireland headcount forecast	**328**	**340**	**352**	**363**	**374**

Source: CEPA analysis and AirNav Ireland Business Plan

3.2.   ENGINEERS

3.2.1.   Our draft forecasts

In its Business Plan, AirNav Ireland, projected significant step-increases in engineering headcount, the scale of which, we considered, could not be justified based on the evidence presented. While some evidence was provided in the business plan and through subsequent clarification questions, we were unable to reconcile AirNav's projection with the fundamentals around the volume of activity that will be undertaken by its engineering function.

As such, for our draft forecasts of efficient engineering headcount, we used an alternative approach to projecting efficient headcount. We began our forecast by using the average headcount from 2016-2023 of 76 staff as our starting point. We then made several adjustments to this baseline to account for expected changes in AirNav Ireland's operations and regulatory requirements over RP4.

First, we scaled the headcount to reflect the projected increase in AirNav Ireland's regulated asset base relative to the 2016-2023 average, using an elasticity of 0.5. We also adjusted the headcount based on expected capital investment levels in the upcoming two years compared to the historical average, applying an elasticity of 0.15. This approach assumed Engineers would be working on capital projects set for delivery in the next two years.

Finally, we added seven additional staff to account for the new requirements introduced by EU Regulation 2017/373, as previously assessed by the IAA[9]. The resulting forecast, as shown in the table below, was a significant

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[9] Irish Aviation Authority (2021) Irish Draft Performance Plan for Air Navigation Services for Reference Period 3 (RP3) Single European Sky Regulation. Available at - link.

increase from current staffing levels but remained lower than AirNav Ireland's business plan projection for RP4. We concluded this approach provided a more efficient staffing forecast while still allowing for necessary growth to support AirNav Ireland's expanding asset base and capital programme.

Table 3.3: Comparison of CEPA draft forecasts of engineering staffing levels with AirNav Ireland's Business Plan forecasts

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	114	126	126	126	126
CEPA Draft Forecast	107	115	117	118	123
Difference	-7	-11	-9	-8	-3

Source: CEPA Draft Report

3.2.2. Stakeholder responses to the RP4 Draft Decision consultation

In response to our draft forecasts for AirNav Ireland's engineering headcount, stakeholders expressed a range of views.

AirNav Ireland disagreed with the draft forecast, presenting several reasons why it considered the forecast to be insufficient including:

- The existing 2024 headcount being inadequate, ✕✕✕✕✕✕✕✕✕ and difficulty in achieving a base level of service.
- Its expectation of an increase in engineering workload from 2024 onwards due to new systems requiring maintenance, emerging regulations like the NIS2 Directive, and higher levels of capital expenditure planned for RP4.
- AirNav Ireland also cited the Eurocontrol ACE benchmarking report, which it claims shows its engineering headcount to be lower than other ANSPs.

AirNav Ireland also argued that its forecasting methodology, which combined top-down and bottom-up approaches, was more appropriate than that used in our draft forecasts. It claimed that its bottom-up assessment utilised historical data to estimate future requirements for routine maintenance and separately calculated resourcing needs for the RP4 capital expenditure programme. Its top-down assessment provided a sense check against the ACE benchmark report, which highlighted that AirNav Ireland had a low ratio of technical staff to ATCOs.

AirNav Ireland challenged specific elements of our draft forecasts, questioning the rationale behind the use of average headcount over the period 2016 to 2023 headcount as a baseline rather than 2023 figures; the justification for the elasticity factors applied in the forecast - specifically, the 0.5 elasticity with respect to the regulated asset base and the 0.15 elasticity factor related to capital expenditure.

The AirNav Ireland staff panel also contended that the engineering staffing levels assumed in the draft determination were insufficient. AirNav Ireland emphasised that additional regulatory obligations, such as those associated with EU Regulation 373, have necessitated increased headcount in safety-related roles.

Airline stakeholders, on the other hand, largely agreed with the draft forecasts:

- Aer Lingus accepted the increased engineering headcount in our forecasts. However, it cautioned that other elements of AirNav Ireland's staffing projections should be scrutinised more closely to prevent inefficient staffing overall.

- Ryanair concurred with our increased engineering headcount forecast rather than AirNav Ireland's higher projections. Ryanair also contested AirNav Ireland's assertion that its failure to fully deliver the RP2 and RP3 capex programmes was solely due to insufficient engineering staff.

- IAG expressed support for the IAA's position and our draft conclusions, agreeing that AirNav Ireland's proposed engineering headcount appeared disproportionate.

3.2.3. Our response to stakeholder views

We have sought further clarification from AirNav Ireland in relation to its bottom-up forecasting approach and have been provided with the underlying analysis. For routine maintenance, the analysis appears to have been developed based on estimates of the number of activity days required by domain and by activity, for each year within RP4. There also exists some high-level commentary providing a rationale for the estimates, including instances where increases in activity are offset by assumed efficiencies. For capital planning activities, there has been a similar exercise undertaken by capital project.

The table below summarises the split between day-to-day maintenance and capital planning activities within AirNav Ireland's Business Plan forecasts.

Table 3.4: Breakdown of AirNav Ireland engineering headcount forecast into day-to-day maintenance and capital planning activities

	2023*	2025	2026	2027	2028	2029
Routine maintenance inc. regulatory requirements	67	76	81	81	84	85
Capital planning and delivery inc. regulatory requirements	20	38	45	45	42	40
Total Engineers	**87**	**114**	**126**	**126**	**126**	**126**

Source: AirNav Ireland

Note: Breakdown of 2023 figures estimated based on ACE benchmarking report

However, we have residual concerns about this analysis:

- The analysis presented does not appear to be linked to historic utilisation with respect to routine planned and reactive maintenance. As such, we cannot determine whether the individual level estimates are reasonable in the context of historic activity levels. Furthermore, there is no comparison with base year resourcing; we observe that much of the increase in headcount relates to increases between 2023 and 2025.

- Similarly, there has been no top-down assessment of the overall proportionality of the increase from 2023 levels, beyond the reference to the ACE benchmarking study. We previously considered this study in our draft report and concluded that this was likely to be primarily driven by differences in outsourcing of maintenance activities, given AirNav Ireland has lower staff costs relative to benchmark ANSPs, but higher non-staff costs relative to the benchmark comparators.

The elasticities used to inform our draft headcount forecast were calibrated based on AirNav Ireland's historic engineering headcount. In other words, we set the elasticities based on how much historic variation in engineering headcount could be explained by the size of the RAB and by the scale of capital spending. While imperfect, our aim was to be simple and transparent.

- Our elasticity of 0.5 with respect to the RAB was designed to reflect that while a large proportion of engineering headcount is driven by routine maintenance activities, the size of the RAB is only an imperfect indicator of the number of systems that need to be maintained. Given recent increases in the RAB have been materially driven by the new tower at Dublin Airport, which only partly drives maintenance activity, we concluded than an elasticity of 0.5 was reasonable.

- Similarly, our elasticity of 0.15 with respect to capital spending was designed to reflect the proportion of engineering headcount that is driven by capital planning activities.

To provide further confidence around the appropriateness of our overall benchmark, we utilise an alternate top-down approach as a sense check:

- We firstly adjust 2023 outturn headcount to provide additional resourcing for capital planning activities, using the ACE benchmarking study as a reference. This is in recognition that while there is a trade-off between directly employing Engineers for routine maintenance and outsourced maintenance contracts, there is less of a trade-off between staff and non-staff costs with respect to capital planning activities. As such, the ACE benchmarking study provides some further evidence of insufficient engineering resource dedicated to capital planning. This results in a 2023 headcount estimate of 112 staff, 25 higher than outturn 2023 resourcing.

- We then adjust our forecast based on IFR movements using an elasticity of 0.35. This elasticity is informed by analysis from the Performance Review Body, which investigated overall cost elasticities with respect to traffic.[10] While not an elasticity for engineering headcount specifically, we consider it an appropriate proxy given engineering headcount is likely to be less driven by traffic volumes than ATCOs but more driven by traffic volumes than corporate services and operations management support roles.

The resulting estimate is presented in the table below, alongside our draft forecast.

Table 3.5: Comparison of our draft engineering headcount forecast with our alternate top-down sense check

	2025	2026	2027	2028	2029	RP4 total
CEPA Draft Forecast	107	115	117	118	123	**580**
Top-down sense check	116	117	117	118	119	**587**
Difference	-9	-2	0	0	4	**-7**

Source: CEPA analysis

The table above shows that our alternative approach results in a similar headcount forecast over RP4, though the profile of the forecast differs. By contrast, AirNav Ireland are projecting a total headcount of 618 over RP4, 38 higher than our draft forecast, and 31 higher than our alternate top-down sense check.

We have adopted this approach when determining our final forecast for efficient engineering headcount. In our view, the evidence base used for the top-down sense check draws on a more appropriate evidence base. The resulting forecast also aligns with the profile set out in AirNav Ireland's RP4 Business Plan, with a flatter forecast throughout the period, compared to our draft forecast.

3.2.4. Our final forecasts

Our final forecast of efficient engineering headcount is shown in the table below, and incorporates the updated methodological changes outlined above.

Table 3.6: Final forecast of efficient engineering headcount over RP4

	2025	2026	2027	2028	2029
Total Engineers	**116**	**117**	**117**	**118**	**119**

Source: CEPA analysis

While we note that this forecast remains lower than AirNav Ireland, it incorporates material increases in maintenance spending over RP4. We reiterate that this forecast is solely used as an input into the overall cost-efficiency target, and it is for AirNav Ireland to determine ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂. We also note that other stakeholders were supportive of the Draft Decision engineering forecast.

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[10] Performance Review Body of the Single European Sky. Advice on the Union-wide target ranges for RP4 (see Table 7). Available at - link.

3.3. CORPORATE SERVICES

3.3.1. Our draft forecasts

To set our baseline estimate of efficient corporate services headcount, we used the efficient headcount estimate assumed in the RP3 Performance Plan which for 2023, was set at 57, slightly above the actual staffing for that year. We then reviewed AirNav Ireland's proposed step increases in corporate services staff relative to 2023 outturn levels but found that not all of AirNav Ireland's proposed increases were justified in its business plan.

For instance, we agreed with the need for additional sustainability staff in light of the Government's increased focus on sustainability. Similarly, we accepted the need for additional finance, HR, and IT staff to support AirNav Ireland's growth and for cyber security compliance.

However, we concluded that any further increases beyond these should have been supported by clear evidence of the specific need for the roles, the additionality of the roles, and the proportionality of the proposed headcount relative to the need. Therefore, while we accepted some of AirNav Ireland's proposals, our forecast assumed a more modest increase in corporate services staff compared to its business plan, as shown in the table below.

Table 3.7: Comparison of CEPA draft forecasts of corporate services staffing levels with AirNav Ireland's Business Plan forecasts

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	66	69	69	69	69
CEPA Draft Forecast	64	65	65	65	65
Difference	-2	-4	-4	-4	-4

Source: CEPA Draft Report

3.3.2. Stakeholder responses to the RP4 Draft Decision consultation

Justification for increased headcount from 2024

AirNav Ireland presented a summary of its justification for the increase in headcount for IT, Finance, HR, Property and Facilities, and Sustainability:

- **IT:** Need for a network analyst, to address cybersecurity compliance and to meet compliance requirements related to the NIS

- **Finance:** New reporting and compliance requirements

- **HR:** More resource needed to support growing operational business

- **Property and facilities:** More administrative support required due to increased workload due to the expansion of infrastructure portfolio, and to ensure compliance with regulatory requirements and documentation procedures.

- **Sustainability:** Increased sustainability requirements such as the CSRD.

AirNav Ireland argued that sufficient detail was provided to justify the headcount forecast proposed within its Business Plan.

In response to our forecast of corporate services headcount, AirNav Ireland presented a summary of its justification for the increases in staffing levels across several functional areas:

- **IT:** additional headcount required to address cybersecurity compliance and meet compliance requirements related to the Network and Information Systems (NIS) Directive. It also cited the need for a network analyst.

- **Finance:** the change was attributed the proposed increase in headcount to new reporting and compliance requirements.

- **HR:** additional resources are required to support the growing operational business.

- **Property and Facilities:** more administrative support is needed due to an expanded infrastructure portfolio and to ensure compliance with regulatory requirements and documentation procedures.

- **Sustainability:** The company highlighted increased sustainability requirements, such as the Corporate Sustainability Reporting Directive (CSRD), as a driver for the headcount increase in this function.

Impact of unit payroll cost forecasts

AirNav Ireland also raised a broader issue regarding the overall difference between our respective projections. The company pointed out that the disparity between the forecasts is more significant than is suggested by the figures in Table 3.7. This discrepancy arises not only from differences in the anticipated number of employees but also from variations in our respective estimates of unit payroll costs. These differing assumptions about payroll costs lead to a wider gap in the overall forecasted staff costs for each of the roles in question.

Efficiency of overall Corporate Services headcount forecast

The AirNav Ireland staff panel expressed disagreement with our estimate of efficient corporate services headcount, advocating instead for AirNav Ireland's forecast. Their primary argument centred on regulatory obligations, specifically citing EU Regulation 373/2017. The AirNav Ireland staff panel contended that such regulations have necessitated an increase in headcount, particularly within safety-related roles.

In contrast, IAG expressed support for our forecast regarding corporate services headcount, agreeing with our draft findings that AirNav Ireland's proposed headcount increases appeared disproportionate.

3.3.3. Our response to stakeholder views

Justification for increased headcount from 2024

In our draft report, we incorporated a step increase of eight staff relative to our 2023 baseline, representing a 14% increase. This figure was based on the information provided by AirNav Ireland within its Business Plan. While in most instances, we consider that AirNav Ireland did not present sufficient evidence to justify the additionality and efficiency of these step-changes, we were able to independently validate its estimate of the additional eight staff through our own analysis.

Our draft forecast of corporate services headcount remained four staff lower than the figure proposed by AirNav Ireland in its Business Plan. Our draft report provided clear explanations regarding the areas where we considered AirNav Ireland's evidence to be insufficient in justifying the additional headcount. In many of these cases, while AirNav Ireland's narrative articulated the underlying needs, the Business Plan did not demonstrate that these needs were genuinely additional to existing requirements (i.e., that the proposed additional activities could not be offset by reducing other activities) or that the proposed increase was proportionate to the identified need.

Since the submission of our draft report, AirNav Ireland has not presented any new evidence to support its original proposals. The material presented in the consultation response rather reiterates the evidence from AirNav Ireland's RP4 Business Plan. Consequently, we do not see a compelling basis for increasing our forecast beyond the step increase that we have already incorporated. Nevertheless, we sought further clarification from AirNav Ireland in relation to its increased headcount from 2023 to 2024, as discussed in the next section.

Justification for increased headcount from 2023 to 2024

Through subsequent clarification requests, AirNav Ireland has provided further explanation of the headcount increase between our 2023 base year and the current year. This included four additional roles for:

- Sustainability

- Corporate Affairs
- Regulatory Reporting
- Communications

Of these, we consider that the regulatory reporting role is the only one that passes our three-part need, additionality and efficiency test. We consider this role, which we understand relates to reviewing safety submissions to the IAA, ✄✄✄✄✄✄✄✄✄✄✄✄✄✄✄✄✄✄✄. The IAA is supportive of the requirement for this role, this has not otherwise been captured in our draft forecast. We also consider one additional FTE to be proportionate to the need and so, incorporate it into our forecast.

We do not make any further adjustments as we consider that AirNav Ireland has not made a compelling case that the further three roles are genuinely additional to either the base forecast, or the step-changes already made. The explanation provided by AirNav Ireland did not go far enough to provide an adequate reason for the additional three roles, both in the context of the overall need or additionality tests, and in terms of a top-down sense check.

Impact of unit payroll cost forecasts

We agree that the overall staff cost forecast for these roles differs from AirNav Ireland's due to our different unit payroll cost assumptions. However, we disagree with the implication that this means our forecast is imposing a greater headcount reduction than implied by Table 3.7.

The IAA's cost-efficiency target for AirNav Ireland is set at aggregate level. None of the specific assumptions used to inform this target are intended to impose binding constraints on AirNav Ireland's operational decisions. We recognise that there is an inherent trade-off between average payroll costs and headcount. However, managing this balance falls within AirNav Ireland's remit. Our estimate of unit payroll costs is founded on what we have assessed to be efficient over the course of RP4.

Should AirNav Ireland opt to maintain unit payroll costs in line with its Business Plan, this decision will inevitably impact its ability to meet the overall cost-efficiency target or its ability to align with our headcount estimates. Nevertheless, we emphasise that this is a strategic choice for AirNav Ireland and its management to make.

We address AirNav Ireland's specific comments in relation to our unit payroll cost assumptions for corporate services roles within Section 4.

Efficiency of overall Corporate Services headcount forecast

To test the reasonableness of the overall corporate services headcount in the round, we have assessed the implied elasticity of headcount with respect to traffic levels between 2023 and 2029. Between 2023 and 2029, we are forecasting efficient headcount to increase by 14% while traffic levels are forecast to increase by 20%. This implies an elasticity of 0.7, significantly higher than our overall benchmark elasticity of 0.35 (as noted in Section 3.2.3). From this, we derive greater confidence that we have adequately accounted for the step-changes in corporate services activity from AirNav Ireland running a larger business.

3.3.4. Our final forecasts

Our final forecast of efficient corporate services headcount is as per the table below.

Table 3.8: Final forecast of efficient corporate services headcount over RP4

	2025	2026	2027	2028	2029
Total Corporate Services	**65**	**66**	**66**	**66**	**66**

Source: CEPA analysis

3.4. OTHER STAFF ROLES

3.4.1. Our draft forecasts

Our draft forecasts for other roles broadly matched AirNav Ireland's proposals, as shown in the table below.

Table 3.9: Comparison of CEPA draft forecasts of other staff roles with AirNav Ireland's Business Plan forecasts

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan					
Data Assistant	48	48	48	48	48
FMP/AMC	5	10	10	10	10
Operations Management Support	77	79	82	83	83
CEPA Draft Forecast					
Data Assistant	48	48	48	48	48
FMP/AMC	5	10	10	10	10
Operations Management Support	77	79	82	83	83
Difference					
Data Assistant	-	-	-	-	-
FMP/AMC	-	-	-	-	-
Operations Management Support	-	-	-	-	-

Source: CEPA Draft Report

Our draft forecasts were based on our assessment that 2023 headcount was efficient and our assessment that AirNav Ireland had provided sufficient evidence to justify the need, additionality and efficiency of the step-increases in headcount within its Business Plan.

3.4.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland did not directly address our specific headcount forecast but repeated the broader concern, also raised with respect to our corporate services forecast, about the overall difference between our respective projections.

No other comments were made in relation to our forecasts for these roles.

3.4.3. Our response to stakeholder views

We agree that the overall staff cost forecast for these roles differs from AirNav Ireland's due to our different unit payroll cost assumptions. We address AirNav Ireland's comments in relation to this within Section 4.

3.4.4. Our final forecasts

We do not make any changes to our draft forecasts.

3.5. SUMMARY OF STAFF FORECASTS

The table below summarises our final staff headcount forecasts over RP4 by staffing group.

Table 3.10: Final staff headcount forecast, 2025-2029

	2025	2026	2027	2028	2029
Operational ATCOs	280	296	301	314	317

	2025	2026	2027	2028	2029
Station Managers	31	31	31	31	31
ATM Specialists	16	16	16	16	16
Corporate Services	65	66	66	66	66
Data Assistant	48	48	48	48	48
FMP/AMC	5	10	10	10	10
Engineer	116	117	117	118	119
Operations Management Support	77	79	82	83	83
CEPA total headcount forecast (final)	**636**	**661**	**670**	**686**	**690**
CEPA total headcount forecast (draft)	**626**	**653**	**663**	**678**	**681**
AirNav Ireland Business Plan	**638**	**672**	**687**	**699**	**710**

Source: CEPA analysis of AirNav Ireland data

4. PAYROLL COSTS

In this section, we present stakeholder comments on our draft estimates of efficient unit payroll costs, overtime costs and pension costs. We detail our consideration of the issues raised before presenting our final forecasts.

4.1. UNIT PAYROLL COSTS

4.1.1. Our draft forecasts

To assess the efficiency of 2023 unit payroll costs, we employed multiple methods, including comparisons with industry earnings, benchmarking against other ANSPs, and benchmarking wages against comparable public and private sector roles. Our findings indicated that while some roles like ATCOs and data assistants were efficiently compensated, there is room for efficiency improvements in certain non-ATCO roles, particularly in corporate services . Based on these findings, we applied a 5% efficiency challenge to corporate services roles.

For our projections of unit payroll costs, we used wage growth assumptions from the Central Bank of Ireland for the short-term and historical average wage growth for the long-term. We made additional adjustments for ATCOs to account for attrition, new hiring, and annual salary increments. Our resulting forecasts showed a general upward trend in unit payroll costs across most roles from 2024 to 2029, with variations reflecting role-specific factors and our applied efficiency challenges, as shown in the table below.

Table 4.1: CEPA draft forecasts of unit payroll costs excl. overtime and pensions to the nearest thousand, 2024-2029 (€ per FTE, 2022 prices)

	2025	2026	2027	2028	2029
Operational ATCOs	✂	✂	✂	✂	✂
Station Managers	✂	✂	✂	✂	✂
ATM Specialists	✂	✂	✂	✂	✂
Corporate Services	✂	✂	✂	✂	✂
Data Assistant	✂	✂	✂	✂	✂
FMP/AMC	✂	✂	✂	✂	✂
Engineer	✂	✂	✂	✂	✂
Operations Management Support	✂	✂	✂	✂	✂

Source: CEPA Draft Report

4.1.2. Stakeholder responses to the RP4 Draft Decision consultation

Application of 5% efficiency challenge to Corporate Services unit payroll costs

IAG contended that our 5% efficiency challenge for corporate services was insufficient. IAG proposed that it should be increased to 10%, in line with the benchmarked gap in non-ATCO unit payroll costs between AirNav Ireland and other ANSPs. Other airline stakeholders, while not directly addressing specific aspects of our forecast, emphasised the importance of ensuring efficiency in both pay and non-pay arrangements for AirNav Ireland staff.

AirNav Ireland raised several objections to our methodology:

- AirNav Ireland questioned the rationale behind the 5% efficiency target applied to corporate services staff, citing what it regarded as a lack of clear link between our assessment and the percentage figure applied.

- AirNav Ireland argued that our benchmarking, which noted higher growth in unit payroll costs for corporate services staff between 2019 and 2023 compared to other industry benchmarks, failed to adequately

account for potential changes in the ratio of senior to junior staff. AirNav Ireland stressed the critical nature of this distinction in any meaningful comparison.

- AirNav Ireland disputed the validity of benchmarking non-operational staff unit payroll costs against other ANSPs, asserting that AirNav Ireland's costs are uniquely influenced by Dublin's local labour market conditions.

- AirNav Ireland challenged our use of Glassdoor and Forsa data for benchmarking corporate services gross salary costs against other roles, citing concerns over data quality and the arbitrary nature of the chosen comparators.

AirNav Ireland also separately requested confirmation from the IAA that the 5% efficiency challenge does not relate, or is as a result of the separation process and its impact on cost allocation.

Modelling of pay increments

AirNav Ireland contends that our decision to exclude salary increments from the modelling of unit payroll costs for OMS, corporate services, data assistants, and FMP/AMC roles is unwarranted. AirNav Ireland argue that these increments are a significant factor in the evolution of their payroll costs. Furthermore, it pointed to an inconsistency in our approach, noting that we have incorporated salary increments in our modelling of ATCO unit payroll costs.

AirNav Ireland also suggests that our exclusion of pay increments from our estimates, means there is a discrepancy between our stated headcount forecast and what AirNav Ireland perceive as the actual implied headcount.

4.1.3. Our response to stakeholder views

Application of 5% efficiency challenge to Corporate Services unit payroll costs

Our decision to apply a 5% efficiency challenge to corporate services unit payroll costs was founded on a triangulation of three distinct benchmarking exercises, each of which showed inefficiencies in these costs. We employed this multi-faceted approach in recognition that no single benchmarking method is perfect. Triangulating between different benchmarks is a standard approach used by regulators to allow for the use of imperfect evidence. The convergence of multiple approaches to the same conclusion i.e. that there is inefficiency in these costs, strengthened the case for implementing an efficiency adjustment.

In the context of our draft forecasts, corporate services was the sole area where all three benchmarking approaches unanimously suggested an inefficiency in unit payroll costs. While some evidence of inefficiency was observed in other roles (e.g., operations management support), this was not consistent across our various sources of evidence, and thus we refrained from applying efficiency adjustments to these areas.

As noted in footnote 24 of our draft report, we ultimately anchored the magnitude of our efficiency challenge on the comparison of ATCO to non-ATCO unit costs. We adopted a conservative approach in applying this challenge, given that the evidence suggested the potential for an efficiency gap as large as 10%. Consequently, we see no compelling reason to reduce our adjustment.

We acknowledge that changes in staff composition could contribute to the growth in unit payroll costs. However, we consider that the onus lies with AirNav Ireland to demonstrate that any such change in the staff mix is efficient when considered in the context of our benchmark results.

Regarding IAG's suggestion that the efficiency adjustment should be 10% rather than 5%, we have two primary reasons for exercising caution:

- **Variability in Benchmarking Results:** Whilst all our benchmarking exercises indicated evidence of inefficiency, each produced different estimates of the efficiency gap's magnitude. Our decision to assume that half of the 10% gap represents genuine inefficiency reflects the inherent imperfections in benchmarking analyses.

- **Feasibility Considerations:** We must also take into account the practicality of implementing such adjustments. A 10% efficiency challenge would necessitate a *nominal* reduction in unit payroll costs compared to 2023 levels. We deem this unrealistic for a growing business. Conversely, a 5% efficiency challenge is achievable without requiring a nominal reduction in unit payroll costs, both in relation to the 2023 outturn and the budgeted 2024 levels.

These factors underpin our belief that a more conservative 5% efficiency challenge strikes an appropriate balance between producing a challenging cost efficiency target that is achievable to deliver.

Modelling of pay increments

We disagree with AirNav Ireland's assertion that our modelling must precisely reflect salary increments simply because they are a feature of their payroll structure. Our primary objective is to produce an estimate of efficient overall payroll costs. We have approached this at an aggregate level, and in our draft forecasts, we concluded that average efficient payroll costs should increase by no more than forecast economy-wide wage growth.

Contractual increments are one of several factors influencing unit payroll costs, alongside the ratio of senior to junior staff within a role, attrition and retirement rates, the rate of new hiring, and the impact of general pay awards. Our approach does not assess the efficiency or inefficiency of increments employed by AirNav Ireland, rather, we maintain that it is AirNav Ireland's responsibility to manage the trade-offs between these various elements, within the constraints of what the regulator considers to be efficient overall growth in payroll costs.

We acknowledge the different treatment of ATCOs in our modelling. This distinction was made due to the substantial increase in ATCO headcount, which we anticipated would exert significant downward pressure on the growth of average unit payroll costs. Assuming average payroll costs would grow in line with economy-wide wage growth for this group risked producing an overly generous and potentially inefficient forecast. Consequently, for ATCOs, given the importance of this cost in the overall cost base, we modelled the rate of new hiring, attrition and retirements, general pay awards, and increments separately. For other roles, our expectation is that these factors should, in aggregate, offset each other, resulting in overall average wage growth aligning with general wage growth. We considered that any increase beyond this is likely to be inefficient.

It is important to recognise that the unit payroll assumption in our forecast is not a binding constraint on AirNav Ireland. Its purpose is to inform an overall cost efficiency target. As such, there may be valid scenarios where higher unit payroll costs than those assumed in our forecasts could still be consistent with our overall efficiency target. For instance, any productivity improvements not explicitly accounted for in our forecast could reduce AirNav Ireland's actual staff costs relative to our projections. Should these productivity gains reduce the headcount requirement below our estimates, it would allow AirNav Ireland to increase its average payroll costs while still adhering to the overall cost-efficiency target.

Finally, we note that our approach of incorporating real wage growth assumptions into our staffing cost forecasts, without accounting for any offsetting efficiency improvements, is more generous than that of several other related regulatory regimes. For instance, in the UK CAA's NR23 price control for NERL, the regulator assumed only a 0.25% increase in average payroll costs, alongside a 0.50% per annum productivity improvement for all non-operational staff.[11] This approach effectively results in a net reduction of 0.25% per annum in unit payroll costs. Similarly, the Commission for the Regulation of Utilities, in its price controls for the gas, water, and electricity networks in Ireland, assumes that any real wage growth is fully offset by corresponding productivity improvements.[12]

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[11] Civil Aviation Authority (2023). CAP2597: Economic regulation of NATS (En Route) plc: Final Decision for the NR23 price control review. Available at - link.

[12] See, for example, The Commission for Regulation of Utilities, Consultation on PC5 Transmission Revenue for Gas Networks Ireland. Available at - link.

4.1.4. Our final forecasts of unit payroll costs

4.2. OVERTIME

4.2.1. Our draft forecasts

In our draft forecasts, we assumed overtime costs would reduce over the RP4 period as AirNav Ireland hires more staff.

To forecast efficient overtime costs we first focused on ATCO overtime, currently the biggest area of overtime spending. We recognised that there was a gap between the ideal number of ATCOs and the forecast number of ATCOs, given constraints on how quickly AirNav Ireland can hire and train new ATCOs. We assumed that the subsequent resourcing gap would be filled by existing ATCOs either doing less non-operational activity and/or working more overtime. We assumed a maximum feasible level of overtime per ATCO, based on the highest observed annual overtime hours since 2016 (95 hours in 2022). We also established a minimum efficient level of overtime (43 hours per ATCO) to provide roster flexibility. For each year, we then calculated an efficient level of overtime per ATCO, considering the gap between optimal and forecast ATCO numbers, subject to our established cap.

We estimated the cost of this overtime by multiplying our efficient estimate by the number of ATCOs and the hourly cost of overtime. For non-ATCO overtime, we assumed it would scale in proportion to ATCO overtime expenditure, based on historical data.

The table below shows our draft estimates of efficient spending on overtime over RP4.

Table 4.2: CEPA draft forecasts of efficient spending on overtime (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Draft Forecast	2.8	1.8	1.8	2.0	2.0

Source: CEPA Draft Report

4.2.2. Stakeholder responses to the RP4 Draft Decision consultation

Only IAG commented in relation to our overtime spend forecasts, suggesting that it would expect spending to become negligible over the RP4 period as AirNav Ireland resourced up.

4.2.3. Our response to stakeholder views

We agree with IAG that overtime costs should decrease from the levels observed in recent years. However, we believe it is unrealistic to expect overtime to become negligible, particularly for ATCOs. Overtime remains an important component in providing day-to-day resourcing flexibility. In the absence of such overtime provision, we would expect AirNav Ireland to require substantial additional headcount to provide adequate operational resilience.

Our draft forecasts for the period 2026 to 2029 align overtime spending with 2016 levels, which represented the lowest year for overtime expenditure outside of the two pandemic-affected years. This approach strikes a balance between recognising the need for a reduction in overtime spending and maintaining resourcing flexibility.

However, we accept IAG's broader point that there is less of an argument for significant levels of overtime for non-ATCO roles, particularly in the context of headcount for such roles. As such, we apply further overtime reductions for operations management support and data assistant staff, as the two roles where we have incorporated AirNav Ireland's proposed headcount increases into our forecast. For these roles we assume that by 2025, overtime costs reduce further to the levels observed in 2020 and 2021 (adjusted for wage increases), which we consider to be reflective of efficient overtime costs in the absence of resource constraints.

4.2.4. Our final forecasts of overtime costs

In the table below, we present our final forecasts of efficient spending on overtime over RP4. This final forecast reflects both our adjustment to overtime costs for operations management support and data assistant staff, as well as changes to our headcount forecast. While our adjustment to overtime costs to operations management support and data assistant staff reduce our estimate of efficient overtime costs for 2025 to 2029, our adjustment to the efficient ATCO headcount forecast offsets this reduction in 2025. We note that our forecast for 2025 has increased by €0.5m, which has been caused by our methodological change from using service units as a proxy for traffic growth, to IFR movements.

Table 4.3: CEPA final forecasts of efficient spending on overtime (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	3.3	1.7	1.8	1.9	2.0

Source: CEPA analysis

4.3. PENSIONS

4.3.1. Our draft forecasts

For pension costs, we analysed the three pension schemes used by AirNav Ireland: two legacy schemes (defined benefit and hybrid) and a current defined contribution scheme for new staff. We forecast the proportion of staff in each scheme over the RP4 period, accounting for exits and new joiners.

We assumed pension contributions were a fixed proportion of each staff member's pensionable income, varying from ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂ ✂✂✂✂✂✂✂✂✂✂.

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The table below shows our estimates of efficient pensions expenditure over RP4.

Table 4.4: Comparison of CEPA draft forecasts of efficient pension costs with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	13.5	14.0	14.1	14.2	14.3
CEPA Draft Forecast	13.5	13.8	13.8	13.9	13.8
Difference	0.0	-0.2	-0.3	-0.3	-0.5

Source: CEPA Draft Report

4.3.2. Stakeholder responses to the RP4 Draft Decision consultation

In its response to IAA's consultation Aer Lingus highlighted that a comprehensive review of pension arrangements could identify further opex efficiencies.

4.3.3. Our response to stakeholder views

We have undertaken some high-level benchmarking of pension contributions across a range of ANSPs across Europe, comparing against the contribution rates assumed in RP3 Performance Plans. We use data from a subset of ANSPs, where such data is available in the public domain. ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂.

Figure 4.1. Benchmarking AirNav Ireland's RP4 Pension Contributions against European RP3 Contributions

[Redacted figure]
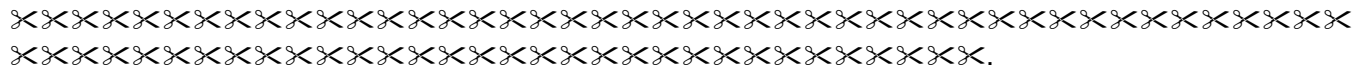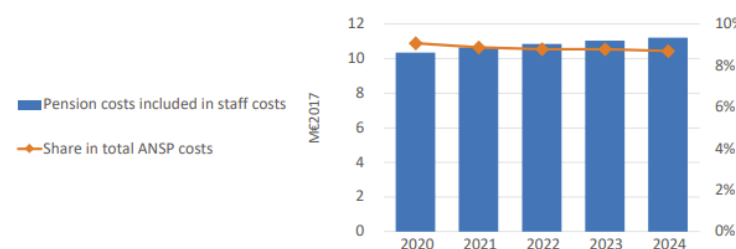
Source: Various national RP3 Performance Plans.

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Figure 4.2. Benchmarking of AirNav Ireland's RP3 pension costs relative to other ANSPs

Source: Extract from PRB (2020) PRB assessment of RP3 performance plans: FAB / Member State assessment factbooks. Available at https://eu-single-sky.transport.ec.europa.eu/document/download/675dcc04-5c30-4060-9a2c-83aca3d64076_en?filename=fab_member_state_assessment_factbooks_0.pdf

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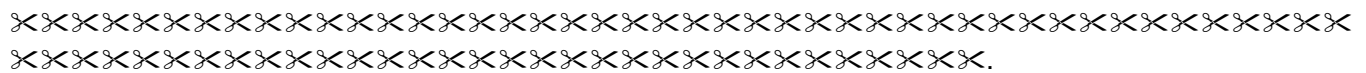
4.3.4. Our final forecasts of pension costs

The table below shows our estimates of efficient pensions expenditure over RP4.

Table 4.5: CEPA final forecasts of efficient pension costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	13.6	13.9	13.9	13.9	13.9

Source: CEPA analysis

4.4. OVERALL PAYROLL COSTS INCLUDING PENSIONS

The table below summarises our forecast efficient payroll costs over RP4 and compares them to the total in AirNav Ireland's Business Plan.

Table 4.6: Final payroll costs, including pensions, forecast, 2025-2029 (€ million, 2022 prices)

	2025	2026	2027	2028	2029	RP4 total
Base payroll	72.3	75.9	77.3	79.2	80.1	**384.9**
Overtime	3.3	1.7	1.8	1.9	2.0	**10.7**
Pensions	13.6	13.9	13.9	13.9	13.9	**69.2**

	2025	2026	2027	2028	2029	RP4 total
CEPA total payroll forecast (final)	89.2	91.5	93.0	95.1	96.0	464.8
CEPA total payroll forecast (draft)	87.5	90.6	92.2	94.2	95.2	459.7
AirNav Ireland business plan	88.9	93.5	95.6	99.0	101.3	478.3

Source: CEPA analysis of AirNav Ireland data

5. FORECAST OF NON-STAFF OPEX

In this section, we present stakeholder comments on our draft forecasts of non-staff opex by cost category, detail our considerations of the issues raised, and present our final forecasts. Comments on the draft forecasts of non-staff opex were limited and primarily made by AirNav Ireland. In 2023, non-staff cots made up a third of AirNav Ireland's total operating expenditure.

5.1. STAFF TRAINING COSTS

5.1.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of staff training costs in 2023 to estimate an efficient baseline. We found that in 2023, training costs were significantly below the level assumed in IAA's RP3 forecast. However, we concluded that some of this underspend related to the delayed delivery of certain capital initiatives, resulting in the delay of associated training costs. On a cost per student basis, we concluded that outturn 2023 expenditure was in line with the level assumed by the IAA in the setting of the RP3 Performance Plan and as a result, broadly efficient.

To forecast efficient expenditure, we linked spending to future staffing levels and class sizes. We determined four drivers of training cost – class sizes for new ATCOs, total ATCO headcount for existing ATCO training, Engineer headcount, and other staff headcount – and used an elasticity of 1 with respect to each driver. We allowed for additional step changes in training costs related to new systems for 2026, 2028, and 2029. Our resulting forecast was lower than AirNav Ireland's Business Plan forecasts, primarily due to lower headcount projections.

Table 5.1: Comparison of CEPA draft forecasts of efficient spending on training with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	✂	✂	✂	✂	✂
CEPA Draft Forecast	✂	✂	✂	✂	✂
Difference	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.1.2. Stakeholder responses to the RP4 Draft Decision consultation

In response to IAA's Draft Decision, AirNav Ireland stated that it expected our final training forecast to reflect any changes in our headcount forecast.

5.1.3. Our response to stakeholder views

We discuss AirNav Ireland's representations on and our changes to the headcount forecast in Section 3, and make consequential updates to our training forecast in line with the methodology used in our draft forecasts.

5.1.4. Our final forecasts

Our final forecasts of efficient training costs are presented in the table below.

Table 5.2: CEPA final forecast of efficient training costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	✂	✂	✂	✂	✂

Source: CEPA analysis

5.2. OTHER STAFF RELATED COSTS

5.2.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of other staff related costs in 2023 to estimate an efficient baseline. This cost line covers activities such as medicals, employee wellbeing, health and safety and recruitment costs. We found that in 2023, spending per staff member had increased compared to the previous two years. We concluded that this step-increase was reasonable as a result of attrition throughout the COVID-19 pandemic led to heavier recruitment and our analysis showed that AirNav Ireland were likely under-resourced in 2023. As a result, we concluded that outturn 2023 expenditure was broadly efficient.

To forecast efficient expenditure, we linked spending to future staffing levels. We determined that based on the narrative presented in the business plan, a further step-increase could not be justified. We expect costs to be broadly linked to outturn staffing levels and AirNav Ireland did not adequately demonstrate that its spending should increase by more than the growth in headcount. AirNav Ireland also did not make a sufficient case that the cost of recruitment had increased in real terms when compared to historic levels.

Table 5.3: Comparison of CEPA draft forecasts of efficient spending on other staff-related costs with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	1.5	1.4	1.4	1.4	1.4
CEPA Draft Forecast	0.9	1.0	1.0	1.0	1.0
Difference	-0.5	-0.4	-0.4	-0.4	-0.4

Source: CEPA Draft Report

5.2.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland provided the following response to IAA's Draft Decision, stating that it was exposed to a step-increase in costs due to the following factors:

- **Higher recruitment costs in relation to its student controller programme** due to both volume and price effects:

  o To meet the RP4 ATCO headcount target, AirNav Ireland states that it needs to increase the frequency of classes and recruit larger class sizes. It also states that many ATCOs will be retiring from 2028 requiring early recruitment to backfill those positions.

  o ✂✂✂✂✂✂✂✂✂, AirNav Ireland states that it no longer has sufficient meeting rooms at AirNav Ireland HQ for technical testing, psychometric testing, group and final interviews, and must use off-site locations.

- **Overhead associated with the recruitment for engineering staff,** particularly where AirNav Ireland has been required to use recruitment agencies to source staff with specialist skills.

- **Increased spending on medicals** due to a higher number of students and **additional investment in the employee wellbeing programme**.

- **Investment in brand awareness** in order to attract the high number of candidates needed to sustain the number of training places.

5.2.3. Our response to stakeholder views

The comments raised by AirNav Ireland primarily relate to the ANSP facing increased costs due to additional recruitment activities or due to higher numbers of new recruits. As our draft forecasts assumed spending was driven by the overall headcount, our approach did not directly account for this. Consequently, we test the impact of

assuming that half of spending on other staff costs is driven by the growth in headcount with the remainder driven by the overall headcount. This alternative approach serves to reduce our forecast, as much of the step-up in recruitment activity is expected to be in 2024 and 2025, while recruitment in the later years of RP4 is expected to be lower than it was in 2023. On this basis, we do not implement this approach, and make no change on the basis that our forecast creates headroom for unexpected costs.

AirNav Ireland's second set of comments relate to price pressures around the student controller programme, and around the use of recruitment agencies for hiring specialist staff. For both of these factors, the evidence presented by AirNav Ireland is insufficiently compelling to demonstrate the need for any step-increase:

- ⚔⚔⚔. Consequently, any cost associated with the use of off-site meeting rooms ought to be largely offset by lower costs related to the use of internal meeting rooms. More broadly, AirNav Ireland has not sufficiently demonstrated the materiality of this cost.

- In relation to the use of recruitment agencies to hire specialist staff, and wider recruitment pressures in relation to the hiring of engineering staff, AirNav Ireland's evidence does not provide sufficiently compelling evidence that there has been a change in need relative to the baseline. For example, we expect that AirNav Ireland will have historically spent money on recruitment agencies; AirNav Ireland's response does not demonstrate that it needs to increase its spend beyond what is already accounted for through our trend-based adjustment.

5.2.4. Our final forecasts

Our final forecasts of efficient staff-related costs are presented in the table below.

Table 5.4: CEPA final forecast of efficient staff-related costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	0.9	1.0	1.0	1.0	1.0

Source: CEPA analysis

5.3. TELECOMS

5.3.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of the growth in telecoms expenditure between 2019 and 2023. AirNav Ireland's expenditure on telecoms is not well suited to external benchmarking as its activities do not have common external comparators. As a result, we compared AirNav Ireland's 2023 outturn expenditure against historic levels implied by the previous efficiency analysis and observed that telecoms expenditure was broadly efficient.

To forecast telecoms expenditure, we took an elasticity-based approach, linking it to IFR movements, based on our judgment that while a large proportion of telecoms costs are fixed, a small proportion may be linked to volumes of activity. We used an elasticity of 0.2, meaning that every 10% increase in flight movements leads to a 2% increase in expenditure. We also included a separate increase of €0.1 million per annum for an upgraded private wire network ⚔⚔⚔⚔⚔⚔⚔⚔⚔⚔⚔.

In our draft report, we requested further evidence from AirNav Ireland to explain on what the drivers of the step-up in expenditure, to demonstrate the need (e.g. in terms of new activity or new requirements), the reasons it is genuinely additional to our draft forecast, and why the scale of the proposed step-up is efficient/proportionate.

Table 5.5: Comparison of CEPA draft forecasts of efficient spending on telecoms with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	✂	✂	✂	✂	✂
CEPA Draft Forecast	✂	✂	✂	✂	✂
Difference	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.3.2. Stakeholder responses to the RP4 Draft Decision consultation

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5.3.3. Our response to stakeholder views

For the **need and additionality tests**, we find that AirNav Ireland has provided evidence of the need for additional telecoms expenditure. We also find that AirNav Ireland provide sufficient evidence that the proposed step-increase in expenditure is likely to be additional to our base year efficient estimate.

For the **cost-efficiency test**, we do not find that AirNav Ireland has provided sufficient evidence to support the scale of additional expenditure. As a top-down sense check, we compare AirNav Ireland's forecast against a forecast that increases spending using an elasticity of 0.35 with respect to traffic levels.[13] We find that AirNav Ireland's forecast remains materially higher than this top-down sense check. In order to replicate AirNav Ireland's Business Plan telecoms forecast, this elasticity would need to increase to 1.0, meaning that every 10% increase in flight movements leads to a 10% increase in expenditure. As such we do not have confidence that the estimated cost increases are efficient. For example, while AirNav Ireland has identified areas of telecoms expenditure which it expects to reduce over time, our findings suggest that it has not challenged itself sufficiently around how quickly those costs can be reduced. Similarly, our findings indicate that AirNav Ireland's estimated costs for the new telecoms lines have not been sufficiently challenging.

As AirNav Ireland has provided further evidence to support its needs case and has demonstrated the additionality of the need, we reduce the size of our efficiency challenge. We update our forecast to reflect an elasticity of 0.35 with respect to traffic volumes, meaning that every 10% increase in flight movements leads to a 3.5% increase in telecoms expenditure.

5.3.4. Our final forecasts

Our final forecasts of efficient telecoms expenditure are presented in the table below.

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[13] This elasticity is based on the Performance Review Body.

Table 5.6: CEPA final forecast of efficient telecoms costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	✂	✂	✂	✂	✂

Source: CEPA analysis

5.4. MAINTENANCE AND SPARES

5.4.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 maintenance and spares expenditure, by looking separately at four cost areas – the maintenance of ATM systems, the facilities management contract, other maintenance contracts, and spending on spares. For each of these cost areas, we adopted AirNav Ireland's 2023 expenditure as our efficient baseline and then forecast efficient expenditure separately as follows.

Maintenance

For expenditure on the maintenance of AirNav Ireland's ATM systems we adopted AirNav Ireland's forecast as our own efficient forecast, concluding that the profile was reasonable.

For the Facilities Management contract, we noted a substantial increase in the cost of the contract between 2023 and 2024. We incorporated this increase into our forecast but requested further evidence to support the efficiency of this increase. ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂.
For spending on other maintenance contracts, ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂

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For spares, AirNav Ireland projected that its spending would increase to 2027 and then decline in 2028 and 2029. We understand from AirNav Ireland's Business Plan that this is directly linked to its capital initiatives but determined that it was not apparent why new capital initiatives would require additional investment in spares, nor why such investment would not be capitalised. As a result, we applied a 15% efficiency challenge to AirNav Ireland's forecast of spares expenditure, such that by 2029 expenditure broadly returns to the historic average.

In the table below, we present our draft forecasts of maintenance and spares expenditure and compare it against AirNav Ireland's Business Plan forecasts.

Table 5.7: Comparison of CEPA draft forecasts of efficient spending on maintenance with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan					
Maintenance	✂	✂	✂	✂	✂
Spares	1.6	2.2	3.3	1.6	1.6
CEPA Draft Forecast					
Maintenance	✂	✂	✂	✂	✂

	2025	2026	2027	2028	2029
Spares	1.4	1.9	2.8	1.4	1.3
Difference					
Maintenance	✂	✂	✂	✂	✂
Spares	-0.2	-0.3	-0.5	-0.2	-0.2

Source: CEPA Draft Report

5.4.2.   Stakeholder responses to the RP4 Draft Decision consultation

Maintenance

AirNav Ireland disagreed with our draft forecasts, raising the following arguments:

- that our methodology for calculating efficient maintenance costs for RP4 did not account for the level of price increases since the start of RP3 that are specific to the construction sector. AirNav Ireland suggested that the SCSI's Tender Price Index indicated total inflation of approximately 24% since January 2022. AirNav Ireland argued that such inflationary pressures needed to be considered in any estimation of efficient maintenance expenditure in RP4.

- that assuming a ✂ increase upon renewal of the ✂✂✂✂✂✂✂✂ contract in 2028 was not unrealistic given the growth in costs between 2023 and 2024 alone. The response cited evidence showing that the growth in its facilities management expenditure in 2024, has been ✂ higher than the corresponding month in 2023.

- that for other maintenance contracts, it provided additional evidence to show that maintenance contracts for RP4 had been reviewed by the management team, assessed for reductions and had resulted in a final cost forecast that was efficient. AirNav Ireland requested an explanation for why we considered a 5% efficiency challenge was appropriate.

Spares

AirNav Ireland argued that there are four key reasons why spares expenditure is expected to increase during RP4.

- **The increasing asset base.** AirNav Ireland argue that the procurement of major new systems increases the requirement for spares and cite four specific new systems. AirNav Ireland claim that these new systems will need to be managed and maintained and have an appropriate level of spares in place to support their serviceability. From a safety regulatory perspective, AirNav Ireland suggest that a key part of regulatory acceptance is the assurance that adequate spares are in place.

- **Constraints sourcing critical spares.** AirNav Ireland argue that it is dependent upon system suppliers as the sole source of key spares and costs charged by the suppliers are reflective of the operating costs involved in providing support over the lifecycle of the system. AirNav Ireland argue that spares budgets should reflect this reality and cite two specific examples illustrating the level of costs involved.

- **Maintaining ageing systems.** AirNav Ireland argue that much of the capex spend in RP4 is to replace obsolete systems and doing so in a timely manner can avoid escalating costs that occur towards the end of the systems life cycle due in increased failure rate and costs to repair and replace. AirNav Ireland provide an example of the Time Division Multiplexed (TDM) system which will be replaced by and IP/MPLS system. Despite the replacement, additional spares were purchased to ensure the system remained serviceable until such time as it is removed from operations and decommissioned.

- AirNav Ireland identify **inflation** as the fourth reason but do not provide any further evidence.

5.4.3. Our response to stakeholder views

Maintenance

AirNav Ireland argues that the SCSI Tender Price Index is an appropriate indicator of the price pressures it faces for its maintenance activities.[14] We disagree with this argument. The SCSI Tender Price Index primarily reflects the inflationary pressures related to construction activities, which is largely unrelated to the activities captured within this cost category, which relate to the provision of engineering support to maintain specialist systems. We consider that the Services Producer Price Index for Architecture and Engineering, produced by the CSO, is more directly applicable.[15] This index has increased by 8.4% between 2022 and 2024 and given that CPI growth for the same period was 13.6%, we do not consider that AirNav Ireland has made a compelling case for price pressures driving its forecast maintenance expenditure.

For the cost of the ✂✂✂✂✂✂✂✂ contract, we first evaluate the evidence provided in relation to the step-increase in expenditure between 2023 and 2024. We acknowledge that AirNav Ireland provided evidence that it sought new services between 2023 and 2024, but it has not provided sufficient explanation for why such new services were necessary, nor the value derived from them. When considered individually, the need for each additional service may be deemed to be plausible. However, we find there to have been insufficient testing of the cumulative effect of these additional services.

Nevertheless, we retain our draft forecast position of incorporating this increase, on the basis that AirNav Ireland will have limited ability to reduce costs back to 2023 levels until contract expiry.

For the proposed ✂ increase in ✂✂✂, we evaluate the evidence based on our three-part need, additionality and efficiency test:

- For the **need test**, we do not consider that the evidence presented raises a compelling new argument for the need beyond a general increase as AirNav Ireland grows.

- For the **additionality test**, AirNav Ireland has not provided a compelling explanation for why it expects the scale of the increase in activities between 2023 and 2024 would again be replicated upon expiry of the contract. A ✂ increase in spending over the reference period appears disproportionate when compared against the forecast 10% increase in traffic levels.

- On the **cost-efficiency case**: AirNav Ireland has not provided evidence to support that it has considered the efficiencies that could be achieved through a competitive re-tendering of the ✂✂✂✂✂✂✂✂ contract.

For **other maintenance contracts,** the evidence referenced by AirNav Ireland was considered and assessed in our draft report. We reiterate our conclusions from the draft report that AirNav Ireland has not demonstrated that it has sufficiently considered the maintenance opex savings from increased capital investment, particularly from end-of-life assets being replaced. Similarly, while we see some evidence of efficiencies being identified from systems that will no longer be needed, it is not evidenced that this has been done comprehensively.

Nevertheless, to test the appropriateness of our 5% efficiency challenge, we carried out a further top-down sense check of the implied elasticity of maintenance costs with respect to traffic levels after our 5% efficiency challenge has been applied. We find that the implied cost elasticity of our maintenance forecast with respect to IFR movements is:

- 1.8 when evaluated over the period from 2023 to 2029; and
- 1.9 when evaluated over the period from 2019 to 2029.

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[14] Society of Chartered Surveyors Ireland (2024), Tender Price Index 2024 – Press Release, February. Available at – link.

[15] Central Statistics Office – Services Producer Price Index (Table SPP07). Available at - link.

Our forecast implies that every 10% increase in traffic levels will increase maintenance costs by 20%, even after the application of our efficiency challenge. This suggests scope for a larger efficiency challenge, but we refer to our conclusions in Section 3.2 in relation to our engineering headcount forecast, we do not apply a larger efficiency challenge in maintenance given we are already applying an efficiency challenge with respect to forecast engineering headcount.

Spares

AirNav Ireland provide qualitative commentary identifying four reasons why spares expenditure is expected to increase during RP4. Whilst this goes provides some insight, AirNav Ireland has not provided explicit evidence to substantiate its commentary.

Figure 5.1 plots AirNav Ireland's forecast of growth in spares expenditure between 2019 and 2029 against growth in AirNav Ireland's regulatory asset base (RAB). While the profiles do not align precisely, we find that the growth is sufficiently aligned to demonstrate the efficiency of AirNav Ireland's forecast.

Figure 5.1 Cumulative growth in AirNav Ireland's spares expenditure and regulatory asset base (%)
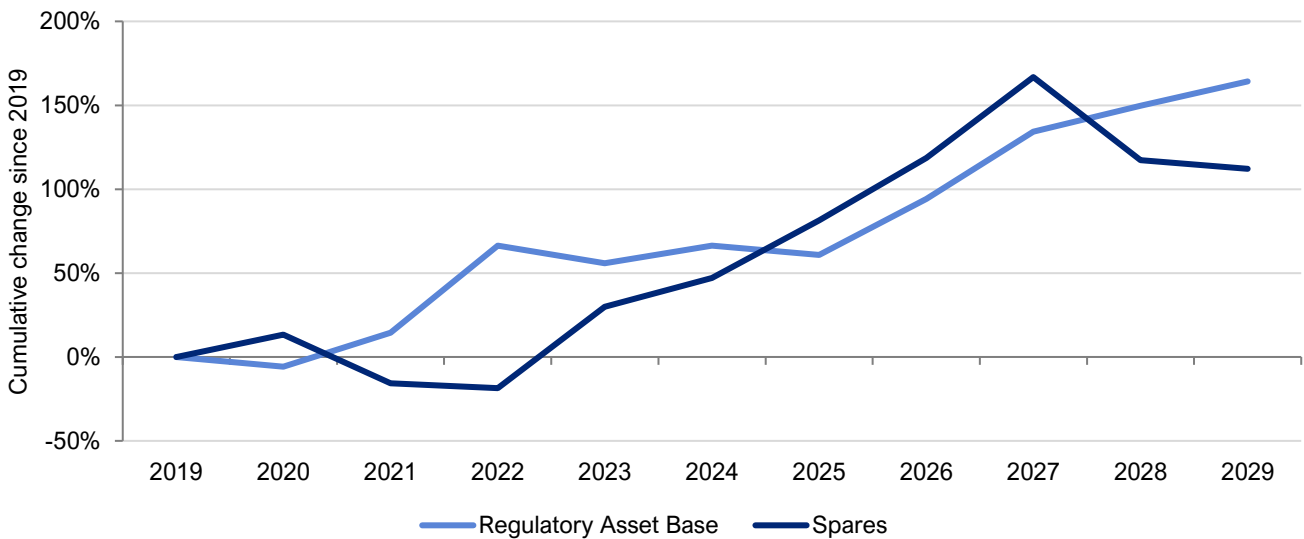
Source: CEPA analysis of AirNav Ireland data

5.4.4.   Our final forecasts

In the table below, we present our final forecasts of maintenance and spares expenditure over RP4.

Table 5.8: CEPA final forecast of efficient maintenance and spares costs (€ million, 2022 prices)

	2025	**2026**	**2027**	**2028**	**2029**
Maintenance	✂	✂	✂	✂	✂
Spares	1.6	2.2	3.3	1.6	1.6

Source: CEPA analysis

5.5.   COMPUTING

5.5.1.   Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 computing expenditure, using a common measure to benchmark IT expenditure; the ratio of IT expenditure to overall revenues. Based on this benchmark, we found that AirNav Ireland's outturn computing expenditure was broadly efficient and so, use it as our efficient baseline.

Beyond 2023, AirNav Ireland suggested in its Business Plan that it faced increase cost ✂✂✂✂✂✂✂✂✂

✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂. While AirNav Ireland did not quantify the impacts, we used CEPA's previous analysis of a comparable situation (Gas Network Ireland's separation from Ervia Group) as a benchmark. Based on this, we increased AirNav Ireland's forecast of efficient expenditure by 14.2% for separation impacts and 8.8% for cyber-security impacts for 2024. From 2024 onwards, we applied a 1.4% compound annual growth rate, based on the historic growth in AirNav Ireland's computing expenditure. The resulting forecast, as shown in the table below, was approximately €5 million lower than AirNav Ireland's estimate for RP4, but €3 million higher than expected RP3 expenditure.

Table 5.9: Comparison of CEPA draft forecasts of efficient spending on computing with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	**2026**	**2027**	**2028**	**2029**
AirNav Ireland Business Plan	3.7	3.8	3.8	3.8	3.9
CEPA Draft Forecast	2.6	2.7	2.7	2.8	2.8
Difference	-1.1	-1.1	-1.1	-1.1	-1.0

Source: CEPA Draft Report

5.5.2. Stakeholder responses to the RP4 Draft Decision consultation

In its consultation response, AirNav Ireland provided three reasons for the increase in computing costs from RP3.

- Additional expenditure to cover cybersecurity, resilience, and business continuity IT activities, totalling ✂✂✂.

- Included within this estimate of ✂✂✂, AirNav Ireland cite that new contracts, which resulted from separation have led to computing expenditure increases. AirNav Ireland claim that suppliers have been able to introduce new higher pricing as AirNav Ireland was considered to be a new customer.

- AirNav Ireland also specify that activities which were budgeted to take place in 2024 have been deferred into 2025, totalling ✂✂✂.

5.5.3. Our response to stakeholder views

We have carefully considered AirNav Ireland's response to our draft report regarding computing costs, particularly in relation to the step increases in expenditure. After thorough review, we maintain that our initial approach adequately addresses the key issues.

In our draft report, we estimated a step increase of ✂✂✂✂✂✂✂✂✂✂. This forecast drew on evidence from the GNI price control and specifically accounted for investment in cyber security and the impact of AirNav Ireland's separation from the IAA. We believe this approach provides a reasonable and evidence-based estimate of the additional costs associated with these changes.

AirNav Ireland proposed a larger step increase of ✂✂✂✂ related to various factors. However, we find that its response does not sufficiently demonstrate the cost-efficiency of this proposed increase. While AirNav Ireland has provided evidence of exposure to higher pricing from suppliers following the separation from IAA, it has not adequately shown that it has reassessed their service requirements in light of their new organisational structure. It is our view that a thorough review of service needs post-separation could potentially offset some of the increased costs from suppliers.

Regarding the proposed step-increase for activities deferred from 2024, we find AirNav Ireland's narrative insufficient to justify additional expenditure. Their response suggests that this expenditure requirement existed in the baseline. As such, it fails to meet the 'need' criterion within our three-part assessment framework of need, additionality, and cost-efficiency. This framework is designed to ensure that any increases in expenditure are necessary, additional to existing requirements, and represent value for money.

5.5.4. Our final forecasts

Given the above considerations, we do not find it appropriate to make further adjustments to our forecasts based on AirNav Ireland's response. Our draft forecasts, we believe, strike a balance between acknowledging legitimate increases in costs due to organisational changes and maintaining a focus on cost-efficiency.

As a result, we maintain our draft forecasts, as shown in the table below.

Table 5.10: CEPA final forecast of efficient computing costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	2.6	2.7	2.7	2.8	2.8

Source: CEPA analysis

5.6. CONSULTANCY, PROFESSIONAL SERVICES, AND PR

5.6.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of AirNav Ireland's 2023 expenditure on consultancy, professional services, and public relations (PR). As a result of year-to-year fluctuations, a historical average from 2016 to 2019 is used as a baseline, excluding the COVID-19 pandemic period. This baseline is compared to actual 2023 expenditure and budgeted 2024 expenditure. The resulting efficient baseline of €2.2 million is around €0.4 million higher than the 2023 outturn spend.

AirNav Ireland projects an increase in spending from €1.8 million in 2023 to an average of €3.9 million over RP4, primarily due to increased consultancy spend, which it attributes to factors such as sustainability and flight procedures. We did not consider the justification provided by AirNav Ireland sufficient to warrant such a significant step-increase in forecast expenditure. Whilst acknowledging potential short-term consulting needs related to Brexit and the opening of Dublin Airport's north runway, we concluded that AirNav Ireland did not provide sufficient evidence to justify a permanent increase in consulting spend from its long-term average or demonstrate that the proposed increase is efficient and proportionate. As an alternative, we uplifted our efficient baseline by an estimate of wage growth for individuals working in 'professional, scientific and technical activities'.[16]

Table 5.11: Comparison of CEPA draft forecasts of efficient spending on consultancy, professional services and PR with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan					
Consultancy	1.8	1.8	1.8	1.8	1.8
Professional Services	1.2	1.2	1.2	1.2	1.2
PR	0.8	0.8	0.8	0.8	0.8
CEPA Draft Forecast					
Consultancy	1.0	1.0	1.0	1.0	1.0
Professional Services	0.6	0.6	0.6	0.6	0.6
PR	0.7	0.7	0.8	0.8	0.8
Difference					
Consultancy	-0.8	-0.8	-0.8	-0.8	-0.8

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[16] NACE Rev. 2 is a statistical classification of economic activities applied across the European Union.

	2025	2026	2027	2028	2029
Professional Services	-0.6	-0.6	-0.6	-0.6	-0.6
PR	0.0	0.0	0.0	0.0	0.0

Source: CEPA Draft Report

5.6.2. Stakeholder responses to the RP4 Draft Decision consultation

Consultancy

In its response to the IAA's consultation AirNav Ireland outlined several areas where it anticipates additional consultancy expenditure during the RP4 period:

- Instrument Flight Procedure (IFP) designs: AirNav Ireland notes that the European Commission Implementing Rule (EU) 1048/2018, which establishes airspace usage requirements and operating procedures for performance-based navigation (PBN), will come into effect on 6th June 2030. It considers that this is likely to require specialist consultancy support to ensure compliance.

- Corporate Sustainability Due Diligence: The company expects the Corporate Sustainability Due Diligence Directive to be implemented within the RP4 timeframe. AirNav Ireland anticipates needing external consultancy services to ensure full compliance with this new legislation.

- Climate Change Adaptation: AirNav Ireland identifies climate change as an emerging risk, particularly given the location of some of its key infrastructure. The company foresees a need for specialist consultancy services to advise on identifying and implementing climate change mitigation measures.

- Green Procurement and Circular Economy: AirNav Ireland anticipates requiring expert consultancy services in the areas of green procurement and the circular economy. This is driven by the increasing importance of sustainability and the potential for future regulation in this area.

Professional services

AirNav Ireland outlined several reasons for what was driving its increase in spending on professional services:

- ✕✕ ✕✕✕✕✕✕✕✕✕✕✕✕.

- ✕✕ ✕✕ ✕✕✕✕✕✕✕✕✕✕✕✕✕

- ✕✕ ✕✕ ✕✕✕✕✕✕✕✕.

5.6.3. Our response to stakeholder views

Consultancy

AirNav Ireland has provided supporting evidence that outlines the need for spending in the specific areas it has highlighted; however, it has not adequately demonstrated the additionality or cost-efficiency of these proposals.

In terms of **additionality**, AirNav Ireland has not indicated whether it has identified areas of existing spend that may no longer be necessary. While new regulatory requirements arise during every price control period—potentially justifying consultancy support—it is likely that some areas where spending occurred in RP3 are no longer needed. We remain concerned that AirNav Ireland is assuming that new requirements will always be additional to the existing spending levels and are not routinely considering whether any previous expenditure is no longer necessary.

Regarding **cost-efficiency**, AirNav Ireland has not provided information on how it determined that the proposed €1.8 million per annum is an appropriate and efficient amount to spend. There is no clear justification or benchmarking data to support the reasonableness of this figure, leaving uncertainty around whether this level of expenditure is efficient.

Professional services

In relation to increases in audit costs, we acknowledge that external assurance requirements within the CSRD may represent an area of genuinely additional activity relative the level of activity in the base year. However, our analysis suggests that the scale of additional resources required may have been overestimated:

- [REDACTED]

- [REDACTED] [17] [REDACTED]

    o [REDACTED].

    o [REDACTED].

  [REDACTED].

- [REDACTED].

In relation to increases in [REDACTED], AirNav Ireland's response provides some explanation of the increase in spending in 2023 relative to previous years. However, it does not provide sufficient demonstration of a permanent increase in requirement into RP4. AirNav Ireland's response does not explain why the increases in variable costs experienced between 2022 and 2024 should be expected to continue through RP4.

Nevertheless, we adapt our approach to reflect the additional evidence presented by AirNav Ireland. We set our baseline using the average spend from 2016 to 2023, excluding 2020 to 2022, which were affected by COVID-19 related cost containment. We also adjust our forecast to reflect wage growth over this period to remain internally consistent.

5.6.4. Our final forecasts

In the table below, we present our final forecasts for efficient expenditure on consultancy, professional services and PR. The only cost category where our final forecasts have changed from our draft forecasts is professional services, which are €0.7 million higher than over the RP4 period.

Table 5.12: CEPA final forecast of efficient consultancy, professional services and PR costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
Consultancy	1.0	1.0	1.0	1.0	1.0
Professional Services	0.7	0.7	0.7	0.8	0.8

[17] [REDACTED]

	2025	2026	2027	2028	2029
PR	0.7	0.7	0.8	0.8	0.8

Source: CEPA analysis

5.7. BUILDING REPAIRS

5.7.1. Our draft forecasts

When assessing the efficiency of 2023 expenditure on building repairs, we used the SCSI Tender Price Index as a proxy for AirNav Ireland's exposure to cost pressures and to construct an efficiency benchmark. We also concluded that it was plausible that the difference between this benchmark estimate and outturn 2023 spending could, as AirNav Ireland had suggested in its Business Plan, be driven by an ageing property base. And, therefore, we used 2023 outturn expenditure as our efficient baseline.

However, we requested further information from AirNav Ireland to explain the step-up in spending on building repairs, particularly in the context of further increases in the RP4 forecast and the capital investment plan which includes several property-related projects.

For the forecast, we concluded that AirNav Ireland had not provided sufficient justification for the increase in expenditure it had proposed within its Business Plan. While we acknowledged that as buildings age there may be an increased volume of associated repairs, we found that AirNav Ireland did not sufficiently evidence or quantify this impact. Additionally, we expected the benefits associated with capital expenditure to offset the increase in volume of building repairs elsewhere. Therefore, for our forecast, we assumed spending on building repairs would stay constant at 2023 efficient levels, as shown in the table below.

Table 5.13: Comparison of CEPA draft forecasts of efficient spending on building repairs with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	2.0	1.9	1.9	2.0	2.0
CEPA Draft Forecast	1.3	1.3	1.3	1.3	1.3
Difference	-0.7	-0.6	-0.6	-0.7	-0.7

Source: CEPA Draft Report

5.7.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland argued that our methodology for calculating efficient building repair costs for RP4 did not account for the level of price increases since the start of RP3, specific to the construction sector. As for maintenance costs, AirNav Ireland submit that according to the SCSI's Tender Price Index, the cumulative effect of the index shows a total inflation of approximately 24% since January 2022.

In 2024, AirNav Ireland commissioned extensive 'Condition Assessment Reports' on the main centres and find that a programme of ongoing maintenance is required to maintain the structures and building installations. AirNav Ireland provided seven balance of condition assessments for the main centres and argue that this demonstrates the level of detail the company is undertaking to ensure funding requests are accurate and informed.

5.7.3. Our response to stakeholder views

We separate our assessment of AirNav Ireland's comments into considering volume effects and price effects.

Firstly in relation to volume effects:

- We do not consider that the evidence presented by AirNav Ireland has demonstrated the **need** for increased volumes of building repair activity. The condition assessment reports explain why specific

interventions may be needed, but often no timelines are provided, nor has any comparison been provided against historic activity levels

- Similarly, the condition assessment reports do not demonstrate **additionality**. While the reports indicate that there are ageing buildings which need repairs, some of which will need to take place within RP4, the reports do not provide an indication of expected costs and scale of expenditure required. AirNav Ireland has also not provided sufficient evidence for a step-up in requirements in building repairs, relative to historic activity levels.

- Finally, in terms of **cost-efficiency**, the absence of any independent cost estimates makes it challenging to conclude that that estimates included within AirNav Ireland's Business Plan are efficient. More broadly, the detail provided in the condition assessments do not provide any indication of whether repairs are required due to inefficient historic maintenance activities or due to the natural ageing of AirNav Ireland's portfolio.

In relation to price effects, we reconsider our view to assume expenditure stays flat over RP4 and adjust our forecast to account for real price increases in building repair costs over time. When looking at historic increases in building maintenance costs, as proxied by the SCSI Tender Price Index, we find that costs have increased by an average 1% per annum in real terms.[18] Consequently, we adjust our forecast to include a 1% per annum increase from 2023 levels.

5.7.4. Our final forecasts

Our final forecasts of efficient expenditure on building repairs are presented in the table below.

Table 5.14: CEPA final forecast of efficient building repair costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	1.3	1.3	1.4	1.4	1.4

Source: CEPA analysis

5.8. SECURITY

5.8.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 expenditure for security. Whilst AirNav Ireland included a step-increase in security spending over RP3 relative to RP2 levels, outturn 2023 spending was broadly in line with the implied IAA forecast for 2023 and we assumed that the increase assumed in the IAA forecast accounted for the increase in property footprint and regulatory requirements. We adopted outturn 2023 spending as our efficient baseline.

We noted that AirNav Ireland is expecting spending to increase by approximately ✂✂✂✂✂ from 2023 levels, some of which can be explained by wage growth which is reflected in our forecast. AirNav Ireland stated that the remaining increase was driven by additional requirements which we did not consider the company had fully evidenced. We identified relevant projects within AirNav Ireland's capital plan that should introduce opex efficiencies. Our forecast included a step increase of 5% to account for the combined effect of the additional requirements and the capex efficiencies.

Table 5.15: Comparison of CEPA draft forecasts of efficient spending on security with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	✂	✂	✂	✂	✂

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[18] Between 1998 and 2023, annualised growth in the SCSI's Tender Price Index equates to 2.9%, compared to annualised CPI growth in the same period of 1.9%, implying a real price effect of 1%.

	2025	2026	2027	2028	2029
CEPA Draft Forecast	✂	✂	✂	✂	✂
Difference	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.8.2.   Stakeholder responses to the RP4 Draft Decision consultation

In response to the IAA's Draft Decision, AirNav Ireland provided the qualitative explanations outlined below relating to security expenditure.

- It reiterates the regulatory requirements which underpin security expenditure, specifically arguing that it is required to continually improve security systems, equipment, and processes through its continuous improvement programme.

- It states that the company has an obligation to continuously review for vulnerabilities and ensure appropriate measures and equipment standards are provided to address such vulnerabilities and to facilitate response requirements in the case of a threat escalation.

- It states that the risk assessment and audit requirements result in an active and ongoing security project programme to ensure systems are fit for purpose and replaced/upgraded as appropriate.

- It provides examples of equipment options and specified that a practical approach will be taken to replace equipment when necessary.

- It outlines the list of requirements for security hardening as identified by its external risk management consultants, claiming the cost of implementing the full report recommendations would be ✂. Due to the nature of the security systems and equipment, capital and operational costs would be incurred.

5.8.3.   Our response to stakeholder views

AirNav Ireland provided supporting evidence that outlines the need for spending in security, and we detail our response below:

- We consider that the results from the third-party risk assessment provided by AirNav Ireland which state that the company should ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ provides sufficient evidence for the **needs test**.

- AirNav Ireland provided an explanation that the ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ and detail the cost of implementing the full report. This provides sufficient evidence for the **additionality test**.

- AirNav Ireland provided references to an independent Quantity Surveyor report that is has procured, which provides cost estimates or implementation. We view that these references provide sufficient evidence for the **cost-efficiency test**.

5.8.4.   Our final forecasts

Our final forecasts of efficient expenditure on security are presented in the table below.

Table 5.16: CEPA final forecast of efficient security costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	✂	✂	✂	✂	✂

Source: CEPA analysis

5.9. CLEANING

5.9.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 expenditure for cleaning. We expect cleaning costs to vary based on activity volumes, labour and material costs, and productivity changes. AirNav Ireland's increased footprint due to investments in a new Dublin Airport tower and ACC contingency centre. Comparing 2019 to 2023, we found that while comparable labour costs grew by 5% in real terms, AirNav Ireland's cleaning costs increased by ✂. ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂, we acknowledged that AirNav Ireland is currently within a competitively tendered five-year cleaning contract. Despite concerns about large real price increases during an active contract, we recognised AirNav Ireland's limited ability to renegotiate until RP4. Consequently, we use AirNav Ireland's 2023 expenditure as the baseline without applying an efficiency adjustment, considering it unrealistic to do so under the current circumstances.

We concluded that the level of expenditure incurred in 2023 may have been inefficient and as such proposed assuming cleaning costs stay constant at 2023 levels for the duration of RP4. This assumption expected that a retendering and renegotiation of the cleaning contract combined with improved supplier management, would deliver efficiencies that would offset any increases from a larger footprint and higher labour costs. We challenged AirNav Ireland to provide evidence that contractual increases observed over RP3 proportionately reflect increases in activity and inflationary pressures; and that the cost increases assumed over RP4 similarly reflect expected increases in activity and expected real increases in labour costs.

Table 5.17: Comparison of CEPA draft forecasts of efficient spending on cleaning with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	✂	✂	✂	✂	✂
CEPA Draft Forecast	✂	✂	✂	✂	✂
Difference	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.9.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland argued that the cleaning contract was let in 2022 following a competitive public tendering process, and it is in place until 2026. AirNav Ireland argued that costs have increased as a result of the increase in Minimum Wage in 2024 and the cost of cleaning products. Additional wage increases are expected during RP4, alongside a planned increase in staffing numbers which will increase the loading on facilities. AirNav Ireland stated that for cleaning, wages account for 74.3% of the cost of service. The increase to minimum wage in 2024 represented a 14% increase in cost which the contractor as unable to absorb. AirNav Ireland reiterated that as a state commercial company it would be expected to honour this commitment.

5.9.3. Our response to stakeholder views

We find that while AirNav Ireland has provided an explanation for the cleaning cost increases observed between 2023 and 2024, it has not adequately addressed the substantial increase in cleaning costs between 2019 and 2023.

Although AirNav Ireland states that the cleaning contract was competitively tendered in 2022, the evidence provided does not sufficiently demonstrate the efficiency of the tender price. Specifically, there is a lack of information regarding the competitiveness of the tendering process and whether the specified outputs were appropriately scoped or potentially over-specified.

Our initial conclusion that the 2023 expenditure may have been inefficient remains unchanged. However, we acknowledge that we do not have a sufficiently robust evidence base to justify implementing an efficiency challenge at this time. Going forward, we allow the cost increase of 14% related to the increase in minimum wage between 2023 and 2024 but do not adjust for any further increases over RP4.

5.9.4. Our final forecasts

Our final forecasts of efficient expenditure on cleaning are presented in the table below.

Table 5.18: CEPA final forecast of efficient cleaning costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
CEPA Final Forecast	✂	✂	✂	✂	✂

Source: CEPA analysis

5.10. FLIGHT CHECKING, SUBSCRIPTIONS, AND ENVIRONMENTAL

5.10.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 expenditure for flight checking, subscriptions, and environmental costs. As expenditure in 2023 was only slightly higher than the historical average, and below the implied IAA forecast, we used outturn 2023 expenditure as the efficient baseline.

To forecast efficient expenditure from 2023 levels we adopted a different approach for three cost lines:

- For flight checking we link future spending to IFR movements, but with a one-year lag. While we would not necessarily expect there to be a direct link between air traffic movements and spending on flight checking, we observe that there has been a link.

- For subscriptions, we adopt the forecast provided by AirNav Ireland within its business plan. We consider these costs largely outside AirNav Ireland's control and necessary for AirNav Ireland to maintain its place in COOPANS. We also observe that the subscription costs over RP4 are staying relatively constant, and do not represent a large increase over 2019 levels.

- Finally, for environmental spending, we link our forecast to the step increase for sustainability initiatives allowed for in our efficiency study for Dublin Airport. In our efficiency study for Dublin Airport, we assessed a step-increase of 0.5% of opex for sustainability initiatives and environmental management. As a result, we apply a proportionate increase in spending by AirNav Ireland.

Table 5.19: Comparison of CEPA draft forecasts of efficient spending on flight checking, subscriptions and environment, with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan	✂	✂	✂	✂	✂
CEPA Draft Forecast	✂	✂	✂	✂	✂
Difference	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.10.2. Stakeholder responses to the RP4 Draft Decision consultation

Flight checking

AirNav Ireland reiterated that flight checking is a regulatory requirement and is necessary to confirm that NAVAIDS are radiating within tolerances to ensure it continues to operate safely. AirNav Ireland stated that there are specific requirements for the periodicity of flight checks to be conducted. AirNav Ireland contracted ✂ to conduct flight checks for 2021 to 2025, following a tender competition ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂.

AirNav Ireland explained that there are two new Dublin North Runway Flight Checks, following the opening of the parallel runway at Dublin Airport.

Subscriptions and environmental

AirNav Ireland did not provide a response relating to subscriptions and environmental opex.

5.10.3. Our response to stakeholder views

AirNav Ireland provided supporting evidence that outlines the need for spending in flight checking, and we detail our response below:

- We consider that the list of flight checks provided by AirNav Ireland, and explanation that there are two new Dublin North Runway Flight Checks system provides sufficient evidence for the **needs and additionality tests**.

- However, we do not find the step-increase in spending to be proportionate. The increase in the volume of flight checks from 25 to 27 is equal to 8%, whereas the step up in expenditure in the AirNav Ireland RP4 Business Plan is equal to ✂. AirNav Ireland did not provide evidence for the additional flight checking expenditure for RP4. As such, AirNav Ireland have not provided sufficient evidence to justify the step-increase for the **additionality test**.

Instead we have applied an alternative methodology which is outlined below.

5.10.4. Our final forecasts

We applied step-increase from the 2023 baseline, which allows for a 10% increase in volumes to reflect the two new flight checks as a proportion of the total number of flight checks (previously 25). ✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂ ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂.

Our final forecasts of efficient expenditure on flight checking are presented in the table below.

Table 5.20: CEPA final forecast of efficient flight checking, subscriptions, and environmental costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
Flight checking	✂	✂	✂	✂	✂
Subscriptions	0.6	0.6	0.6	0.6	0.6
Environmental	0.2	0.2	0.2	0.2	0.2

Source: CEPA analysis

5.11. 'OTHER' NON-STAFF COSTS

5.11.1. Our draft forecasts

To produce our draft forecasts, we initially assessed the efficiency of 2023 expenditure for 'other' non-staff activities. In doing so, we found that expenditure for the two cost categories was substantially higher in 2023 than for 2020 and AirNav Ireland provided very little detail as to what activities are captured within these two cost categories. We also found that spending substantially reduced in 2023 relative to 2019 levels and remained below the implied IAA RP3 forecast. Given this and given the results of our top-down benchmarking analysis, we did not include any efficiency challenge and adopted outturn 2023 spending as our efficient baseline.

For the basis of setting our efficient forecast, we matched our forecast to AirNav Ireland's but note that without further detail on what is captured within the other administration category, we are unable to say with confidence that this represents efficient expenditure. We noted that we will review any further details provided by AirNav Ireland and reconsider our forecast for these categories.

Table 5.21: Comparison of CEPA draft forecasts of efficient spending on 'Other' non-staff costs with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan					
Other operational	0.5	0.6	0.6	0.6	0.6
Other admin	1.6	1.6	1.6	1.6	1.6
CEPA Draft Forecast					
Other operational	0.5	0.6	0.6	0.6	0.6
Other admin	1.6	1.6	1.6	1.6	1.6
Difference					
Other operational	0.0	0.0	0.0	0.0	0.0
Other admin	0.0	0.0	0.0	0.0	0.0

Source: CEPA Draft Report

5.11.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland acknowledged that the RP4 Business Plan submission included a limited amount of detail on 'other' non-staff costs and subsequently provided a breakdown of the cost category as shown in the table below.

Table 5.22 AirNav Ireland's 'Other' non-staff cost breakdown (€ million, 2022 prices)

	2023	2024	2025	2026	2027	2028	2029	RP4 Total
✂✂✂ data	-	-	0.2	0.3	0.3	0.3	0.3	**1.4**
Vehicle lease and maintenance	0.1	0.2	0.2	0.2	0.2	0.2	0.2	**1.0**
Calibration	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.5**
Total	**0.2**	**0.3**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**2.9**

Source: AirNav Ireland RP4 Response to Consultation

AirNav Ireland provided an explanation for the need and benefits of ✂, stating that the system provides resilience to its radar service in En-route airspace.

5.11.3. Our response to stakeholder views

We do not make any changes to our draft forecasts.

5.11.4. Our final forecasts

Our final forecasts of efficient expenditure on other non-staff costs are presented in the table below.

Table 5.23: CEPA final forecast of efficient 'Other' non-staff costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
Other operational	0.5	0.6	0.6	0.6	0.6
Other admin	1.6	1.6	1.6	1.6	1.6

Source: CEPA analysis

5.12. REMAINING NON-STAFF COSTS

5.12.1. Our draft forecasts

Power and utilities

We compared the change in expenditure for power and utilities against external cost benchmarks and found that AirNav Ireland's outturn 2023 expenditure compared favourably leading us to conclude that power and utilities expenditure was broadly efficient for 2023. To forecast efficient power and utilities expenditure over RP4 we retained expenditure constant at our 2023 baseline and assumed that consumption of electricity, gas, and water stays constant with unit costs also remaining constant in real terms. Here, we are assuming that either that a) the cost of energy and other utilities will rise exactly by inflation, or that b) any price increases are sufficiently captured within the inflation forecast such that a separate adjustment is not required.

Travel

To produce our draft forecasts, we reviewed the reduction and subsequent recovery in travel spending between 2020 and 2023 and compared this to a Deloitte study looking at patterns in business travel and the recovery following the COVID-19 pandemic.[19] We found that business travel spending declined less at AirNav Ireland than elsewhere and remained higher than elsewhere in 2023. We found that in 2024, travel spending at AirNav Ireland will largely return to 2019 levels in nominal terms while Deloitte are expecting business travel in general to reach 90% of 2019 levels. However, we also considered this in the context that AirNav Ireland has multiple sites across Ireland and travel between those sites is likely to be a core part of the business with less discretionary travel. We accepted outturn 2023 travel spending levels as our efficient baseline, but with the assumption that there will be cost restraint over RP4.

To forecast efficient expenditure over RP4 we considered two drivers: the continued recovery in business travel following the COVID-19 pandemic; and volume-led growth due to higher staffing levels We considered that it would be reasonable to assume that these two drivers cancel each other out such that travel expenditure remains at the long-term pre-pandemic average. Our forecast of efficient travel expenditure aligned with AirNav Ireland's proposals.

Rent and rates

To produce our draft forecasts, we reviewed the efficiency of AirNav Ireland's 2023 expenditure. We considered that rent and rates expenditure is generally out of AirNav Ireland's control, as such we use AirNav Ireland's 2023 expenditure of €2.9 million as the efficient baseline. To forecast efficient expenditure, we considered information provided by AirNav Ireland and validated against external sources. We found that AirNav Ireland's explanations adequately explained the scale of increase being proposed and so, adopted AirNav Ireland's forecast.

Insurance

To produce our draft forecasts, we reviewed the efficiency of AirNav Ireland's insurance expenditure in 2023 and found no evidence to suggest this expenditure was inefficient. As such, we accepted AirNav Ireland's insurance expenditure for 2023 as an efficient baseline. To forecast insurance expenditure, we used the average annual insurance premium growth rate observed / forecast by Swiss RE and Marsh from 2017-2024 to assess the reasonableness of AirNav Ireland's insurance. We found these estimates to be broadly similar to AirNav Ireland's forecast and as such, adopted this for RP4.

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[19] Deloitte (2023) Navigating toward a new normal: 2023 Deloitte corporate travel study. Available at https://www2.deloitte.com/xe/en/insights/focus/transportation/corporate-travel-study-2023.html

Table 5.24: Comparison of CEPA draft forecasts of efficient spending on power and utilities, travel, rent and rates, and insurance costs with AirNav Ireland's Business Plan forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029
AirNav Ireland Business Plan					
Power and utilities	2.6	2.6	2.6	2.6	2.6
Travel	1.4	1.4	1.4	1.4	1.4
Rent and rates	3.1	3.1	3.1	3.1	3.1
Insurance	✂	✂	✂	✂	✂
CEPA Draft Forecast					
Power and utilities	2.6	2.6	2.6	2.6	2.6
Travel	1.4	1.4	1.4	1.4	1.4
Rent and rates	3.1	3.1	3.1	3.1	3.1
Insurance	✂	✂	✂	✂	✂
Difference					
Power and utilities	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0
Rent and rates	0.0	0.0	0.0	0.0	0.0
Insurance	✂	✂	✂	✂	✂

Source: CEPA Draft Report

5.12.2. Stakeholder responses to the RP4 Draft Decision consultation

AirNav Ireland did not provide a response to IAA's draft decision for these cost lines.

5.12.3. Our final forecasts

Our final forecasts of efficient expenditure on power and utilities, travel, rent and rates, and insurance costs are presented in the table below.

Table 5.25: CEPA final forecast of efficient power and utilities, travel, rent and rates, and insurance costs (€ million, 2022 prices)

	2025	2026	2027	2028	2029
Power and utilities	2.6	2.6	2.6	2.6	2.6
Travel	1.4	1.4	1.4	1.4	1.4
Rent and rates	3.1	3.1	3.1	3.1	3.1
Insurance	✂	✂	✂	✂	✂

Source: CEPA analysis

5.13. OVERALL NON-STAFF FORECAST

The table below summarises our final non-staff opex forecasts over RP4 by cost category.

Table 5.26: Final non-staff forecast, 2025-2029 (€ million, 2022 prices)

	2025	2026	2027	2028	2029
Travel	1.4	1.4	1.4	1.4	1.4

	2025	2026	2027	2028	2029
Training	✂	✂	✂	✂	✂
Utilities	0.8	0.8	0.8	0.8	0.8
Telecoms	✂	✂	✂	✂	✂
Maintenance	✂	✂	✂	✂	✂
Spares	1.6	2.2	3.3	1.6	1.6
Power	1.7	1.7	1.7	1.7	1.7
Flight checking	✂	✂	✂	✂	✂
Other operational	0.5	0.6	0.6	0.6	0.6
Subscriptions	0.6	0.6	0.6	0.6	0.6
Rent and rates	3.1	3.1	3.1	3.1	3.1
Computing	2.6	2.7	2.7	2.8	2.8
Consultancy	1.0	1.0	1.0	1.0	1.0
Insurance	✂	✂	✂	✂	✂
Building repairs	1.3	1.3	1.4	1.4	1.4
Environmental	0.2	0.2	0.2	0.2	0.2
Security	✂	✂	✂	✂	✂
Professional services	0.7	0.7	0.7	0.8	0.8
Cleaning	✂	✂	✂	✂	✂
PR	0.7	0.7	0.8	0.8	0.8
Staff-related	0.9	1.0	1.0	1.0	1.0
Other administration	1.6	1.6	1.6	1.6	1.6
CEPA non-staff opex forecast (final)	**41.8**	**45.7**	**43.6**	**44.7**	**46.6**
CEPA non-staff opex forecast (draft)	**40.7**	**44.5**	**42.2**	**43.5**	**45.3**
AirNav Ireland Business Plan	**46.2**	**49.4**	**48.0**	**48.1**	**50.8**

Source: CEPA analysis of AirNav Ireland data

6. CONCLUSIONS AND FORECAST SUMMARY

In Table 6.1 below, we present our projections of staff and non-staff costs and compare them against AirNav Ireland's forecast. Over the RP4 period, our forecast is approximately 5% lower than AirNav Ireland's Business Plan forecast. More of this is driven by non-staff costs where our forecast is around 8% lower than AirNav Ireland's business plan, while our payroll forecasts are approximately 3% lower.

Nevertheless, our forecast remains a significant step up on AirNav Ireland's outturn expenditure in 2023, which was €120 million, and includes a significant increase over the RP4 period. From 2025 to 2029, we are expecting opex to increase by approximately 9%, while traffic is expected to only grow by 8% over the same period. This equates to an elasticity of opex with respect to traffic volumes of greater than 1, meaning that every 1% increase in traffic volumes is leading to an increase in opex of greater than 1%. Taking a longer time horizon from 2019 to 2029, the elasticity remains slightly above 1.

While an elasticity greater than 1 could imply that our forecast is too generous, we consider it appropriate in the context of our assessment of ATCO under resourcing in 2023 and the capital initiatives being implemented over RP4, which require a temporary increase in expenditure.

Table 6.1: Overall CEPA and AirNav Ireland opex forecasts (€ million, 2022 prices)

	2025	2026	2027	2028	2029	RP4 Total
CEPA total opex forecast	131.1	137.3	136.7	139.8	142.5	**687.2**
Staff costs	89.2	91.5	93.0	95.1	96.0	**464.8**
Non-staff costs	41.8	45.7	43.6	44.7	46.5	**222.4**
AirNav Ireland total opex forecast	**135.2**	**142.9**	**143.6**	**147.1**	**152.1**	**720.9**
Staff costs	88.9	93.5	95.6	99.0	101.3	**478.3**
Non-staff costs	46.2	49.4	48.0	48.1	50.8	**242.5**

Source: CEPA analysis, AirNav Ireland RP4 Business Plan