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Hristina Dantcheva  
Head of Price Quality Regulation  
Commerce Commission  
Via: infrastructure.regulation@comcom.govt.nz

## **Wellington International Airport Limited - Submission on Airports Cost of Capital IMs Amendments**

### **Executive summary**

This is WIAL's submission on the Commission's draft decision on *Targeted amendments to the Cost of Capital Input Methodologies for Airports – equity beta and related parameters*. We enclose an expert report prepared by HoustonKemp. No part of this submission or the enclosed report is confidential.

We have reviewed and support the NZ Airports submission and the accompanying report prepared by CEG. We have also reviewed Dr Martin Lally's report on the Commission's draft decision and refer to it where relevant.

At the outset we want to emphasise our concern at the path the Commission is pursuing. The fact that the Commission has, since 2023, estimated the asset beta using three entirely different and conceptually incompatible methods, and has progressively abandoned statistical rigour in favour of qualitative and highly contestable 'judgements', undermines the credibility of the exercise and therefore our confidence in the Commission's monitoring function under Information Disclosure regulation. We are also increasingly frustrated at the Commission's unwillingness to engage in a meaningful way with the evidence and analysis presented by airports. At a minimum, if the Commission is going to reject that evidence, it must offer some cogent reasons for doing so.

In summary, our view is the Commission should:

- As a first and best option, revert to its pre-2023 method of estimating the asset beta, utilising a large comparator set and taking the average of at least ten years of data. This has been our consistent position.
- Alternatively, as a second-best option, the Commission should undertake the correction exercise it indicated to the Court it would undertake, which is essentially that captured in Attachments B and C.
  - It is important to confirm the asset beta that would have applied from December 2023 had the Commission correctly implemented the pandemic adjustment because: (i) absent that correction, there is effectively no equity beta to refer to in respect of the period from December 2023 to September 2026; and (ii) the carry-forward mechanism in WIAL's PSE5 requires that we form a view of what the 'correct' asset beta is for that price-setting event. In our view, that asset beta cannot be lower than 0.72, which is the bottom of the pandemic-adjusted range estimate indicated in the joint expert report we provided the Commission on 1 April

2024.<sup>1</sup> The estimated leverage would remain 23% as provided for in the 2023 IM determination.<sup>2</sup>

- Equally, we can understand the Commission's desire to update that analysis to account for more recent market data and apply that to future price-setting events, which is the exercise set out in Attachment C. The resulting asset beta of 0.71 is more credible than the draft decision's estimate of 0.62 and similar to the asset beta that results from several other approaches, as detailed by CEG. However, that estimate would be more defensible if the Commission addressed the most significant methodological flaws; i.e. (i) adopting a definition of the pandemic period that is supported by statistical testing, and (ii) including asset beta estimates up to May 2026 to include as much post-Covid data as possible. With those corrections, the resulting asset beta estimate is 0.74 and leverage is 24%.<sup>3</sup>

Finally, setting aside the merits of including the Covid period in the analysis, the Commission's preferred approach in the draft decision contains significant errors that, even on the Commission's reasoning, should be addressed:

- The three-year sample is much too constrained and the Commission should use at least 10 years of data whatever its methodology;
- The Commission says there is no new information that requires refreshing the airports in the comparator set. To the contrary, the filters applied by the Commission to derive the comparator set are time-sensitive and, if applied to the 2023-2026 estimation window, would result in a different mix of airports. Refreshing the filters would require including the three Mexican airports (Sureste, Pacifico and Norte) as well as Malaysia, and excluding Thailand;<sup>4</sup>
- The Commission's definition of the Covid period is arbitrary and unprincipled;
- There is no reason to exclude more recent asset beta estimates (post-January 2026) given that data is available and the short duration of the estimation window is an acknowledged weakness.

Addressing the latter three issues alone would result in an asset beta of no less than 0.75 and leverage of 23%.<sup>5</sup>

The Commission will see that Table 1-1 of CEG's report canvasses a range of different methods of estimating the asset beta. The pros and cons of each of those methods is explored in more detail in the body of the report. But a key takeaway is that effectively every plausible option points towards an asset beta of approximately 0.71 or higher (i.e. roughly consistent with the asset beta estimates adopted by the Commission to review WIAL and AIAL's PSEs). The Commission, in contrast, has preferred a method that produces a uniquely low asset beta with reference to both historic averages and the range of plausible choices available to the Commission.

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<sup>1</sup> Tom Hird (CEG), Samuel Lam (CEG), Jeff Balchin (Incenta), Brendan Quach (HoustonKemp) and Johnathan Wongsosaputro (HoustonKemp), *Responding to Coding Errors made by NZCC* (1 April 2024).

<sup>2</sup> Commerce Commission, Targeted amendments to the Cost of Capital Input Methodologies for Airports – equity beta and related parameters: Draft decisions reasons paper (19 May 2026) (**Draft decision**) at [B3].

<sup>3</sup> CEG, *Critique of NZCC Targeted Amendments Draft Decision* (16 June 2026) (**CEG Report**) at (F) of Table 1-1.

<sup>4</sup> CEG Report at [198].

<sup>5</sup> See CEG Report at Tables 8.3 and 8.5. the asset beta and leverage estimates assume use of the Flint covid period, ending 1 January 2022.

### **This is the third estimation methodology the Commission has adopted in as many years**

The 'true' asset beta of an airport – the systematic risk it faces – cannot be calculated precisely. It can only be estimated by measuring the co-variance of airport returns to market returns over a period of time. There is an unchallenged academic consensus that asset beta estimates are extremely volatile – they exhibit a high degree of variance. The solution to that variance is to estimate the asset beta from statistically significant sample sizes.

Between 2010 and 2023, the Commission estimated the asset beta using: (i) a large comparator set of airports, and (ii) a period of analysis of at least ten years.<sup>6</sup> By the Commission's own admission, a large comparator set and a period of analysis of at least ten years was important to ensure a robust and reasonably stable estimate of the asset beta. For example, in its 2016 IM Review the Commission stated its reasons to prefer a larger comparator set:<sup>7</sup>

*We consider that using the large energy sample has several benefits over the alternative approaches suggested in submissions. For example, this approach:*

*277.1 limits the need to make subjective judgement calls regarding whether each of the 74 companies from the draft comparator sample should be included, as required under TDB's approach to refining the comparator sample. In particular, we consider there is a lack of clarity regarding the thresholds, evidence, and judgement calls TDB made when excluding companies from the sample;*

*...*

*277.3 maintains consistency and stability with the approach used when setting the original IMs in 2010. Therefore, this reduces the risk of large swings between reviews based on a change in approach, rather than a change in asset beta data.*

And in relation to the period of analysis, the Commission stated:<sup>8</sup>

*... in this context we consider that placing greater weight on the two most recent five-year periods provides an appropriate balance between the number of observations and the best reflection of beta for the future.*

Airports, and airport investors, valued the consistency and stability of this approach, and regarded it – as did the Commission – as a statistically sound method of estimating the asset beta. Moreover, because the asset beta was reasonably stable over time, it was an appropriate asset beta to apply for the seven years that typically separates IM Reviews.

While the methodology evolved incrementally over the period between 2010 and 2023, the Commission adopted a fundamentally similar approach, with a consistent focus on the merits of large samples as more likely to result in an estimate of asset beta that is reasonably close to the hypothetical 'true' asset beta.

Since 2023, the Commission has abandoned any attempt at statistical rigour or methodological consistency. The current draft decision represents the third new methodology the Commission has adopted to estimate the asset beta.

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<sup>6</sup> Comprising two five-year periods, albeit the Commission at various stages placed different weights on the periods in its dataset.

<sup>7</sup> Commerce Commission, *Input Methodologies review decisions: Topic paper 4 cost of capital issues* (20 December 2026) (**2016 Final Reasons Paper**) at [277].

<sup>8</sup> 2016 Final Reasons Paper at [300].

First, in the 2023 IM Review it abandoned its large comparator set in favour of a smaller set of nine airports that the Commission considered were 'more comparable', derived using highly contestable 'filters'. While it recognised the importance of maintaining a ten-year period of analysis, it decided the inclusion of relatively higher beta estimates during the Covid period would implicitly over-estimate the likely frequency and magnitude of Covid events in the future, and it therefore de-weighted the Covid period beta estimates in its dataset using a variation of the Flint method.<sup>9</sup> That produced an asset beta of 0.67.

The airports appealed that decision. Amongst other matters, we pointed out that the R Code the Commission used to implement the Flint method contained errors. The Commission eventually acknowledged those errors and advised the Court, in the course of the appeal, that it would undertake an exercise to fix those errors.

But, in the meantime, AIAL and WIAL were required to set prices. In the absence of a 'correct' implementation of the Flint method, the Commission adopted a second method, adopting the midpoint (0.715) between:<sup>10</sup>

- the value of 0.69, which constituted a 0.02 increase in the original asset beta of 0.67, correcting for the 'first coding error'; and
- the value of 0.74, which was the average asset beta for the last two five-year periods (i.e. including the pandemic period).

We argued this method was illogical.<sup>11</sup> The first coding error affected the Commission's estimate of the pre-Covid asset beta. But rather than correct the pre-Covid asset beta, the Commission instead adjusted its final beta estimate of 0.67. This 0.67 was itself an essentially arbitrary point the Commission had selected with reference to several discrete datapoints. In addition, the Commission had made no attempt to correct for the 'second coding error', which affected the calculation of the pandemic uplift. We argued there was no principled basis for adopting the midpoint between 0.69 and 0.74 as those datapoints did not constitute the bounds of a range estimate but were rather unrelated datapoints. In no meaningful sense could 0.715 be said to constitute a correction of its 2023 IM Review decision.

However, we noted that the matter should ultimately be determined as part of the disposition of the appeal. The Commission responded in its final determination that:<sup>12</sup>

*the airport accepts that the value of the asset beta will be resolved through the 2023 IMs appeal and an appropriate adjustment can be made through the carry forward adjustment. We agree that this is a matter that will be resolved through the appeals of the 2023 IMs and by the carry forward adjustment. (footnotes omitted)*

The Commission told the Court that, should the Court dismiss the airports' appeal, the Commission would undertake an exercise to correct for the errors in its 2023 IM Review decision.<sup>13</sup> However,

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<sup>9</sup> Commerce Commission, *Part 4 IM Review 2023 Final Decision Cost of Capital topic paper* (13 December 2023) (**2023 Final Reasons Paper**) at [4.206]-[4.211].

<sup>10</sup> Commerce Commission, *Review of Auckland Airport's 2022-2027 Price Setting Event: Final Report* (31 March 2025) at [2.139]-[2.140]; Commerce Commission, *Review of Wellington Airport's 2024-2029 Price Setting Event: Final Report* (29 September 2025) (**WIAL 2024-2029 PSE5 Final Report**) at [2.12]-[2.13].

<sup>11</sup> Wellington International Airport Ltd, *Wellington Airport Price Setting Event 5 Review – Submission* (7 July 2025) at [15].

<sup>12</sup> WIAL 2024-2029 PSE5 Final Report at [2.15].

<sup>13</sup> *New Zealand Airports Association Inc v Commerce Commission* [2025] NZHC 239 (**High Court judgment**) at [274].

rather than correct its earlier decision, the Commission has now adopted a third method for estimating the asset beta.

This new method eschews any reliance on data from the pandemic period, instead estimating the asset beta from data in the period 1 February 2023 to 31 January 2026. In doing so, the Commission has moved away from its historic commitment to a longer period of analysis in order to produce a more statistically reliable estimate of the 'true' beta. The Commission barely acknowledges this departure from its usual approach, asserts without reasoning or evidence that the post-Covid data has "settled sufficiently" to support a confident estimate, and fails completely to confront the statistical weakness of such a short period of analysis.

### **Constant ad hoc adjustments to the comparator set and estimation window undermine the integrity of the estimate**

In our submissions in the 2023 IM Review, and subsequently in the appeal to the High Court, we emphasised that making ad hoc adjustments to the comparator set or the period of analysis meant the asset beta would increasingly reflect the Commission's methodological choices rather than changes in market conditions or investor expectations.<sup>14</sup> We were concerned that the addition or removal of one or two airports, or the expansion or reduction of the period of analysis by one or two months, resulted in substantial changes in the asset beta estimate.<sup>15</sup> It is not plausible to suggest these swings are reflective of changes in the 'true' asset beta. Rather, the fact the estimate varies significantly based on relatively small adjustments to the methodology illustrates that narrow comparator sets and shorter periods of analysis exhibit high variance and are statistically unsound.

The methodology set out in the Commission's draft decision illustrates this problem. As HoustonKemp has explained, expanding the period of analysis by only a few months changes the asset beta estimate materially. In addition, a small number of airports in the comparator set have a disproportionate influence on the overall estimate. None of that is acknowledged in the Commission's reasons.

In our view the Commission has stumbled into the trap it built for itself in 2023. The problem with making ad hoc adjustments to the comparator set and the period of analysis is that you have to keep doing it. One set of choices produces a result the Commission considers credible in 2023, but those same choices produce a result the Commission considers implausible three years on. Each reset requires a new bespoke method that works around the idiosyncrasies occasioned by the Commission's small sample. The Commission may believe that this is a temporary problem now that the pandemic has passed. It may say that it expects to return to a more orthodox approach over time as the Covid pandemic recedes. But we are currently in the grips of a global fuel crisis, brought about by the US/Israel conflict with Iran, that has once more thrown the global aviation system into disarray. What is the Commission's response to that? A curious feature of the period of analysis adopted by the Commission is that it ends on 31 January 2026. The conflict with Iran began on 28 February 2026. The Commission has therefore adopted a period that neatly avoids two significant events that have impacted the aviation sector and the market more widely in the last ten years, resulting in an artificially low beta.

The Commission's preference for ad hoc adjustments to the comparator set and the period of analysis has several negative consequences, which we pointed out in our submissions in the 2023 IM Review:

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<sup>14</sup> Wellington International Airport, *Submission on 2023 Input Methodologies Review Draft Decisions* (19 July 2023) (**WIAL 2023 Submission**) at [40].

<sup>15</sup> See, for example, WIAL 2023 Submission at [103].

- The asset beta estimate no longer tracks changes in market conditions or investor expectations. Rather, it principally reflects changes in the Commission's approach to estimating asset beta.<sup>16</sup> For example, the Commission's own analysis indicates that retaining the method it applied in 2023 would result in an asset beta of 0.71 rather than 0.62. In other words, the change in methodology is responsible for a difference of 0.09, or a 13% decline in the estimated asset beta. That undermines investor confidence in the integrity of the regime as a method of fairly compensating airports for the risks of their investments.
- It incentivises airports and airlines to argue about those judgements at every review. We warned in 2023 that the Commission was setting us all down a path to endless litigation over the minutiae of which airport is in, which is out, which data should be included, which excluded.<sup>17</sup> And so it has transpired. The airports and their experts have no choice but to inquire, once again, into the merits of including or excluding airports from the comparator set, or the implications of fine adjustments to the dataset. No doubt the airlines will do the same. This could all have been avoided.
- It signals to investors that the regulatory WACC is essentially arbitrary, reflecting only the Commission's current set of choices, amongst a universe of potential choices that the Commission asserts it equally could have made.<sup>18</sup> This is the most damaging consequence of the Commission's current path. The constant tinkering with the methodology, and the implication that any or all of these choices are equally valid, means the resulting asset beta estimate has no enduring theoretical or empirical force. The Commission is just guessing. And if the asset beta estimate is neither theoretically nor empirically persuasive, it cannot be taken seriously as an estimate of the systematic risk of aeronautical services in New Zealand.
- Finally, it puts airports in an extremely difficult position when setting prices. In its PSE4, Auckland Airport applied the Commission's long-standing methodology to recalculate a post-Covid asset beta, but found itself accused of over-estimating its WACC. Auckland and Christchurch Airports are now commencing PSE5 consultation with no clarity on the actual asset beta while endless consultation and litigation occurs. Wellington Airport, in current circumstances, will be setting prices for PSE6 with no guidance from the Commission as to the correct asset beta that should have applied in 2024. If airports are not able to correctly predict or apply the Commission's methodology, they risk negative commentary from the Commission and public accusations of over-earning. This leads to backlash from markets, airlines, regulators and policy makers despite airports' best intentions. This situation is intolerable and the Commission must deliver clarity and certainty in its approach.

### **The Commission has avoided engaging meaningfully with criticism of its choices by appealing to 'expert judgement'**

The Commission may say that these are matters for the Commission's expert judgement. We heard many references to the Commission's expert judgement in the course of the Input Methodologies appeal. What we did not hear was any serious defence of the actual merits of the choices the Commission had made in arriving at its asset beta estimate. Rather than engage with our criticisms of its method, the Commission asserted that the determination of the appropriate asset beta was simply a matter for its judgement.

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<sup>16</sup> See for example, WIAL 2023 Submission at [88].

<sup>17</sup> WIAL 2023 Submission at [119]-[121].

<sup>18</sup> WIAL 2023 Submission at [86].

It was striking that the Commission did not, in its written or oral submissions in the High Court, ever engage with the merits of the arguments advanced by airports. Indeed, the Commission's position was that those detailed arguments were essentially irrelevant to the Court's task because the matter was ultimately one of judgement, not of methodology.

Implicit in the Commission's approach to the appeal was a refusal to acknowledge that the merits of its methodology could ever be assessed with reference to any external criteria; for example, whether the resulting estimate is statistically robust (i.e. less biased and more precise than alternative methods). Instead, we were asked to accept that the number the Commission arrives at is the appropriate number simply because it is the number the Commission has chosen. Put another way, there are no better or worse methods, no standards against which those methods might be assessed; there is only the Commission's judgement, and that judgement is not open to challenge or interrogation.

We reject categorically that approach to asset beta estimation. There are better and worse methodologies for estimating the asset beta. The merits of competing methodologies can be meaningfully interrogated. The Commission is therefore obliged to offer reasoning in defence of those methodologies that amounts to more than an assertion of the Commission's right to exercise judgement. Moreover, it is the role of the High Court on appeal to consider those arguments in detail and that is why we have appealed to the Court of Appeal.

**If the asset beta is simply a matter of judgement, rather than the output of a defensible methodology, then why should it be regarded as having any persuasive force?**

But if, for the sake of argument, the Commission is right and the appropriate asset beta is simply a matter of judgement, informed by whatever approach the Commission chooses to adopt from time to time, then what are the implications for the Information Disclosure regime? The aim of the Information Disclosure regime is to allow market participants to understand whether or not airports are targeting profitability consistent with a normal return on capital. The regulatory WACC is critical to that assessment. But for the assessment of profitability to be meaningful, the regulatory WACC has to amount to more than simply the Commission's 'reckons'. We think the Commission understands this, which is why historically it has gone to considerable length to explain and justify its reasoning. The quality of that reasoning is what gives the regulatory WACC credibility. And the credibility of the regulatory WACC has successfully mediated the relationship between airlines and airports since the inception of the Part 4 regime, until recently.

The Commission's attempt to justify its recent choices with reference almost exclusively to its expert judgement, as opposed to cogent reasoning and evidence, renders the asset beta and the resulting WACC arbitrary. There is no longer a 'right' number, or even relatively more or less persuasive numbers; there is simply the number the Commission happens to prefer this time around, based on whatever combination of airports and time periods it chooses to rely on. And if there are no better or worse numbers, in any meaningful sense, then there is no obvious reason for market participants to treat the regulatory WACC as an objective measure of the compensation required by investors.

**If the asset beta is simply one value among a range of plausible values, the Commission should acknowledge that uncertainty as part of the Information Disclosure regime**

The alternative would be for the Commission to acknowledge that a single point estimate of WACC is an artificial concept in the context of an Information Disclosure regime. When the Commission is setting prices/revenues under Part 4, obviously it has to pick a number and, while reasonable people might reasonably disagree, it is the Commission that is tasked with doing so. But under Information Disclosure it is airports that set prices. The Commission's role is limited to commenting on airports' targeted profitability. In that context, it is not obvious why the Commission should

identify a point estimate at all, particularly when there is acknowledged uncertainty as to where the true WACC lies within the range estimate.

Prior to 2016, the Commission dealt with this by publishing a 75th percentile of WACC, which implicitly acknowledged that there was a range of reasonable WACCs that an airport might seek to target. In the 2016 IM Review the Commission moved away from that approach, publishing a single point estimate of WACC (the midpoint) but inviting airports to explain and justify their departures from that midpoint.

Based on the explanation in the 2016 Reasons Papers, that seemed to us a reasonable compromise. But in practice the Commission permits almost no divergence from its midpoint WACC estimate. More specifically, it does not countenance any divergence on grounds that the 50th percentile of WACC is only the midpoint of a range estimate, and thus other points within the WACC range may also represent the 'true' WACC.

This is a tolerable, albeit not particularly satisfactory, state of affairs in circumstances where the Commission has demonstrably adopted WACC parameter values that are objective and persuasive. For example, prior to 2023 airports and airlines accepted that the Commission's asset beta was reasonably representative of the true asset beta, or at least more persuasive than other values that might be adopted, having regard to the reasoning the Commission provided in support of its methodology. But where, as here, the Commission is adopting a WACC parameter value that is highly contestable, it is appropriate to acknowledge that value falls within a range of values, any of which could reasonably be adopted by an airport consistent with the objective of avoiding excessive profits.

That suggests that, if the Commission intends to proceed on the basis that the asset beta cannot reliably be determined through any durable methodology, and the best that can be done is to simply apply one's judgement from time to time to determine a number that seems reasonable, then the Commission should also acknowledge the inherent uncertainty in that approach by publishing a range of values that fall within the bounds of reasonableness.

We have explained above at paragraph 0 the options we think are reasonably open to the Commission for this decision. But, in the longer term, we think it is critical for confidence in the regulatory framework that the Commission commit to adopting methodologies for estimating WACC parameter values that are theoretically and empirically sound, stable and consistent, rather than simply appealing to its 'expert judgement' to avoid having to offer a reasoned defence of its choices.

In the balance of this submission we address the following points:

- the Commission should fix the 2023 IMs, as it said it would, as opposed to simply adopting a new IM going forward;
- excluding the pandemic period underestimates the systematic risk of aeronautical services;
- an asset beta estimate based on three years of data is statistically unsound;
- setting aside these larger questions of principle, there are a number of errors, or unjustifiable choices, in the Commission's draft decision that should be addressed:
  - the Covid period is incorrectly or arbitrarily defined;
  - there is no clear reason to use data only up to January 2026 when more recent data is available; and
  - consistency demands that the Commission revisit the comparator set.

### **The Commission told the Court it would remedy the R Code errors**

Our position remains that a materially better equity beta, and thus WACC IM, results from the methodology the Commission used to estimate the asset beta in the 2016 IM Review.

But, at the least, the Commission should do what it told the Court it would. The Commission told the Court it would correct the acknowledged R code errors in order to determine an IM that was not affected by those errors. The Commission said, in its memorandum to the Court describing its commitment to amend the IM, that:<sup>19</sup>

- the review would use the 2023 IM Determination as its starting point;
- the primary subject matter of the review would be to remedy the R Code errors and to address any matters raised by the Court in the merits review appeal; and
- the Commission would expect to take into account new evidence and data that is reasonably available at the time of the review.

The Commission has, however, chosen not to remedy the R Code errors. The revised asset beta is in no sense a 'corrected' asset beta as of 2023, or even an updated implementation of the method. Rather, the Commission is effectively determining the asset beta afresh, as it would do at a septennial IM Review, and doing so with an entirely new methodology.

That is a surprising approach given that the Commission vigorously defended its use and implementation of the Flint method in the course of the appeal, arguing successfully that it was materially better than the alternatives advanced by the airports. The Commission's position in the 2023 IM Review, and before the Court, was that asset beta estimates during the Covid period reflected a repricing of airport stocks and that it was appropriate to recognise that in the asset beta estimate, but with a weighting commensurate to the expected future frequency and magnitude of similar pandemic events. The only shortcoming the Commission was prepared to acknowledge was the R Code errors, which it undertook to fix. We understood – reasonably – that the Commission would therefore retain the Flint method but correct the R Code. Instead, it has abandoned the Flint method entirely, which is difficult to reconcile with its strong advocacy for that method in the High Court.

The Commission refers to the Court's observation<sup>20</sup> that the best data for the Commission to use would have been market data from the period after the pandemic had ceased to directly impact airports and capital markets. In reliance on that observation, the Commission now says it can rely on post-Covid data, rather than "mechanistically"<sup>21</sup> correct the 2023 estimate, and apply "conventional, well-understood methods" for estimating the asset beta.<sup>22</sup>

The principal holding of the Court's decision was that the appellants had failed to demonstrate a materially better IM. The Court's observations regarding alternative methods the Commission might adopt should therefore be regarded as obiter only. As regards the latitude afforded the Commission in fixing the R Code errors, the Court simply noted that it would "not be unreasonable" for the Commission to reconsider the usefulness of the Flint method, its particular application, or whether a pandemic uplift was required.<sup>23</sup> The onus remains on the Commission to demonstrate that an approach relying on post-Covid data is robust.

And, in any event, in paragraph [235] the Court went on to observe that, "placing excessive reliance on a small time series of post-pandemic data would raise the same issues of variance as those

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<sup>19</sup> Letter from Luke Cunningham Clere (counsel for the Commerce Commission) to counsel for the airports and airlines regarding the Commission's amendment commitment (8 September 2025) at [3].

<sup>20</sup> High Court judgment at [235].

<sup>21</sup> Draft Decision at 3.22.

<sup>22</sup> Draft Decision at 3.21.

<sup>23</sup> [273].

discussed in [195] above". The draft decision falls into precisely that error: the three-year estimation window is not a sufficiently large sample from which to derive a reasonably precise estimate.

Moreover, when the Court observed that the Commission could in future place greater reliance on post-Covid data, that was in circumstances where the Commission had defined the Covid period as ending much earlier than the date it has now selected (January 2023). In other words, the Court assumed that market data from "after the pandemic" would include materially more data than the Commission now proposes to rely on. The Commission cannot therefore assume the Court would endorse setting the asset beta based on only three years of data. To the contrary, the Court's reasoning is more consistent with continuing to use a longer estimation window and the Flint method rather than rely on a small time series of post-pandemic data.

Fixing the R Code errors is of particular significance for WIAL because of the carry forward mechanism in our PSE5 pricing. We expect that the Commission will determine the 'correct' asset beta that ought to have applied to our pricing, which we will then use to wash-up under-recovered revenue into PSE6. In Attachment B to its draft decision the Commission indicates that, had it chosen to correct the R Code errors, it would have adopted an asset beta of 0.71. While we are still considering our position, and our appeal remains live, that figure effectively sets the floor for the application of the carry-forward mechanism.

At paragraph 2.13 and footnote 20 of the draft decision the Commission recognises its decision to use updated data "complicates" the implementation of the carry forward. The Commission then suggests that the carry-forward could be applied differently pre- and post- its revised asset beta decision.

We do not regard that as a workable suggestion. The Commission has always required airports to set prices for the regulatory period based on the prevailing WACC at the time they set prices. That is how we approach price-setting and that is how the Commission approaches its own price-setting functions as well. It is also how the carry-forward mechanism was intended to function. It is not credible to propose that WIAL, when applying the carry-forward mechanism, should adopt different values for asset beta before and after the Commission issues its final decision in September 2026. That would be contrary to the scheme of ex ante price-setting.

### **Excluding the pandemic period underestimates the systematic risk of aeronautical services**

In the 2023 IM Review, the Commission said that the increase in asset beta estimates during the Covid pandemic reflected a repricing of airport stocks as the market digested new information about the systematic risks of airports. The Commission said that:<sup>24</sup>

*COVID-19 provided new information that had not been included in the market's assessment of the airport asset beta, that the spike in the asset beta during the early stages of COVID-19 would be repeated in future pandemics, and that investors have repriced and reweighted airports in their efficient portfolio of investments.*

However, the Commission determined that including the Covid period in full in the dataset would implicitly overestimate the likely frequency and magnitude of future pandemics and therefore the data had to be re-weighted to reflect more (in the Commission's view) realistic assumptions about the expected recurrence of pandemic-type events.

Inherent in that approach was a recognition that: (i) asset beta estimates reflect events affecting airport cashflows at the time, (ii) those impacts are relevant to the assessment of systematic risk, but (iii) if included in a sample will imply the probability of recurrence in the next period is 1,

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<sup>24</sup> 2023 Final Reasons Paper at [4.97].

whereas investors may actually assess that the probability of that event recurring in the next period is less than 1. The Commission therefore adopted the Flint method to re-weight the Covid data accordingly.

Now the Commission says the post-Covid asset beta estimates incorporate investor expectations of future pandemics and therefore the Commission can rely entirely on post-Covid data to estimate the asset beta. The Commission says this approach is available now because, while asset beta estimates were “disrupted”<sup>25</sup> during the Covid period, they have now “settled sufficiently” for the Commission to be confident that they represent “appropriate” beta values going forward.<sup>26</sup> The Commission’s approach in the draft decision is conceptually irreconcilable with its 2023 decision, which proceeded from the premise – correctly – that Covid-affected asset beta estimates were relevant to the assessment of systematic risk.

The question of whether post-Covid asset beta estimates “incorporate” information regarding future pandemics is central to the Commission’s reasoning. CEG, Dr Lally and HoustonKemp have explained in considerable detail why this is theoretically and empirically incorrect.<sup>27</sup>

Dr Lally explains that the estimated beta (the measured covariance of airport returns and total market returns, which the Commission uses to determine the regulatory asset beta) will only rarely match the ‘true’ beta because the measured observations are unlikely to perfectly match the probability distribution of future airport returns. The estimated asset beta will either over- or underestimate the true beta, depending on the extent of that divergence. For example, if a rare event impacting airport cashflows occurs in the sample, the estimated asset beta will tend to overestimate the true beta. But, equally, a sample that lacks any rare events will underestimate the true beta.

The Commission has concluded that the lower post-Covid beta indicates that the pandemic did not increase the systematic risk of airports. Dr Lally points out that, while there is no conclusive evidence either way that Covid changed the true beta, the Commission is wrong to conclude from the lower post-Covid beta estimates that Covid did not increase the true beta. The comparison is not statistically significant.

Because the true beta cannot be observed, the task is to select a policy for estimating the asset beta that is likely to result in an unbiased estimate of the true beta. Dr Lally simulates the bias implied by three different approaches. Policy 1 is equivalent to the Commission’s approach, and is contrasted with Policy 3, which involves using all the data in the time series, including data from rare events (i.e. the pre-2023 method). Dr Lally demonstrates that, under most conditions, Policy 3 results in least bias. Importantly, the Commission must select a policy without knowing whether the true beta has actually changed or, if so, the magnitude of the revision in investor expectations. A policy that reduces bias under most conditions is therefore preferable. Furthermore, bias is not the only consideration. Policy 1 requires subjective decisions to excise data from the time series and results in greater statistical variance than Policy 3. Policy 3 is therefore preferable not only as a consequence of reducing bias under most conditions, but because it avoids ad hoc adjustments to the data and reduces variance.

To similar effect, CEG explains that asset beta estimates capture the correlation between the returns on an airport stock and total market returns and the relative volatility of those returns. It follows that asset beta estimates only measure the relationship between an airport stock’s returns

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<sup>25</sup> Draft decision at [X12].

<sup>26</sup> Draft decision at [3.23].

<sup>27</sup> See CEG Report; Dr Martin Lally, *Review of Targeted Amendments to the Cost of Capital Input Methodologies for Airports* (14 June 2026); HoustonKemp, *Targeted amendments to airport cost of capital input methodologies* (16 June 2026).

and market returns in relation to those events that actually occur during the estimation window. In this context, by “events” CEG explains that it means the actual occurrence of an event that affects the price of a stock (e.g. a pandemic) or new information that materially changes investors’ expectations about the probability of that event occurring in the future. This means that estimated asset betas do not accurately ‘price in’ all the perceived risks in investors’ minds; they only reflect the impact on equity prices of changes during the estimation window of the perceived probability of those events occurring. If there are no changes in the perceived probability of those events during the relevant estimation window then the asset beta estimates from that window will not reflect the risks of those events.

CEG shows that this analysis is supported in the academic literature and can be demonstrated with illustrative examples. CEG posits a 100-year period in which two pandemic events occur and there are no other events that affect asset betas. The probability of a pandemic occurring in any given year is therefore 2%, which results in a 0.67 beta in expectation.<sup>28</sup> But in the period in which no pandemic occurs, the estimated asset betas are effectively zero because there is nothing impacting the asset beta. In the months in which a pandemic does occur, the asset beta spikes to around 0.9. Just as the Commission observed in relation to Covid, this is likely above the ‘true’ asset beta represented by investors’ long-run expectations. But that is not because the pandemic is “disrupting” the estimated asset beta, it is because the pandemic is over-represented in the sample.

The Commission’s solution is to excise the affected data. But as CEG’s simulation illustrates, that would systematically under-estimate the ‘true’ asset beta of 0.67. It is only the long-run average, including the periods in which the asset beta is elevated, that results in an estimated asset beta that is reasonably representative of the true asset beta.

HoustonKemp notes that the Commission’s description of asset beta estimates during the pandemic as disrupted, and conversely its assessment that they have now “settled” indicates the Commission believes the Covid-affected data is statistical noise obscuring an underlying signal of the systematic risks of airports. The Commission therefore concludes that the lower post-Covid asset beta estimate is both more reliable and indicative of a decline in the true beta.

HoustonKemp explains that result is implausible and counterintuitive given the market’s experience of the pandemic. Government responses to the pandemic were unprecedented, with border closures and lockdowns causing airports to lose almost all revenue for an extended period. The Commission’s explanations for the lower post-Covid asset beta are unevidenced, but also implausible.

According to HoustonKemp, the more likely explanation for the lower post-Covid asset beta estimate is that it is a statistical artifact resulting from an insufficient sample. The Commission’s truncated estimation window underestimates the true beta because it effectively removes tail events that increase estimated betas while retaining tail events that decrease estimated betas.

Consistent with the advice of Dr Lally and CEG, HoustonKemp says the Commission is wrong to assume that estimated betas from ‘normal’ periods will reflect systematic risks associated with potential future ‘disaster’ periods. HoustonKemp explains that, in a disaster period, cash flows fall even though investors’ required rate of return remains positive. The price of the airport’s shares therefore fall to a level that implies a sufficiently high prospective return going forward. Where that disaster also affects the market, the decline in the individual stock’s price correlates with movements in the market and estimated betas increase. But after the disaster period, investors receive no additional information about the expected frequency and severity of future shocks (until a similar disaster occurs again). Accordingly, even if one observes post-disaster estimated betas

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<sup>28</sup> CEG Report [Figures 4-5, 4-6.]

that are not materially different from pre-disaster betas, this observation does not indicate that forward-looking expectations of systematic risks are unchanged. It is only the estimated betas during the disaster period that cause a re-pricing of the stock and reveal, through the correlation with simultaneous movements in the market, the airport's systematic risk.

The Commission's reasoning appears to confuse the asset beta as a measure of systematic risk with the post-Covid stock price as a measure of investors' expectations of future returns. As HoustonKemp explains, because estimated asset betas reflect the correlation between movements in the returns to an individual stock versus the market as a whole, asset beta estimates respond to new information about disasters that lead to changes in systematic risks but, once this new information is incorporated into the stock price, post-disaster betas reveal nothing about the level of systematic risk associated with that disaster. The linear regression formula used to estimate the asset beta is driven only by the correlation between airport returns and market returns, and the volatility of those returns, and so it is only the data during the disaster period that shows the impact of that new information.

Indeed, the Commission's instinct that asset beta estimates from 'disaster' periods are unreliable is directionally wrong. As CEG and HoustonKemp explain, 'normal' periods produce relatively little statistical information about the correlation between airport stocks and the total market. Conversely, in disaster periods, both individual stocks and the market move significantly, and therefore the extent of the correlation (or lack thereof) is more apparent. As CEG says:<sup>29</sup>

*a stock that is genuinely exposed to systematic risk will tend to move with the market precisely when the market moves sharply; a stock that has low systematic risk will not. In calm periods, both types of stock exhibit small return variation, making it difficult to distinguish systematic from idiosyncratic risk.*

It is therefore particularly important to include information from low-probability shocks in the estimate, when they are available, because those shocks produce the most statistical and economic information about the systematic risk faced by airports.

CEG, HoustonKemp and Dr Lally explain that there are two potential solutions to the issue of low-probability shocks being over-represented in the sample. All the experts prefer to let the data 'wash through' the sample as this avoids inherently subjective and arbitrary assumptions about the likely future frequency and magnitude of low-probability shocks. But the Flint method is conceptually available as an alternative, albeit the assumptions required to implement that method are highly contestable and therefore introduce unnecessary uncertainty. For that reason, the first and best solution is to revert to the method used by the Commission prior to 2023. Alternatively, the second best solution is the Flint method implemented correctly (i.e. Attachments B and C, with modifications as we describe below). The Commission's draft decision is the worst of all available options because it excludes entirely data that is unambiguously relevant to the estimation of the 'true' asset beta.

### **An asset beta estimate based on three years of data is statistically unsound**

Dr Lally, CEG and HoustonKemp have explained in detail, with reference to academic literature, theory and empirical demonstration, why excluding data from the Covid period does not result in a less biased estimate of the true beta. If reducing bias were the only criterion, the best choice would be to include data from the Covid period. But reducing bias is not the only criterion; equally important is reducing variance, as the Court recognised. And variance is essentially a function of sample size.

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<sup>29</sup> CEG Report at [116].

As explained above, we do not think it is plausible to interpret the High Court's reference to relying on post-Covid data as endorsing such a truncated estimation window. At the least, the Court assumed the Commission would have available to it sufficient post-Covid data to produce a sample large enough to generate a reasonably precise estimate.

The Commission's three-year estimation window is very imprecise. It produces an asset beta that is significantly less stable than a five-year or ten-year estimate. The instability in the asset beta estimate means that:

- even if the Commission believes 0.62 is a reasonable estimate as of mid-2026, it cannot be said to provide a reasonable estimate for those airports setting prices in 2027 or 2029, by which time the asset beta estimate is likely to be significantly different; and
- an asset beta estimate that is so sensitive to the particular selection of airports, and the particular time period for the estimation window, and which varies substantially from month to month, is not an estimate in which investors can have any confidence as a measure of airports' systematic risk.

HoustonKemp and CEG discuss the volatility of the Commission's three-year estimate. CEG demonstrates that the Commission's estimate of 0.62 is unusually low in comparison to historic three-year asset betas. It is at the 1.4th percentile of three-year asset betas from the last 22 years. Excluding the Covid period means the 0.62 estimate is the 2nd percentile of three-year asset beta estimates. The three-year estimation window also results in much higher volatility than ten-year estimates, whether measured in terms of the range from minimum to maximum or in terms of standard deviation.

HoustonKemp considers that investors are unlikely to consider the Commission's volatile three-year asset beta estimates to be reliable measures of the forward-looking systematic risks of the benchmark airport and are less likely to have confidence in betas measured in this way.

HoustonKemp notes that a three-year estimation window contains only 39 sets of four-weekly observations, compared to 65 for a five-year period and 130 for a ten-year period. A three-year estimation window is simply not a large enough sample to generate a reasonably precise estimate of beta.

HoustonKemp demonstrates that the Commission's estimation window February 2023 to January 2026 results in the lowest asset beta estimate compared to alternative three-year periods that have been shifted forward or backward by a few months. For example, extending the estimation window by two months to end of March 2026 results in an asset beta of 0.65. The Commission's estimate is therefore demonstrably imprecise.

Shortening the estimation window as the Commission has is therefore likely to generate beta estimates that are more volatile, which is not in the long-term interests of consumers because:

- it reduces certainty for airline customers and end-consumers, who will face more volatile prices for aeronautical services; and
- it reduces regulatory certainty for investors when coupled with the Commission's repeated methodological changes over the last several years.

The Commission's use of a three-year estimation period is not supported in the international regulatory precedent referred to during the 2023 IM review process, including those regulators' decisions the Commission sought to rely on in support of its 2023 approach. Notably, none of those

international regulators relied on less than five years of data alone, as the Commission is proposing here.<sup>30</sup>

The Australian Energy Regulator stated, in explanation of its use of longer estimation periods, that:<sup>31</sup>

*Our decision is to continue to give most weight to estimates from the longest estimation period, while also being informed by the most recent 5 years.*

*This was also our approach from the Draft Instrument, where we considered that the longest period data provides the most reliable estimates, because:*

*the equity beta of Australian regulated energy networks is likely to remain relatively stable over the long term due to the monopoly nature of the service it provides as well as the regulatory protection it enjoys*

*longer-term estimates provide more statistical observations, which would lead to a more robust and reliable equity beta estimate*

*we observe higher volatility in short-term beta estimates and long-term estimates minimise the impact of one-off events, which can temporarily obscure the true underlying systematic risk of a regulated energy network business*

*experts and stakeholders broadly agree on the strengths of long-term estimates.*

### **Options available to the Commission**

Given these considerations, there are two options reasonably available to the Commission:

- revert to the pre-2023 method of using a ten-year sample and allowing Covid data to “wash through”; or
- as a second-best solution, retain the Flint method (as the Commission has done in Attachments B and C).

Dr Lally, CEG and HoustonKemp all support the pre-2023 method as the more robust approach.

However, given the outcome of the High Court appeal, the approach we anticipated for this consultation was a correction to the Flint method, as the Commission has presented in Attachments B and C.

Attachment B is fairly closely aligned to the advice provided by the airports’ experts to the Commission on 1 April 2024. Attachment C, however, makes updated assumptions about the length of the Covid period, which are unjustified, as we explain further below.

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<sup>30</sup> UK CAA “Economic regulation of Heathrow Airport Limited: H7 Final Proposals Section 3: Financial and issues and implementation CAP2365” (June 2022) and Flint “Support to the Civil Aviation Authority: Estimating Heathrow’s beta post-COVID-19” (August 2021); ERA “Explanatory statement for the 2022 final gas rate of return instrument” (16 December 2022); AER “Rate of Return Instrument: Explanatory Statement” (February 2023); QCA “Rate of return review: Final report” (November 2021); IPART “Review of our WACC Method” (February 2018); CAR “Varied Determination on the Maximum Level of Airport Charges at Dublin Airport 2020-2024” (3 July 2020) and Swiss Economics “Dublin Airport Cost of Capital for 2019 Determination Final Report” (30 September 2019); ERA “Review of the Method for Estimating the WACC for the Regulated Railway Networks Final Decision” (18 September 2015); CNMC “Summary of the CNMC Assessment Report on AENA’s Proposal for the Regulatory Framework of Airport Charges in Spain for the 2022-2026 Period”.

<sup>31</sup> AER “Rate of Return Instrument: Explanatory Statement” (February 2023) at page 175.

## Errors in the Commission's draft decision

There are three features of the Commission's draft decision that we consider are incorrect, or unjustified based on the Commission's own reasoning:

- The Covid period is incorrectly defined. The statistical evidence indicates the Covid period ended no later than December 2020, rather than January 2023.
- There is no reason to close the estimation window in January 2026. More recent data should be used, which would also increase the sample size (not sufficiently, but a marginal improvement on the Commission's draft decision).
- The filters used to determine the comparator set are sensitive to the time period of the estimation window. Re-running the filters today would require including additional airports, and excluding one airport in the Commission's comparator set for the draft decision.

### **1. The Covid period is incorrectly defined**

The draft decision concludes that Covid had a disruptive effect on airport betas that lasted for three years from February 2020 to January 2023. That contrasts with the position the Commission took in the 2023 IMs, where it defined the Covid period as ending much earlier.

CEG and HoustonKemp criticise the analysis the Commission has relied on to define the Covid period (in tables 3.3 and 3.4 of the draft decision). CEG and HoustonKemp point out that:

*the annual estimates set out in table 3.3 are themselves highly volatile, as any single-year estimate of asset beta would be. A further problem is that the Commission presents only annual windows ending in January. The annual beta is highly sensitive to which month is selected as the window endpoint. The Commission also says the high estimate for the year ending January 2023 is attributable to the Omicron variant, but that variant emerged in late November 2021. These annual estimates therefore do not provide a reliable basis to determine which years were affected by Covid; and*

*table 3.4 simply shows a series of estimation windows, each commencing on 1 February 2020, of progressive duration through to January 2023. The Commission concludes that this shows Covid affected the asset beta until the end of January 2023. However, because each estimation window commences in February 2020, the acute period of pandemic shock is included in each estimate and is simply progressively diluted as the window is rolled forward. The analysis therefore tells us nothing about the character of the asset beta estimates in 2021 or 2022. Furthermore, the Commission does not extend its analysis beyond January 2023. If it did, the same logic would justify treating 2023 or even 2024 as Covid affected.*

In its report for the Civil Aviation Authority, Flint defined the Covid period as ending in November 2020. CEG has conducted a series of statistical tests to determine where the 'break' in the data occurs, indicating the end of the Covid-affected period. CEG's statistical analysis demonstrates that 'peak' Covid ended on 11 August 2020 and 'shoulder' Covid ended on 8 December 2020.

If the Commission intends to exclude data from the Covid period, either for purposes of the updated Flint method in Attachment C or for the Commission's post-Covid method in the draft decision, it must at least define the Covid period rigorously, particularly as a more rigorous definition allows for the inclusion of additional data, which can only improve the precision of the sample.

### **2. The Commission should include data after January 2026**

The Commission has, without explanation, used an estimation window that ends on 31 January 2026, despite the fact the draft decision was issued in mid-May and the final decision is due in September.

At the least, the Commission should include additional and more recent data in its estimation window. Given how short the estimation window is, even a few additional months represents a material increase in the size of the sample.

### ***3. The Commission must revise the comparator set***

In the draft decision, the Commission says there is no new information that would cause it to revisit the comparator set. But it does not appear to have revisited the application of its filters to determine whether the same conclusions would still hold. Those filters are time-sensitive: they produce different results depending on the estimation window that is applied. Leverage, particularly, changes regularly and therefore the Commission should re-apply the filters to determine a comparator set that is appropriate to this estimation window.<sup>32</sup>

CEG has re-run the filters and determined that, applying the same logic today:

- the three Mexican airports (Sureste, Pacifico and Norte) should be included as their leverage is positive in the estimation window rather than negative;
- Malaysia Airports should also be included for the same reason; and
- AoT (Thailand) should be removed on grounds of high asset beta variability.

If the Commission perseveres with its preferred post-Covid method, it must at least address these significant inconsistencies in its approach.

Kind regards,

Jenna Raeburn  
GM Corporate Affairs

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<sup>32</sup> Our position is that the filters are misconceived and a large comparator set is preferable. But if the Commission is going to use filters to produce a set of what it says are more comparable airports, it must apply those filters consistently.