

Review of Fonterra's 2023/24 base milk price calculation: Dairy Industry Restructuring Act 2001

Draft report

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Date of publication: 1 August 2024



Associated documents

Publication date	Title
18 April 2024	Proposed focus areas for our review of Fonterra's 2023-24 base milk price calculation
15 December 2023	Final report – Review of Fonterra's 2023-24 Milk Price Manual
15 September 2023	Final Report - Review of Fonterra's 2022/23 base milk price calculation
1 August 2023	Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation
15 December 2022	Final report – Review of Fonterra's 2022-23 Milk Price Manual – 15 December 2022
15 September 2022	Final Report – Review of Fonterra's 2021/22 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2020	Review of Fonterra's base milk price calculation 2019-20 – 15 September 2020
12 September 2019	Final Report – Review of Fonterra's 2018/19 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2017	Final Report – Review of Fonterra's 2016/17 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2015	Final Report – Review of Fonterra's 2014/15 base milk price calculation: Dairy Industry Restructuring Act 2001

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1. Introduction

Purpose of this report

- 1.1 This report sets out our draft conclusions from our statutory review of the extent to which Fonterra's 2023/24 base milk price calculation (the **Calculation**) is consistent with the purpose of the base milk price monitoring regime under subpart 5A of the Dairy Industry Restructuring Act 2001 (**DIRA**).¹
- 1.2 This report follows our review of Fonterra's Milk Price Manual (**Manual**) for the 2023/24 season and builds on the analysis and conclusions from our previous reviews of Fonterra's base milk price calculation (**Calculation review**) and Manual.²

How this report is structured

- 1.3 Chapter 2 explains our review framework and the scope of our 2023/24 Calculation review.
- 1.4 Chapter 3 sets out a summary of our draft conclusions from our review of the focus areas, and our fit for purpose review of the assumptions adopted, and inputs and processes used by Fonterra when calculating the 2023/24 base milk price.
- 1.5 Chapter 4 sets out our detailed findings and draft conclusions from our review of the commercial feasibility of yields focus area.
- 1.6 Chapter 5 sets out our detailed findings and draft conclusions from our review of the sustainability focus area.
- 1.7 Chapter 6 sets out our detailed findings and draft conclusions from our review of the repairs and maintenance focus area.
- 1.8 Chapter 7 sets out our detailed findings and draft conclusions from our fit for purpose review, including a review of the impact of inflation on milk price costs.
- 1.9 Attachment A provides a summary of our responses to submissions by stakeholders on our Proposed Focus Areas paper for our review of Fonterra's 2023/24 base milk price calculation where we have not included them in our focus area reviews in Chapters 3 to 6.³

¹ The term 'base milk price' defined by DIRA is the price per kilogram of milk solids set by Fonterra for a dairy season. See also paragraph 2.6 below.

² [Commerce Commission "Final Report – Review of Fonterra's 2023/24 milk price Manual: Dairy Industry Restructuring Act 2001" \(15 December 2023\).](#)

³ [Commerce Commission "Proposed focus areas for our review of Fonterra's 2023-24 base milk price calculation" \(18 April 2024\)](#)

- 1.10 Attachment B provides a worked example of the Incremental Product Cost procedure.
- 1.11 Attachment C provides a glossary of the key terms and abbreviations used in this draft report.
- 1.12 Attachment D provides a detailed list of the cost lines considered in our inflation cost adjustment component of our fit for purpose review. It provides a detailed breakdown of cost drivers and the method applied to each line as well as variances.

How you can provide your views

Invitation to comment

- 1.13 As required under DIRA, we are consulting with Fonterra on this draft report.⁴ We have also extended our consultation process to other interested parties.
- 1.14 We welcome stakeholder views on any aspects of this draft report before we finalise our conclusions. Your views on our draft report will help inform our final conclusions for our review.⁵

Deadline for submissions

- 1.15 To allow us time to consider your views, submissions on this draft report must be provided to us no later than **12 noon, Tuesday 15 August 2024**.
- 1.16 Our final report on the Calculation will be published by 16 September 2024.

Format of submissions

- 1.17 Please address all written comments to:

Andrew Harrison, Manager Dairy

c/o dairy@comcom.govt.nz

Subject line: Milk Price Calculation 2023/24

- 1.18 We prefer submissions in both a format suitable for word processing (such as a Microsoft Word doc), and a 'locked' format (such as a PDF) for publication on our website.

⁴ DIRA, section 150U.

⁵ DIRA, section 150U.

- 1.19 The protection of confidential information is something the Commerce Commission (**Commission**) takes seriously. The process requires you to provide (if necessary) both a confidential and public version of your submission and to clearly identify the confidential and public versions.
- 1.20 When including commercially sensitive or confidential information in your submission, we offer the following guidance:
 - 1.20.1 Please provide a clearly labelled confidential version and public version of your submission. We intend to publish all public versions on our website.
 - 1.20.2 The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
- 1.21 Please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure is made.

2. Our review framework

Our approach for the Calculation review

- 2.1 This report should be read with our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation (**Approach paper**), which we have applied in this review and which forms part of this report.⁶ The Approach paper provides an overview of the approach we take in our reviews of Fonterra's Manual and base milk price calculation and includes:
- 2.1.1 an overview of how the base milk price is set;
 - 2.1.2 our interpretation of key legislative provisions guiding our statutory reviews; and
 - 2.1.3 our analytical and practical approach to our statutory reviews.
- 2.2 The base milk price monitoring regime is intended to provide incentives for Fonterra to act efficiently, while providing for contestability in the market for the purchase of milk from farmers. The regime also promotes greater transparency of Fonterra's base milk price setting processes.⁷
- 2.3 In our Approach paper, we discuss both the efficiency and contestability dimensions in the context of the base milk price calculation review.⁸ In summary:
- 2.3.1 Efficiency: our view is that the assumptions adopted, and inputs and processes used in the Calculation will provide an incentive for Fonterra to operate efficiently where the Calculation uses independent notional benchmarks for the revenue and cost inputs.⁹
 - 2.3.2 Contestability: the contestability dimension is satisfied if the assumptions adopted, inputs and processes used in the Calculation are practically feasible for an efficient processor. The essence of contestability is that efficient firms can compete in the market. If efficient firms are able to compete in the market, then contestability is provided for.

⁶ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\).](#)

⁷ DIRA, section 150A.

⁸ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\), at pages 12-13.](#)

⁹ There may also be instances where it is necessary to use actual data, such as where there is insufficient information to determine an appropriate notional value or this would be too costly, and where Fonterra has very limited control over actual costs. [Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" \(1 August 2023\), at paragraph 93.](#)

- 2.4 Our analytical and practical approach to our statutory reviews is described in Chapter 4 of the Approach paper.¹⁰
- 2.5 Under DIRA we are required to review the calculation of the base milk price and assess the extent to which the assumptions adopted, and the inputs and processes used by Fonterra in setting the base milk price, are consistent with the efficiency and contestability dimensions, as outlined in section 150A of DIRA (the **section 150A purpose**).
- 2.6 The base milk price in relation to a season means the price per kilogram of milk solids that is set by Fonterra for that season.¹¹ The forecast for the base milk price is currently \$7.70 - \$7.90 per kilogram of milk solids (**kgMS**) for the season under review in this draft report, which ended on 31 May 2024.¹²
- 2.7 We note that Fonterra uses the term 'farmgate milk price' when referring to the base milk price in its Manual and annual Farmgate Milk Price Statement. In this draft report we use the term 'base milk price' in all cases unless quoting from Fonterra materials.
- 2.8 More information on the distinction between the base milk price, which is subject to our statutory reviews, and other prices in the dairy supply chain is provided in our Approach paper.

Scope of our review of the 2023/24 Calculation

- 2.9 Our review of the Calculation builds on the conclusions from our previous reviews. Based on the information we gather, we determine the key areas to focus on for each Calculation review.¹³ These constitute our 'focus areas' for which we undertake more detailed analysis.
- 2.10 For this year's Calculation review, our focus areas are:¹⁴

¹⁰ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\), at pages 20-31.](#)

¹¹ DIRA, section 5.

¹² See <https://www.nzx.com/announcements/431912>.

¹³ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\), at paragraph 110.](#)

¹⁴ [Commerce Commission "Proposed focus areas for our review of Fonterra's 2023/24 base milk price calculation" \(18 April 2024\), at paragraph 12.](#)

- 2.10.1 commercial feasibility of yields;^{15,16}
- 2.10.2 sustainability costs; and
- 2.10.3 repairs and maintenance costs.
- 2.11 These three focus areas were proposed in our Proposed Focus Areas paper for this year's review.¹⁷ Having considered stakeholder submissions on the proposed focus areas, there were no other focus areas that we considered should also be reviewed this year.
- 2.12 We have addressed points raised by stakeholders in their submissions on the Proposed Focus Areas paper that are relevant to the focus areas in this year's review in Chapters 3 to 6. In Attachment A we provide a summary of our responses to other matters raised in submissions.
- 2.13 For the other revenue and cost components of the Calculation that are not part of the focus areas analysis, we undertake a fit for purpose review, which includes:¹⁸
- 2.13.1 an analytical verification of the values used in each component against our previous reviews of the same component; and
- 2.13.2 a review of the consistency of the assumptions, inputs and processes related to the different components.
- 2.14 If any aspect of this 'fit for purpose' review identifies material changes from our previous analysis of the base milk price reporting model, we will consider whether more analysis of that component is required.¹⁹ This year we have identified material changes to three components compared to last year: lactose, administration costs and energy costs.

¹⁵ We interpret practical feasibility as including commercial feasibility, in the sense that it must be possible for an efficient processor operating in New Zealand to replicate or achieve the component being assessed. Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (1 August 2023), at paragraph 51.

¹⁶ While 'commercial feasibility' is included in practical feasibility (as outlined in the footnote above) and thus the contestability limb of the Act, we have also considered the efficiency limb in our examination of this focus area.

¹⁷ [Commerce Commission "Proposed focus areas for our review of Fonterra's 2023/24 base milk price calculation" \(18 April 2024\), at paragraph 110.](#)

¹⁸ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\), at paragraph 111.](#)

¹⁹ [Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" \(2023\), at paragraph 112.](#) As described, for purposes of identifying changes which might be elevated to a focus area, we apply an 'indicative operational' materiality of an equivalent of 0.5% of the WACC used in the milk price reporting model for the season under review.

Information considered in our review process

- 2.15 In reaching our draft conclusions we have considered:
- 2.15.1 submissions received on the proposed focus areas;²⁰
 - 2.15.2 Fonterra's Reasons paper in support of the base milk price calculation for the 2023/24 season;²¹
 - 2.15.3 additional models and documentation that Fonterra provided to us during our review which show the application of the assumptions, inputs and processes used by Fonterra in the base milk price calculation.
- 2.16 Subsequent to our draft review of the May models and inputs, Fonterra has advised of a change in the yield losses and specification offset assumptions to be incorporated into the 2023/24 base milk price. The reason for the change is to address an inconsistency identified in the frequency of the updates to the yield inputs, which have been occurring annually rather than four-yearly as indicated by rule 7 of the Manual. Rule 23 of the Manual (amended in 2020/21) allows for within-period reviews (ie, between Review Years) only in exceptional circumstances, such as where there is reason to believe there would be a material impact on the base milk price. The updates made to the yield inputs annually do not meet this threshold.
- 2.17 To achieve compliance with the Manual, Fonterra has reverted to use of the yield inputs established in 2020/21, being the last review year for yield inputs. Results from the 2023 Clondeboye cream plant loss survey have been included, as this was to have occurred in 2021 but was delayed due to COVID.

²⁰ Submissions on our Proposed Focus Areas Paper were received from five stakeholders (Fonterra Co-operative Group Limited, and a joint submission by Miraka Limited, Open Country Dairy Limited, Westland Milk Products Limited and Synlait Milk Limited), available at <https://comcom.govt.nz/regulated-industries/dairy/milk-price-manual-and-calculation/milk-price-calculation/milk-price-calculation-202324-season#projecttab>

²¹ [Fonterra "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\).](#)

- 2.18 The Commission has not been able to assess some parts of the base milk price calculation using the revised yield input figures. However, based on our understanding of the changes Fonterra has identified, we consider our draft conclusions are unlikely to be affected.²² As per our normal process, we will incorporate the most recent information available, including the July models and submissions on our draft review report, in our final report on the 2023/24 base milk price calculation.

²² Fonterra has advised that this change will result in a decrease in the aggregate base milk price of \$3.5 million or 0.24 cents per kgMS relative to the previously assumed inputs. Fonterra has also advised that had it included the correct yield inputs in the two prior seasons, consistent with the Manual requirements, there would have been smaller and largely offsetting impacts on the milk price (net impact <0.05 c/kgMS too high).

3. Summary of draft conclusions

Purpose of this chapter

- 3.1 In this chapter we outline our draft conclusions on the extent to which the assumptions, inputs and processes of the base milk price calculation for the 2023/24 season are consistent with the section 150A purpose, including draft conclusions on our focus areas review and fit for purpose review.

Summary of overall draft conclusion

- 3.2 Our draft conclusion is that the assumptions adopted, and the inputs and processes used by Fonterra to calculate the 2023/24 base milk price are consistent with the contestability and the efficiency dimensions of the section 150A purpose.

Focus areas review

Commercial feasibility of yields

- 3.3 Our draft conclusion is that the assumptions adopted, and the inputs and processes used by Fonterra that we reviewed as part of our focus areas are consistent with the contestability and efficiency dimensions of section 150A. We consider that:
- 3.3.1 the way in which section 150B(1)(d) is used in the base milk price calculation is consistent with the contestability dimension as it can be demonstrated that similar outcomes can be achieved by an efficient processor.²³
- 3.3.2 the way in which section 150B(1)(d) is used in the base milk price calculation is consistent with the efficiency dimension and there are sufficiently strong incentives for Fonterra to operate efficiently with respect to the way in which yields are used in the base milk price calculation.

Sustainability

- 3.4 Our draft conclusion is that the assumptions adopted, and the inputs and processes used by Fonterra that we reviewed as part of our focus areas are consistent with the contestability and efficiency dimensions of section 150A. We consider that:
- 3.4.1 the assumptions adopted, and the inputs and processes used to assess sustainability costs are practically feasible for an efficient processor, as the sustainability framework utilises Fonterra's actual sustainability costs.

²³ Our interpretation of the term 'efficient processor' is not limited to the existing processors, as other potential entrants exist and may enter the market for the purchase of milk from farmers. If Fonterra or some other potential entrant can achieve that level of efficiency, then contestability is provided for. [Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" \(1 August 2023\), at paragraphs 52-56.](#)

- 3.4.2 the framework used to assess sustainability costs appropriately incentivises Fonterra to operate efficiently.
- 3.4.3 we may need to assess implementation of the sustainability framework in future.

Repairs and maintenance

- 3.5 Our draft conclusion is that the assumptions adopted, and the inputs and processes used by Fonterra that we reviewed as part of our focus areas are consistent with the contestability and efficiency dimensions of section 150A. We consider that:
 - 3.5.1 the assumptions adopted, and the inputs and processes used for repairs and maintenance costs are practically feasible for an efficient processor.
 - 3.5.2 the benchmark used for repairs and maintenance costs incentivises Fonterra to operate efficiently.

Fit for purpose review

- 3.6 In our fit for purpose review, we identified a material variance from last year's costs for lactose. This was driven by changes in international lactose prices and shipping costs applied to the notional base milk price volumes and is outside of Fonterra's control. We consider this variance is consistent with the efficiency and contestability dimensions of section 150A.
- 3.7 We also identified a material variance in non-milk expenses, driven by an increase in administration costs. This reflects a four-yearly reset of overhead costs, which has seen additional costs allocated to sustainability and IT, and a reallocation of costs from the sales commission costs category to the administration costs category. We have not identified any concerns with the way in which costs have been reallocated under the overhead reset. We consider this variance consistent with the efficiency and contestability dimensions of section 150A.
- 3.8 We further identified a material variance to energy costs, driven by changes in energy prices the Notional Processor faced, over which Fonterra has limited control. Relying on our prior conclusions, as no changes have been made to the Manual rules, we consider this variance consistent with the efficiency and contestability dimensions of section 150A.
- 3.9 We did not identify any other material variances in inputs and assumptions compared with last year's base milk price calculation.

- 3.10 For cost inflation adjustments, the rates used are compiled independently of Fonterra's current year performance and so provide an appropriate notional benchmark to beat.²⁴
- 3.11 In its Reasons paper in support of the Calculation, Fonterra has confirmed that it has:
- 3.11.1 not made any substantive amendments to the Manual for 2023/24 in respect of the revenue calculation; and
 - 3.11.2 not made any material changes²⁵ to the Calculation methodology since last year.²⁶
- 3.12 We rely on our conclusions from previous years' reviews for those aspects of the Manual and the Calculation methodology that have not significantly changed from previous years.
- 3.13 Therefore, for the assumptions adopted, and inputs and processes that we have analysed as part of the fit for purpose review, our draft conclusions are as follows:
- 3.13.1 the assumptions adopted, and the inputs and processes used by Fonterra in calculating the 2023/24 base milk price are consistent with the efficiency dimension of section 150A; and
 - 3.13.2 the assumptions adopted, and the inputs and processes used by Fonterra to calculate the 2023/24 base milk price are consistent with the contestability dimension of section 150A.
- 3.14 The following chapters set out our detailed findings and reasons for our draft conclusions on each focus area, and our fit for purpose review.

²⁴ [Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" \(1 August 2023\), at paragraphs 45-46.](#)

²⁵ We note there was an amendment to clarify that the Asset Beta must comply with DIRA requirements.

²⁶ [Fonterra 'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at pages 12, 21 and 33.](#)

4. Detailed findings and conclusions on commercial feasibility of yields focus area

Purpose of this chapter

- 4.1 In this chapter we outline our detailed findings from the review of the commercial feasibility of yields, including the extent to which the assumptions, inputs and processes are consistent with the section 150A purpose.
- 4.2 This chapter considers the scope of the focus area, how section 150B(1)(d) has been applied, and four sub-issues related to the commercial feasibility of yields, along with draft conclusions for each sub-issue. These sub-issues are:
 - 4.2.1 application of the national network and processing capacity assumptions to the Notional Processor's production plan;
 - 4.2.2 squaring the production curve;
 - 4.2.3 adjustments for differences in plants; and
 - 4.2.4 specification limits and composition offsets.

Scope of focus area

- 4.3 We proposed the commercial feasibility of yields as a focus area for this calculation review, in respect of the way in which s 150B(1)(d) ("the yields assumption") is used in the base milk price calculation.²⁷
- 4.4 The joint submission from the Independent Dairy Processors (**IDPs**) on our proposed focus areas raised several issues for the Commission to consider in our assessment of the focus area.²⁸ Some of these requests have been captured by our analysis. Points raised in submissions that we did not include as part of our focus areas analysis are addressed in Attachment A.
- 4.5 Within the commercial feasibility of yields focus area, the Commission identified several sub-issues which we have considered in detail. These were:
 - 4.5.1 the way in which the national network and processing capacity assumptions (section 150B(1)(a) and section 150B(1)(b) respectively) are used in the milk price model in relation to the Notional Processor's production plan;

²⁷ [Commerce Commission "Proposed focus areas for our review of Fonterra's 2023/24 base milk price calculation" \(18 April 2024\), at pages 7-8.](#)

²⁸ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023/24" \(9 May 2024\).](#)

- 4.5.2 squaring the production curve, or adjustments made for running plants at partial capacity;
 - 4.5.3 adjustments for differences in age, capacity and product mix between the Notional Processor's plants and Fonterra plants at which yields are tested; and
 - 4.5.4 specification limits and composition offsets.
- 4.6 The Commission has reviewed these issues relating to the commercial feasibility of yields because if any of the sub-issues result in over-efficient plants, more product would be produced than is realistic for the Notional Processor (ie, over-optimised yields). If this was the case the base milk price may be higher than would be paid by an efficient processor operating in the New Zealand milk processing market.

Consideration of the application of section 150B(1)(d)

- 4.7 Before considering the extent to which Fonterra's approach to yields is consistent with section 150A, we consider the application of sections 150B(1)(d) and 150(2).

Fonterra's approach to section 150B(2) for the 2023/24 calculation review

- 4.8 Fonterra notes in its Reasons paper for the 2023/24 season that its interpretation of section 150B(2) requires it to demonstrate:²⁹
- that any transformation of actual Fonterra values falling within the scope of s 150B(1) into summary values for use in the base milk price calculation is consistent with s 150A; i.e., that the resulting summary values in the base milk price calculation are practically feasible for either Fonterra or for an efficient processor with the characteristics described by s 150B(1), and
 - that the transformation process and resulting values are consistent with the principle of incentivising Fonterra to operate efficiently.
- 4.9 We consider this is consistent with the Commission's interpretation that section 150B(2) allows us to consider the way in which a section 150B(1) assumption has been used, as described in our Approach paper.³⁰ This is also consistent with our assessment of section 150B(1)(c) (foreign exchange) in the 2022/23 calculation review and 2023/24 manual review.^{31,32}

²⁹ [Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at page 9.](#)

³⁰ [Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" \(1 August 2023\), at paragraph 59.](#)

³¹ [Commerce Commission "Review of Fonterra's 2022/23 base milk price calculation - Final report" \(15 September 2023\), paragraph 3.21.2.](#)

³² [Commerce Commission "Review of Fonterra's 2023/24 milk price manual \(16 October 2023\), at paragraph 43.3.](#)

Fonterra's approach to section 150B(1)(d)

4.10 Fonterra addresses section 150B(1)(d) in its Reasons Paper for the 2023/24 season as follows:

4.10.1 Fonterra confirms that the calculation has been made under the assumptions that all milk collected by Fonterra in New Zealand is made into Reference Commodity Products (**RCPs**), and that the yields used in the conversion of milk into RCPs are practically feasible.

4.10.2 Fonterra notes the relevant rules contained in the Manual, which provide that the calculation will reflect all milk collected by Fonterra in New Zealand, and that production volumes will be calculated to utilise all milk given the yields established under rule 7. Rule 7 provides that yield assumptions must be calculated by reference to supportable assumptions with respect to product specification (including Codex requirements) and manufacturing losses.

4.10.3 Fonterra also notes that assurance with respect to the relevant inputs such as milk volumes and composition is obtained during its assurance process, which is outlined within the Reasons paper.³³

4.11 Fonterra considers the way in which it has used these assumptions is consistent with section 150A.³⁴

Application of the national network and processing capacity assumptions to the Notional Processor's production plan

4.12 This sub-issue concerns the way in which the national network and processing capacity assumptions are used in the base milk price model in relation to the Notional Processor's production plan.

4.13 In our Proposed Focus Areas paper for the 2023/24 season, we noted the following in relation to the internal consistency of section 150B(1)(a) relating to the national network, and section 150B(1)(b) relating to processing capacity:³⁵

³³ [Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at page 8.](#)

³⁴ [Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at page 11.](#)

³⁵ [Commerce Commission "Proposed Focus Areas for our Review of Fonterra's 2023/24 Base Milk Price Calculation" \(18 April 2024\), at paragraphs 38-40.](#)

We are not proposing to make the difference between these two assumptions a focus area, because we have concluded that there is no inconsistency between them given the way that they are each used in the milk price model. The processing capacity assumption is used to estimate capital costs, and the national network assumption is used as the basis for all other plant-related assumptions, including milk collection costs. The assumption that all plants are a uniform size is a simplification that allows a reasonable estimate to be made of the aggregate capital cost of a more diverse asset base, such as that assumed in the national network assumption.

- 4.14 We provide further details here regarding our interpretation of the application of these assumptions to the Notional Processor's production plan, given the relevance of this to yields.
- 4.15 Under rule 27 of the Manual, Standard Plants are allocated to 'Regions' so as to materially align notional and actual regional capacity,³⁶ where 'Region' means either the North Island or the South Island. This provides an aggregate processing capacity for each Region.
- 4.16 For the purposes of developing a production plan for the Notional Processor, and calculating any resulting diversion costs, the aggregate processing capacity for primary RCPs for each Region is then distributed so that Notional Processor processing capacity by site is materially aligned to Fonterra's. Fonterra has confirmed this material alignment of capacity in their 2023/24 Reasons paper.³⁷ This means that milk collection costs can be assumed to be materially the same between Fonterra and the Notional Processor. Milk collection costs are based on Fonterra actuals due to the complexity of modelling these separately.
- 4.17 We understand that the mechanism to distribute this aggregate processing capacity to a site level references the proportion of peak milk in the relevant Region that the individual site collects, as well as the assumed form of primary RCP processing capacity at that site (ie, WMP, SMP, or swing plants that can produce either RCP). We consider that there does not need to be a whole number of Standard Plants capacity equivalents allocated to a given site, as the assumption that all plants are a uniform size is only used to enable a reasonable estimate of the capital cost of the assets.
- 4.18 The Notional Processor's production plan for each season is generated based on actual monthly milk deliveries to each site and the modelled monthly maximum site capacity for the relevant primary RCPs. A downstream RCP production plan is then developed to calculate diversion costs as appropriate.

³⁶ [Fonterra "Base Milk Price Manual for the 2023/24 season – 1 August 2023" \(23 August 2023\), at page 51.](#)

³⁷ [Fonterra "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at page 9.](#)

- 4.19 This methodology to establish the Notional Processor's site capacity in a given season differs from a processor operating in the real world, where plants are permanently fixed at specific sites, and there is no flexibility in the maximum volume of milk a plant can process from season to season. However, we consider that the approach adopted is an appropriate modelling simplification which does not adversely impact consistency with the efficiency or contestability dimensions of section 150A.
- 4.20 We consider the allocation of capacity to 'Regions' and not individual sites is a modelling simplification, which avoids a situation whereby the milk price model effectively replaces all of Fonterra's assets at each site with the Notional Processor's asset base, which we consider would be excessively complex, costly, and not necessary to determine a milk price that is consistent with the dimensions of contestability and efficiency.
- 4.21 The way in which Notional Processor production capacity is distributed for the purposes of developing a production plan may result in some variances in implied site-level capacity from season-to-season compared to a situation where Standard Plants were individually allocated (and fixed) to Notional Processor sites. However, we consider that the yield impact on the base milk price from this modelling simplification is likely to be negligible so long as Notional Processor capacity at both a Region and site-level remains materially aligned to Fonterra's in a given season. This should minimise any partial capacity utilisation effects on yield losses resulting from this simplification.
- 4.22 In their submission on our Proposed Focus Areas paper, IDPs indicated a view that the Notional Processor production plan should provide for the disruption to standard specification product (**SSP**) production and yields that would arise from the inclusion of non-SSP sales in the Notional Processor's revenue calculation, unless this was given effect by the incremental product cost (**IPC**) procedure.³⁸
- 4.23 In our Proposed Focus Areas paper for the 2023/24 season, we indicated that there had not been any changes to the way in which IPCs had been calculated since the issue had been examined in our 2021/22 Calculation review, and so a detailed re-examination was not warranted.³⁹ However, we consider that a worked example of an IPC calculation may assist with greater transparency, including in relation to what yield adjustments are made through this calculation. This has been provided in Attachment B.

³⁸ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023/24" \(9 May 2024\) at page 12.](#)

³⁹ [Commerce Commission "Proposed Focus Areas for our Review of Fonterra's 2023/24 Base Milk Price Calculation" \(18 April 2024\), at paragraphs 34-37.](#)

Conclusion on efficiency dimension of s150A

- 4.24 Our draft view is that the way in which the national network and processing capacity assumptions in sections 150B(1)(a) and (b) are used to develop the Notional Processor's production plan is consistent with the objective of efficiency. The asset base assumed in the base milk price model is notional, and so is consistent with incentivising Fonterra to operate efficiently.

Conclusion on contestability dimension of s150A

- 4.25 Our draft view is that the way in which the national network and processing capacity assumptions in sections 150B(1)(a) and (b) are used to develop the Notional Processor's production plan is consistent with the objective of contestability.
- 4.25.1 The Notional Processor's capacity in each Region is sufficient to process all of the milk collected. As this is materially aligned with Fonterra's capacity it is practically feasible.
- 4.25.2 The Notional Processor's site capacity and Fonterra's site capacity are materially aligned, and so this assumption is practically feasible.
- 4.25.3 Milk collection at a site level for the Notional Processor and Fonterra are the same and so this assumption is practically feasible.

Squaring the production curve

- 4.26 This sub-issue concerns the commercial feasibility of plant operating capacity utilisation assumptions, and the resulting loss adjustments, given operational feasibility and compatibility with the Notional Processor's asset base.
- 4.27 The base milk price model utilises Fonterra's milk supply to sites across the entire season.
- 4.28 Fonterra manages lower off-peak milk supply by staggering plant opening dates and closing some plants early to keep others full longer. This increases milk transport costs as milk is transported from farm to plants further away than the geographically closest plant.
- 4.29 The milk transport costs allowed in the base milk price include all the Fonterra off-farm milk transport costs, so the Notional Processor is effectively operating a similar pattern of plant/site closure and milk supply to sites as Fonterra.
- 4.30 The base milk price model adjusts the yields the Notional Processor achieves by adding additional yield losses incurred with processing milk in plants operating at partial capacity. The methodology for ascertaining the magnitude of the adjustments is as follows.

- 4.31 First, the percentage of products manufactured in plants operating at partial capacity is determined with respect to Fonterra's milk supply to sites and the Notional Processor's asset base.
- 4.31.1 Plants either operate at full capacity, attained when supply reaches 90% of processing capacity, or partial capacity when supply is less than 50% of capacity. When a plant is operating at partial capacity, it operates every second day (ie, shut down for one day, operating the following, then shut down the day after).
- 4.31.2 The calculation for the 2023/24 season determined that 4.3% of products manufactured by the Notional Processor are manufactured in plants operating at partial capacity. Given the volume-weighting effect of product manufactured in plants operating at full capacity, we consider this calculation appropriate as it is achievable within the constraints of the Notional Processor's asset base.
- 4.31.3 We consider that as plant capacity by site and milk collection by site are materially aligned between Fonterra and the Notional Processor, assumptions informing daily plant capacity utilisation and underpinning the monthly Notional Processor production plan are materially consistent.
- 4.31.4 We consider that the impact on the base milk price from any misalignment between these modelling simplifications is likely to be negligible.
- 4.32 Secondly, an adjustment is made to the yields used by the Notional Processor.
- 4.32.1 Yield losses are measured on individual events, as discussed in paragraphs 4.41 to 4.44. The base milk price model selects events that are impacted by plants operating at partial capacity and adjusts the yields achieved when plants are operating at partial capacity.⁴⁰
- 4.32.2 This results in yield losses used in the base milk price model being higher than the peak yield losses measured as part of the yield testing process. For the 2023/24 season, WMP yield losses for fat & protein are ~5-10% higher than if yield losses measured at peak capacity were used.

⁴⁰ The events impacted by partial operation are effluent for WMP, SMP and BMP, and Milk to Powder for WMP and SMP – the latter includes milk reception, treatment, separation and standardising.

Conclusion on efficiency dimension of s150A

- 4.33 The inputs used to determine the Notional Processor's yield losses adjustment for plants operating at partial capacity are independent of Fonterra's current year performance and, therefore, notional. Our draft view is that this provides an incentive for Fonterra to operate efficiently.
- 4.34 On this basis, our draft view is that the resulting yield losses also provide an incentive for Fonterra to operate efficiently.

Conclusion on contestability dimension of s150A

- 4.35 We consider the calculation determining the percentage of product manufactured in plants operating at partial capacity is appropriate as it is achievable within the constraints of the Notional Processor's asset base. We further consider the selection of loss events impacted by plants operating at partial capacity and adjustments to yield losses attained during partial operation are appropriate.
- 4.36 Our draft view is that we consider the calculations accounting for plants operating at partial capacity are consistent with the yield losses achievable by an efficient processor and thus provide for contestability.

Adjustments for differences in plants

- 4.37 This sub-issue concerns that the testing of yield losses is undertaken in newer, more efficient plants, with different capacities, and manufacturing a different product mix, than the Standard Plant utilised in the base milk price model.
- 4.38 The capacity of plants at which yield losses are tested are larger than the average capacity assumed for the Notional Processor. Similarly, the average age of plants at which testing occurs is much lower than the average age of plants in the base milk price model. In addition, Fonterra's plants manufacture a wider range of product than the Notional Processor's range of product.
- 4.39 However, milk price allowances for effluent losses are built up by plant item and loss event from data for specific loss creating events across multiple sites and multiple years of loss survey information. That is, testing occurs at the equipment level, and on individual 'loss events'. Testing effectively occurs in a base milk price model environment.
- 4.40 The plant items used by Fonterra for testing individual loss events are the same as those assumed in the base milk price model, ie the same equipment that the Notional Processor has incurred capital expenditure on. As the specific items are the same as the Notional Processor uses, there are no differences in age and technology between Fonterra and Notional Processor plants to account for, for loss testing purposes.

- 4.41 A loss event is a known part of the production process where losses occur. Examples of a loss event might be a tanker and trailer clean, a line purge, flushing the system on startup or shutdown, or desludging.
- 4.42 In line with rule 7, the relevant loss calculations are generally updated four-yearly with any new, relevant data from surveys that have been undertaken.
- 4.43 Because testing occurs at the equipment level on specific loss events, capacity of the plant is not a relevant consideration. Losses can be built up to the capacity and scale of the Notional Processor. Similarly, testing occurs in production of RCP products, and so is relevant to the Notional Processor and an adjustment for product mix differences is not needed.
- 4.44 As a result of testing occurring at the equipment level, and on loss events, there are no adjustments to be made for differences between the actual Fonterra plants and the plants assumed for the Notional Processor. Fonterra is demonstrated to be able to achieve the losses used in the model and so this methodology can be considered practically feasible.

Conclusion on efficiency dimension of s150A

- 4.45 Fonterra is incentivised to minimise losses. The losses are calculated on averages and are not the actual performance levels Fonterra achieves in any given year. They are therefore notional. We consider Fonterra is incentivised to act efficiently in relation to testing for losses. Our draft view is that the way in which yield losses are built up in the model is consistent with the efficiency dimension.

Conclusion on contestability dimension of s150A

- 4.46 Testing for losses occurs on Fonterra's actual equipment and using its actual process. The results can therefore be demonstrated to be achieved by a New Zealand dairy processor and thus provide for contestability.
- 4.47 Our draft view is that the way in which losses are built up in the model, that is by plant item across multiple loss events, is practically feasible for an efficient processor.

Specification limits and composition offsets

- 4.48 This sub-issue concerns the practical feasibility of the specification limits, composition offsets, and the resulting composition targets⁴¹, assumed for the Notional Processor, and the extent to which they incentivise Fonterra to operate efficiently.
- 4.49 In their submission on our Proposed Focus Areas paper, IDPs used Fonterra’s ‘typical’ WMP composition from Fonterra product bulletins to estimate a premium of at least NZ \$0.07/kgMS from Notional Processor WMP yields compared with Fonterra. The calculated premium reflects higher fat and protein usage per tonne based on this ‘typical’ Fonterra WMP composition relative to the WMP composition assumed for the Notional Processor.⁴² We have reviewed supporting information provided by the independent technical expert engaged by the Milk Price Group (**MPG**), which demonstrates tighter achieved Fonterra WMP product compositions than the ‘typical’ values referenced in the Fonterra product bulletins. We are therefore satisfied that it is appropriate to use composition targets that are tighter than these ‘typical’ product composition values when assessing the practical feasibility of composition targets for the Notional Processor.
- 4.50 The base milk price model sets specification limits for RCP products produced by the Notional Processor with reference to composition minimums/maximums specified under CODEX standards. As these are external and internationally accepted notional composition benchmarks, we are satisfied that the specification limits are practically feasible and consistent with the efficiency dimension.
- 4.51 In our 2015/16 calculation review we concluded that the target specifications (referred to here as composition targets) were practically feasible, as the specification offsets (referred to here as composition offsets) are based on how Fonterra’s milk powder plants set budget target product composition.⁴³
- 4.52 We have conducted a review of the way in which the composition offset assumptions are applied to the Notional Processor, including supporting information provided by the independent technical expert engaged by the MPG.

⁴¹ Composition target = specification limit + composition offset. Specification limits are based on CODEX minimum requirements. Composition targets refer to the manufacturing specifications that are being targeted for a particular product. Composition offsets refer to the provision for actual usage of milk components in excess of the specification limits due to variation in the manufacturing process.

⁴² [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023/24" \(9 May 2024\), at page 5.](#)

⁴³ [Commerce Commission "Review of Fonterra’s 2015/16 base milk price calculation - Final report" \(15 September 2016\), at paragraph 4.86.](#)

- 4.53 Composition offsets used for the Notional Processor continue to be informed by the way in which Fonterra's milk powder plants set budget target product composition, based on statistical grading. Specifically, the base milk price composition offsets are based on a benchmark standard deviation multiplied by a 'k-factor' for each composition element.
- 4.54 The benchmark standard deviation is calculated from the four-year average of batch composition data from relevant Fonterra factories and relevant base milk price type RCP's.
- 4.55 Statistical grading requires 90% of samples taken on each batch of product to meet specification limits. In a perfect world this equates to a k-factor of [], but there are a variety of real-world risks related to statistical grading which Fonterra mitigates by increasing the applied k-factor for both the Notional Processor and for Fonterra factory targets above this level.
- 4.56 Our review has identified that some small differences have emerged in the way in which the 'k-factor' is applied to the Notional Processor relative to the way in which Fonterra sets its own targets. For WMP in particular, this results in a slightly tighter Notional Processor composition offset and resulting composition target than would be implied if the same 'k-factor' approach used for Fonterra factory targets were applied.
- 4.57 Fonterra has indicated that it chooses as a matter of policy to target slightly higher composition offsets than those assumed in the base milk price to mitigate against perceived risks of running to tighter specifications. Fonterra has also indicated that given the base milk price allowances are based on Fonterra's actual manufacturing performance, Fonterra could, if it chose, set offsets at Notional Processor levels while still achieving acceptable first-time grading results (ie, an acceptable proportion of samples exceeding the specification limit).
- 4.58 While these factors may support the Notional Processor adopting a tighter composition offset, Fonterra could consider returning to its previous practice of aligning the k-factor applied to the Notional Processor with that used to develop its own factory targets.

Conclusion on efficiency dimension of s150A

- 4.59 The inputs used to determine the Notional Processor's specification limits and composition offsets are independent from Fonterra's current year performance and therefore notional. Our draft view is that this provides incentive for Fonterra to operate efficiently.
- 4.60 On this basis, our draft view is that the resulting composition target also provides an incentive for Fonterra to operate efficiently.

Conclusion on contestability dimension of s150A

- 4.61 Our draft view is that the Notional Processor's specification limits are based on practically feasible external benchmarks.
- 4.62 We have examined the way in which the Notional Processor's composition offsets are set and our draft view is that we are satisfied that they are practically feasible.
- 4.63 We can confirm that the Notional Processor's composition targets exceed both CODEX and GlobalDairyTrade (**GDT**) minimum specifications. Based on our draft conclusions that the specification limits and composition offsets are practically feasible, our draft conclusion is that the composition targets are also practically feasible.

5. Detailed findings and conclusions on the sustainability focus area

Purpose of this chapter

- 5.1 In this chapter we outline our detailed findings from the review of sustainability costs, including the extent to which the assumptions, inputs and processes are consistent with the section 150A purpose.
- 5.2 This chapter considers the scope of the focus area, a summary of how sustainability costs are incorporated into the milk price model, and draft conclusions on the focus area.

Scope of focus area

- 5.3 Fonterra has indicated that this year's inaugural review of sustainability costs relates to an assessment of specific Fonterra projects focused on decarbonisation, methane reduction, waste-reduction, and improved environmental outcomes, both off-farm and on-farm, to determine whether the associated costs should be allocated to the base milk price, either in full or in part.
- 5.4 Fonterra's initial review has not yet been completed, although Fonterra has provided the Commission with an assessment framework. This framework and approach are expected to be applied to the 2023/24 season, and to relevant new initiatives each season going forward.
- 5.5 Fonterra has also noted that there are other costs embedded in the base milk price that have sustainability elements to them, but which they have not looked to break down (including the impact on fuel costs of transitioning to wood-fired boilers and various on-farm initiatives).
- 5.6 The challenge with sustainability is there is no minimum spend – with incentives distorted due to a lack of immediate short-term business consequences for under-investment. Sustainability costs must also meet New Zealand's evolving environmental regulation. In the Commission's view, to meet the efficiency limb, sustainability costs should achieve overall costs over a long-term period that have a similar outcome as Fonterra or another processor. While we will be able to form a view of Fonterra's sustainability costs, it is difficult to measure costs of any other New Zealand dairy processor.
- 5.7 In the absence of comparative data, we consider assessing whether the assessment framework results in sustainability costs that meet the purposes of the Act is an appropriate approach this year.

- 5.8 In future we expect it may also be appropriate to assess the implementation of the sustainability framework, including how the cost of individual projects is considered in the base milk price calculation, and whether that is consistent with the section 150A purpose.
- 5.9 The Commission welcomes feedback from stakeholders on how judgement of sustainability costs could be exercised, and rules of thumb that could be utilised to assess the level of overall expenditure on sustainability-related matters.

Summary of sustainability costs and how they are incorporated into the base milk price

- 5.10 Fonterra has outlined an assessment framework to determine whether sustainability initiatives undertaken by Fonterra should be reflected in the base milk price model. The assessment framework is set out in the box below.

Fonterra's Sustainability Assessment Framework

Firstly:

- a. does the business case for the initiative include the possibility of generating commercialisable intellectual property?
- b. if yes, would the initiative still proceed if Fonterra was not able to pursue third party commercial benefits?

Further consideration of whether the project's costs should be accounted for in the Milk Price will occur if the answer to (a) is 'no' or the answer to (b) is 'yes', on the basis that the project would otherwise not be pursued by, or otherwise be relevant to, the Notional Processor, which Fonterra assumes is unable to pursue downstream commercial opportunities, and would not pursue any initiatives which would not be pursued absent the potential for commercialisation.

For those projects that pass the initial assessment, they will only be considered for inclusion in the Milk Price if the answer to at least one of the following questions is 'yes':

- Does the project relate to satisfying a regulatory compliance requirement which is relevant to the Notional Processor?
- Is the project's purpose to generate higher returns on sales of RCPs which will inform the Milk Price?
- Is the project's purpose to reduce the costs which inform the Milk Price calculation?
- For all other projects, is it something we would expect to be pursued, whether for 'licence to operate' reasons or to otherwise maintain milk supply, by any efficiently managed RCP manufacturer with the Notional Processor's scope and scale?

- 5.11 Once Fonterra has assessed a project using the framework outlined in the box above, Fonterra will then assess whether the cost should be allocated to the base milk price in full or whether it is appropriate to scale it.

Conclusion on efficiency dimension of s150A

- 5.12 Our draft view is that Fonterra is incentivised to operate efficiently in regard to incorporating sustainability costs into the base milk price calculation.
- 5.13 While Fonterra's actual costs are used, Fonterra is unlikely to incur sustainability costs unnecessarily at additional cost to its business, although the Commission would be concerned if Fonterra did not include necessary costs such as those incurred to meet regulatory requirements. It must be borne in mind that sustainability initiatives are not only undertaken to meet regulatory objectives, but also for licence to operate – ie, there is an element of social responsibility. The framework considers what an efficient processor would do.

Conclusion on contestability dimension of s150A

- 5.14 Our draft view is that the framework is practically feasible for an efficient processor, and is consistent with the contestability dimension. It is demonstrated by the use of Fonterra actuals that the Notional Processor can achieve the costs allocated.
- 5.15 Judgement is involved in assessing what an entity, the size and scale of the Notional Processor, would incur in maintaining an appropriate reputation for environmental stewardship. We welcome feedback from stakeholders on how judgement is exercised, and rules of thumb utilised to assess the level of overall expenditure on sustainability-related matters.
- 5.16 The Commission may review implementation of the sustainability framework as required, including how the cost of individual projects is considered in the base milk price calculation.

6. Detailed findings and conclusions on the repairs and maintenance focus area

Purpose of this chapter

- 6.1 In this chapter we outline our detailed findings from the review of repairs and maintenance costs, including the extent to which the assumptions, inputs and processes are consistent with the section 150A purpose.
- 6.2 This chapter considers the scope of the focus area, a summary of how repairs and maintenance costs are incorporated into the milk price model, and draft conclusions on the focus area.

Scope of focus area

- 6.3 The Commission had indicated that repairs and maintenance (falling under fixed manufacturing costs) will be a focus area for the 2023/24 calculation review as part of its Proposed Focus Areas paper.⁴⁴
- 6.4 This arose out of an industry report, indicating Fonterra would need to spend ~\$800m⁴⁵ of capex per annum including a portion attributable to catch-up on capital investment to maintain existing plant operations.⁴⁶ We considered whether this brought into question the practical feasibility of using gross Fonterra operating targets for the Notional Processor, such as repairs and maintenance expense, as a percentage of gross asset replacement values.
- 6.5 However, repairs and maintenance are operational expenditure therefore the capital expenditure referenced in the industry report is not relevant to the Notional Processor's repairs and maintenance expense. Furthermore, the Notional Processor's mechanistic replacement of a Standard Plant at the end of its defined useful life (of 30 years) means that any past underinvestment by Fonterra will not be replicated by the Notional Processor.

⁴⁴ [Commerce Commission "Proposed Focus Areas for our Review of Fonterra's 2023/24 Base Milk Price Calculation" \(18 April 2024\), at paragraph 12.](#)

⁴⁵ [Northington Partners "Review of FY23 Performance Fonterra Co-operative Group" \(19 October 2023\), at page 21.](#)

⁴⁶ The industry report relates to the Review of FY23 Performance of Fonterra issued by Northington Partners. The report clarifies that the \$800m per annum is in reference to capital expenditure – including to sustain existing Fonterra operational footprints – most of these costs will not impact the Notional Processor due to the difference in age and profile of NP's asset base. Expenditure required to meet Fonterra's sustainability targets and regulatory requirements are included in the above figure. Given the difference in age and profile of NP's asset base, relevant elements will flow through to the cost of a Standard Plant.

Summary of repairs and maintenance costs and how they are incorporated into the base milk price

- 6.6 We consider the calculation of the repairs and maintenance expense to be consistent with rule 14 of the Manual.⁴⁷
- 6.7 Rule 14 of the Manual indicates that in calculating the base milk price, a reasonable provision for repairs and maintenance be calculated by:
- 6.7.1 For maintenance Department Labour Costs, where sufficiently accurate information on Fonterra's actual costs is available, a provision calculated by reference to Fonterra's actual prior-year costs, adjusted where appropriate for inflation and differences in the characteristics of Fonterra's fixed assets and the Farmgate Milk Price Fixed Asset Base;
- 6.7.2 For other costs, the amount is calculated by multiplying:
- the ratio of Fonterra's average repairs and maintenance expenditure over the preceding four years that are broadly comparable to those in the Notional Processor's fixed asset base to the average assessed replacement cost of those assets; and
 - the current year assessed replacement cost of the Notional Processor's fixed asset base.

Conclusion on efficiency dimension of s150A

- 6.8 Our draft view is that Fonterra is incentivised to operate efficiently in regard to incorporating repairs and maintenance costs into the base milk price calculation.
- 6.9 The calculation of repairs and maintenance costs uses notional data. The ratio of repairs and maintenance costs to asset value is calculated from Fonterra's actual data, but only uses data from the previous four years. The replacement costs of fixed assets are based on the Notional Processor's asset base and, therefore, notional.
- 6.10 Given that the repairs and maintenance costs are independent of Fonterra's current season's actual costs, we consider that using a benchmark provides an incentive for Fonterra to operate efficiently.

⁴⁷ [Fonterra "Base Milk Price Manual for the 2023/24 season – 1 August 2023" \(23 August 2023\), at page 42.](#)

Conclusion on contestability dimension of s150A

- 6.11 Our draft view is that the repairs and maintenance costs are practically feasible for an efficient processor and are consistent with the contestability dimension. It is demonstrated that Fonterra achieves similar operational targets through the use of gross Fonterra actuals for determining the ratio of repairs and maintenance expense as a percentage of gross asset replacement values.

7. Detailed findings and conclusions from our fit for purpose review

Purpose of this chapter

- 7.1 In this chapter we outline our detailed findings from our fit for purpose review, including the extent to which the assumptions, inputs and processes are consistent with the section 150A purpose.

Scope of fit for purpose

- 7.2 We have reviewed Fonterra's base milk price calculation model, as well as supporting models for each of the key inputs. We have assessed further information on a confidential basis where we considered it necessary.
- 7.3 As part of this analysis, we have also examined any changes in the following assumptions that could impact the base milk price:
- 7.3.1 changes in costs;
 - 7.3.2 inclusion of off-GDT sales as a reference for calculating RCP prices;
 - 7.3.3 changes in sales phasing;
 - 7.3.4 changes in volumes of milk collected and a check against modelled processing capacity; and
 - 7.3.5 yield and loss calculations.
- 7.4 For this review specifically, we have also provided comments in two additional areas:
- 7.4.1 impact of Fonterra cost saving initiatives on the base milk price; and
 - 7.4.2 cost inflation adjustments.

Draft conclusion

- 7.5 Our draft conclusion is that we consider that the inputs, assumptions and processes covered in our fit for purpose review are consistent with the efficiency and contestability dimensions of section 150A.

Detailed findings

Changes in costs

7.6 Base milk price component costs for the 2023/24 season are lower, with non-milk expenses reducing by \$132m or around 7c per kgMS relative to the 2022/23 season. Lower lactose and sales commission costs are the primary drivers of this, partly offset by higher administration and energy costs.

Lactose costs

- 7.7 Lactose costs have declined by \$309m or around 21c per kgMS for the 2023/24 season. The decrease is driven by changes in international lactose prices applied to the notional milk price volumes and is outside Fonterra's control.
- 7.8 We have undertaken a review of international lactose price movements to cross-check the magnitude of this change.⁴⁸ Adjusting this price series to account for transit time to New Zealand, and volume weighting it according to the import volume profile used in the base milk price calculation, produces a similar year-on-year decline in lactose costs as that which has been assumed for the Notional Processor.
- 7.9 Prior to the beginning of a season, Fonterra chooses whether it will use its own lactose price or that of other processors in calculating the base milk price. For the 2023/24 season, Fonterra has used the competitor price series, reflecting actual costs for lactose landed in New Zealand.⁴⁹ We therefore consider that the assumptions relating to lactose costs are practically feasible.
- 7.10 We consider that selecting Fonterra's competitors' actual lactose costs as a benchmark, prior to the beginning of the season, in combination with the Notional Processor's lactose volume requirements that are significantly larger than Fonterra's actual volumes, incentivises Fonterra to reduce its actual lactose costs (ie, operate efficiently).
- 7.11 Therefore, our draft conclusion is that we consider the lactose cost assumptions are consistent with the efficiency and contestability dimensions of section 150A.

⁴⁸ [USDA Central & West US Monthly Average Edible Lactose 'Mostly' Prices, Non-Pharmaceutical.](#)

⁴⁹ [Fonterra "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2023/24 Season" \(17 June 2024\), at page 22.](#)

Sales commission costs

- 7.12 The sales commission costs line item reduced by \$28m or around 2c per kgMS for the 2023/24 season. This primarily reflects a reallocation of costs over to the administration costs line item rather than a net reduction. Most of these costs relate to transformation, IT systems and letter of credit management. Costs retained under this category relate to the global sales office, which are relevant to the Notional Processor. Costs under this specific line item increased by around \$2.6m relative to the 2022/23 season.

Administration costs

- 7.13 The most significant increase in non-milk expenses for the 2023/24 season is under the administration category, which have increased by \$103m or around 7c per kgMS. Fonterra has indicated this reflects that FY24 is a four-yearly reset year for overhead costs. The overhead reset identified a \$34m net increase over FY23 provisions, the prominent items being increases in sustainability and IT costs with a combined increase of \$56m, allocated mostly under administration.
- 7.14 We have reviewed the way in which costs have been reallocated under the overhead reset, and the additional costs allocated to the Notional Processor in relation to sustainability and IT, and have not identified any concerns. As per our previous calculation reviews, we therefore consider that the administration costs are consistent with the efficiency and contestability dimensions of section 150A.

Energy costs

- 7.15 Energy costs have increased by \$46m or around 3c per kgMS for the 2023/24 season. This increase from 2022/23 primarily reflects higher variable energy costs applied to the Farmgate Milk Price Fixed Asset Base usage rates over which Fonterra has limited control.
- 7.16 The way in which these energy costs are set has not changed, therefore we are in part relying on our conclusion from our previous calculation reviews, that the energy costs are consistent with the efficiency and contestability dimensions of section 150A.

Inclusion of off-GDT sales as a reference for calculating RCP prices

- 7.17 In our recent fit for purpose reviews, we have looked at off-GDT prices and volumes for informing sales to assess the impact on average prices assumed for the Notional Processor.

- 7.18 We obtained the same information for the 2023/24 season as of 30 April 2024. This shows that the overall impact of off-GDT pricing for WMP, SMP and AMF was an increase of 8.8 cents per kgMS compared with 8.3 cents per kgMS in 2022/23. Off-GDT sales continue to be benchmarked against on-GDT sales prices, and the price differential between on- and off-GDT sales has not notably shifted.
- 7.19 Given the process for including off-GDT sales has not changed since last year's calculation review, and a similar magnitude in the overall impact of off-GDT pricing, we continue to consider that the use of off-GDT sales pricing is practically feasible.
- 7.20 GDT provides a transparent RCP pricing reference point for New Zealand dairy market participants as well as a benchmark for off-GDT sales. It therefore provides an incentive for Fonterra to operate efficiently in the context of section 150C(1)(a).

Changes in sales phasing

- 7.21 Fonterra's approach to sales phasing assumptions for the Notional Processor has not changed from previous years' reviews. The revenue is recognised in the base milk price model based on the contracted prices, and the use of total phasing is consistent with the production profile of the Notional Processor, therefore our draft conclusion is that we consider that the phasing is practically feasible.
- 7.22 Furthermore, as Fonterra's approach to sales phasing is unchanged from previous years' reviews, we are relying on our conclusion from our previous calculation reviews, that the approach to sales phasing is consistent with the contestability dimension of section 150A.
- 7.23 While the incentive to operate efficiently is potentially weaker than if notional data had been used, we continue to consider the current approach to sales phasing using Fonterra's actual data to be consistent with the efficiency dimension of section 150A because:
- 7.23.1 there is insufficient data to develop a reasonable notional figure; and
- 7.23.2 Fonterra only has limited discretion over its sales phasing.⁵⁰

Changes in volumes of milk collected and check against modelled processing capacity

- 7.24 The 2023/24 volume of milk collected (1,471m kgMS) was 0.6% lower than 2022/23. Nationally, milk volumes collected in October, the seasonal peak month in New Zealand, were below prior year and the lowest in recent history.

⁵⁰ [Commerce Commission "Review of Fonterra's 2014/15 base milk price calculation - Final report" \(15 September 2015\), at paragraphs 7.94-7.106.](#)

- 7.25 The most recent review of the fixed asset base was completed in 2022, and resulted in a decision to maintain the 2023/24 season overall processing capacities of incremental and replacement plants for the manufacture of all five RCPs at the same levels assumed for the previous review period.
- 7.26 The total modelled RCP manufacturing capacity of the Notional Processor for both the North Island and South Island was sufficient to process the available 2023/24 season milk solids. Around 2,400 tonnes of un-standardised WMP/SMP (equivalent to around 1.8m kgMS) was modelled to be produced by the Notional Processor over October and November in the South Island to manage peak milk flows in this Region.

Yield and loss calculations

- 7.27 A full description of Fonterra’s process to update the specification offset and loss assumptions (the yield inputs) can be found in its 2023/24 Reasons paper.⁵¹
- 7.28 Our detailed draft conclusions in relation to yields and losses can be found in Chapter 4 of this paper.
- 7.29 We have confirmed the calculated yield for the Notional Processor by performing a ‘mass balance’ calculation to verify that loss assumptions have been properly taken into account. This reconciles the milk solids in the total volume of raw milk purchased by the Notional Processor with the fat and protein in the RCPs together with associated losses. This calculation was performed prior to Fonterra’s revision to yield inputs, which will be reflected in their July models. We will confirm this mass balance calculation in our final report.

Impact of Fonterra cost savings initiatives on the Milk Price

- 7.30 In their submission on our Proposed Focus Areas paper, IDPs noted Fonterra’s public statements regarding cost saving initiatives, and expressed a view that “... cost savings planned to be achieved across a long period must be demonstrated to be achieved before they can be credited (or progressively credited) to the NP.”⁵² IDPs requested the Commission include this issue in the focus areas for this review.
- 7.31 Fonterra has indicated that the 2023/24 base milk price does not include any provision for projected-but-as-yet-unachieved savings. Savings which had been realised in the 2022/23 financial year were accounted for, to the extent they were relevant to the base milk price, in the 2023/24 financial year overheads reset, but the impact was not material as the program of work announced in 2023 provides a seven-year target.

⁵¹ [Fonterra “‘Reasons’ Paper in Support of Fonterra’s Base Milk Price for the 2023/24 Season” \(17 June 2024\), at page 15.](#)

⁵² [IDP Joint Submission on the Commerce Commission process paper: “Proposed focus areas for our review of Fonterra’s 2023/24 base milk price calculation” \(9 May 2024\), at page 14.](#)

- 7.32 We have reviewed a summary of cost movements associated with the 2023/24 financial year overheads reset and have not identified any unexplained cost savings in materials provided by Fonterra to date. We will continue to monitor this in future years as part of our regular fit for purpose review.

Cost inflation adjustments

- 7.33 Our review of Fonterra's 2022/23 base milk price calculation included a review of assumptions relating to the impact on milk price costs of inflationary pressures across the broader economy.⁵³ This was in response to a request from IDPs to review all cash costs and to update the cost of the capital base as focus areas in the context of the high inflation environment at the time.⁵⁴
- 7.34 Our review of these assumptions and processes was undertaken as part of our annual fit for purpose review. However, we indicated that we would consider if this should be part of a future focus area.
- 7.35 Inflation in New Zealand has slowed relative to the same time last year but remains elevated compared to Reserve Bank target levels. In this context we have considered it unnecessary to make the review of these assumptions a separate focus area, but appropriate to repeat our approach from 2022/23.

Capital asset base costs

- 7.36 Fonterra has carried out an annual update of capital goods inflation based on an independent report from Jones Lang LaSalle (JLL) using movements in Fonterra asset values.⁵⁵
- 7.37 We have reviewed the advisory report prepared by JLL for the purpose of valuation of specified plants and assets at various sites to assist with the milk price index pricing update.⁵⁶
- 7.38 The information sources used to create the capital cost index include, but are not limited to:
- 7.38.1 JLL Plant and Machinery Database;
 - 7.38.2 searches of similar plant from internet websites;
 - 7.38.3 discussions with suppliers and dealers of machinery and equipment; and

⁵³ [Commerce Commission "Review of Fonterra's 2022/23 base milk price calculation - Final report" \(15 September 2023\), at paragraph 3.110.](#)

⁵⁴ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" \(27 April 2023\), at paragraph 48.](#)

⁵⁵ From MPG 2022/23 work programme.

⁵⁶ JLL, Valuation Advisory, 1 June 2023.

7.38.4 information provided by Fonterra such as receipts, fixed asset schedule and verbal advice as to original purchase costs and date of assets when acquired.

7.39 The overall increase in the replacement cost of the asset base from 2023 to 2024 was 10.0%. In our 2021/22 Calculation review,⁵⁷ we used the PPI Outputs Building construction index as a relevant benchmark. We have performed a crosscheck against these benchmarks. The annual movements for this index to the June 2023 quarter was 7.3%.⁵⁸

7.40 We therefore consider that the capital asset costs have been appropriately adjusted to take account of current inflationary effects and are practically feasible.

Variable manufacturing costs

7.41 We have reviewed the variable manufacturing cost lines to assess the appropriateness of the methods used to update the costs.

7.42 The list of the cost lines and the method applied to each line are outlined in Attachment D.

7.43 The allowable methods for updating variable manufacturing costs are specified in the Manual in Table 3.1 Detailed Rules. We consider the cost assumptions have been updated in accordance with the Manual.

Other cash costs

7.44 We have reviewed all other cash cost lines to assess the appropriateness of the methods used to update the costs.

7.45 The list of the cost lines and the method applied to each line are outlined in Attachment D.

Depreciation expense

7.46 We have reviewed the depreciation expense cost line and noted a 3.2% decrease relative to 2022/23.

7.47 The capital charge methodology uses a tilted annuity approach as it results in a constant annual capital cost in real terms (ie, the capital cost increases in time only by the forecast rate of inflation in capital costs). Without this assumption, the depreciation and capital charges would fluctuate from year to year.⁵⁹

⁵⁷ [Commerce Commission "Review of Fonterra's 2021/22 base milk price calculation - Final report" \(15 September 2022\), at paragraph 3.131.](#)

⁵⁸ Statistics NZ, PPI Outputs price index tables for June 2023 quarter.

⁵⁹ For further information on the approach to Depreciation using Tilted annuity, refer to; [Fonterra "Depreciation & Capital Charge under Tilted Annuity, Replacement cost and Historic Cost Approaches" \(22 March 2016\).](#)

7.48 The decrease was caused by higher inflation impacting the future value of the asset base upwards, and thereby creating a steeper tilt. To ensure the tilt is net present value neutral, the current season's depreciation expense had a downwards adjustment. We have reviewed the forecasts for depreciation expense and are confident that the impact is net present value neutral with a greater increase in depreciation expense expected in the following years.

Assessment of cost inflation adjustments against the section 150A purpose

7.49 Our draft conclusions are:

7.49.1 the methods used are appropriate for the capital asset and variable manufacturing cost lines to which they have been applied. They are based on industry trends in actual cost data and therefore we consider they are practically feasible; and

7.49.2 the rates used are compiled independently of Fonterra's current year performance and so provide an appropriate notional benchmark to beat. Therefore, we consider that the efficiency dimension is met.

Attachment A Responses to Proposed Focus Areas Paper Submissions

Submitter(s)	Key points	Our response
Commercially Feasible Yields		
Joint IDP Submission	<p>The yields are currently tested in ideal operating conditions - which are not possible to be extrapolated across the entire Notional Processor asset base.</p> <p>Specifically, issues raised include the use of Notional Processor yields based on RCP composition specs that are tighter than Fonterra's 'typical' composition, and the view that Fonterra losses will be higher than the Notional Processor given assumed Notional Processor ideal operating conditions.⁶⁰</p>	<p>We have defined an efficient processor as considering the costs of an efficient 'incremental plant' (as per paragraph 54 of the Commission's Approach paper) - therefore, the use of composition specifications tighter than Fonterra averages but achievable by the latest Fonterra plants is consistent with our view of efficiency and practical feasibility.</p>
	<p>Commercial feasibility must take into account the smaller scale new entrants will have due to the current market dynamics of securing milk supply. A commercially feasible small processor operating in New Zealand would not be as large as the Standard Plant used by the Notional Processor.⁶¹</p>	<p>Fonterra is allowed to assume the size of units of processing capacity under section 150B(1)(b).</p>

⁶⁰ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 5-6, 8-15.](#)

⁶¹ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 6, 17-19.](#)

Submitter(s)	Key points	Our response
Production plan – plant capacity assumptions and impact on NP yields		
Joint IDP Submission	<p>The Notional Processor’s factory costs are included in the costs at all Fonterra sites. These have a range of ages, scale, and technology, all of which would impact production costs.</p> <p>It is unclear how Fonterra adjusts resource cost rates from its diverse range of sites into the resource rates for the Notional Processor (Standard Plant or otherwise). The Commission is asked to consider this as a focus area for the 2024/25 review.⁶²</p>	We do not currently consider there is an issue with adjusting resource rates.
Joint IDP Submission	Consistency of use of section 150B assumptions (a) and (b) – capacity of Notional Processor plants and consistency in application with the national network allocation and distribution of processing capacity. ⁶³	<p>We did not propose as part of our proposed focus areas to make the difference between these two assumptions a focus area because we have concluded that there is no inconsistency between them, given the way that they are each used in the milk price model.</p> <p>We considered the assumption that all plants are a uniform size to be a simplification that allows a reasonable estimate to be made of the aggregate capital cost of a more diverse asset base, such as that assumed in the national network assumption. We have not been provided with any new evidence or information on these matters and we therefore did not consider these further or revisit our previous conclusions regarding the use of these two assumptions.</p>

⁶² [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 8-9, 24-33.](#)

⁶³ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 9-10, 34-37.](#)

Submitter(s)	Key points	Our response
Joint IDP Submission	Notional Processor yields are based on Standard Plants - these, which have only been acquired since 2012, only make up 30% of plants. However, the IDPs hold the yields at these plants are not achievable by the entire asset base and, therefore, not feasible for the Notional Processor. ⁶⁴	We have defined an efficient processor as considering the costs of an efficient 'incremental plant' (as per paragraph 54 of the Commission's Approach paper) - therefore, the use of yields better than Fonterra averages but achievable by the latest Fonterra plants is consistent with our view of efficiency and practical feasibility.
Impact on yields of non-SSPs included in NP revenues		
Joint IDP Submission	IDPs consider that the Incremental Product Cost (IPC) procedure is not transparent, and it is not clear how the IPCs can account for all yield effects of non-Standard Specification Product (SSP) production. The IDPs request the focus areas for the 2023/24 review include an explanation (including examples) to confirm how the IPCs adjust for all yield differences. ⁶⁵	<p>We consider that we have addressed the outstanding issues with respect to the impact on yields of non-SSPs included in the Notional Processor's revenues. Our final report on our 2021/22 Calculation Review concluded that the IPC calculations achieved the 'volume adjustment' described and captured other relevant manufacturing costs. We have not been provided with any new evidence or information on these matters and we therefore do not consider these further or revisit our previous conclusions regarding the calculation of IPCs.</p> <p>However, to improve transparency, we have outlined an incremental product cost worked example in Attachment B.</p>

⁶⁴ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 10-11, 38-42.](#)

⁶⁵ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 12-14, 49-55.](#)

Submitter(s)	Key points	Our response
Increasing Predictability of the BMP Calculations		
Joint IDP Submission	Notional Processor assumptions that do not disclose Fonterra commercial performance - redaction has been too strict and needs to further release non-commercially sensitive information such as 1- lactose prices (Statistics NZ Data) 2- SSP compositions (if sold on GDT predominantly) ⁶⁶	Information disclosure requirements for Fonterra mean that they must publish all non-sensitive information provided to the Commission as part of a calculation or Manual review. The Commission conducted a review of Fonterra's information disclosures in relation to the 2022/23 calculation review and the 2023/24 Manual review. We will conduct this process for each calculation and Manual review going forward and will consider the appropriateness of any redactions. While Fonterra is entitled to withhold sensitive data we encourage the disclosure of information that shed lights on its calculation methodology (including illustrative examples) where this would enhance the transparency of its milk price calculation. The timing of the disclosure of substantive changes in Fonterra's approach to calculating the base milk price is not within the scope of our calculation reviews.
Joint IDP Submission	Notional Processor assumptions that depend directly on Fonterra commercial performance - IDPs seek a greater understanding of the calculation methodology, in particular, illustrative examples of calculation methodology to convert sensitive data, for example, prices Fonterra achieves to Notional Processor prices. ⁶⁷	
Joint IDP Submission	Timely disclosure of substantive changes in the approach to calculating the base milk price - IDPs want disclosure of significant updates to the milk price calculation and methodology to be considered as a focus area for 2023/24 - for example, the changes, or lack of, from review year items will only be given to IDP's post Reasons paper. ⁶⁸	

⁶⁶ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 15, 66.](#)

⁶⁷ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 16, 67.](#)

⁶⁸ [IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2023-24" \(09 May 2024\), at paragraphs 16, 68-69.](#)

Attachment B Incremental Product Cost worked example

Incremental Product Costs (IPCs) were not a focus area for this review. The Commission has previously assessed IPCs in the 2021/22 base milk price calculation review and found them practically feasible. We did not consider there was any new information to warrant a reassessment. However, we did consider that a worked example of the calculation would assist with greater transparency on how yield differences are adjusted for. This example is presented below. Some costs have been redacted due to their commercially sensitive nature.

MATERIAL	GDT WMP INST A&D FLC 25KG MBG
COMMODITY CLASS	WMP - Instant
INFORMS MILK PRICE	Informs NZ Milk Price
PROD. COST BASE MAT.	gDT WMP Reg FLC 25kg
CALENDAR YEAR/MONTH	01.2024

Incremental Fat Content (Kgs/tonne)	16.89	<i>Extra milksolids 28% Fat IWMP vs 26% Fat Reg WMP (net of some fat from lecithin ingredient addition)</i>
Incremental Protein Content (Kgs/tonne)	-5.55	<i>Inclusive of extra milksolids losses (Lower protein 23.3% IWMP vs 24% Reg WMP = 7kg prior to allowance for incremental losses)</i>
Incremental Less Added Lactose Content (Kgs/tonne)	-3.63	<i>Less standardising lactose for IWMP vs Reg WMP due to lower protein content and extra fat and lecithin ingredient addition</i>
Fat Cost (per Kg/NZD)		<i>Component unit costs for January-24 pricing month</i>
Protein Cost (per Kg/NZD)		<i>Component unit costs for January-24 pricing month</i>
Lactose Cost (per Kg/NZD)	1.74	<i>Lactose costs for January-24 pricing month</i>
Fat Cost NZD		
Protein Cost NZD		

Added Lactose Cost NZD	-\$6.31	
IPC Valued Components Milk Price Included		
Incremental Milk Collection & Premiums	\$1.24	<i>Extra cost for additional milksolids in losses</i>
Incremental Manufacturing Fixed	\$4.88	<i>Extra fixed cost for lower throughput on IWMP vs Reg WMP</i>
Incremental Manufacturing Variable	\$5.31	<i>Extra CIP, Energy, Lab Testing, Effluent</i>
Incremental Domestic Storage & Freight	\$0.00	
Incremental Downgrade	\$4.11	<i>Extra downgrade with IWMP vs Reg WMP</i>
Incremental Packaging	\$1.24	<i>Lower Bulk Density WMP more expensive bags vs Reg WMP</i>
Incremental Ingredients		<i>Vit A/D and lecithin</i>
Incremental Overhead Costs	\$0.07	
Incremental Commercial Adjustments	\$0.00	
Incremental Std WACC Working capital	\$0.00	
Incremental Std WACC Asset Footprint	\$1.38	<i>Extra fixed cost for lower throughput on IWMP vs Reg WMP, Extra Instantising capital (vit / lecithin dosing etc)</i>
Incremental Manufacturing Depreciation	\$2.13	<i>Extra fixed cost for lower throughput on IWMP vs Reg WMP, Extra Instantising capital (vit / lecithin dosing etc)</i>
Incremental Total Other Costs (NZD/tonne)		
Total Cost (NZD/tonne)		

Attachment C Glossary of terms

	Definition
AMF	Anhydrous milk fat
Approach Paper	Our approach to reviewing Fonterra's Milk Price Manual and Base Milk Price calculation
Base milk price	Price per kilogram of milk solids that is set by Fonterra for that season
BMP	Butter milk powder
Calculation	Fonterra's 2023/24 base milk price Calculation
Calculation review	Review of Fonterra's base milk price Calculation
Dairy season	1 June to 31 May
DIRA, or the Act	Dairy Industry Restructuring Act 2001
GDT	GlobalDairyTrade, online auction platform used to sell dairy commodities
IDPs	The Independent Dairy Processors (the IDPs); Miraka, Open Country Dairy, Synlait Milk and Westland Milk Products
IPC	Incremental product costs
IWMP	Instantised whole milk powder
kgMS	Kilogram of milk solids
Manual review	Review of Fonterra's Milk Price Manual
MPG	Milk price group, the independent group responsible for calculating the base milk price
Milk Price Manual or the Manual	Fonterra's Farm Gate Milk Price Manual generally referred to by the version relating to each dairy season (e.g., 2023/24 Manual). The Manual contains the methodology used to calculate Fonterra's base milk price
Notional Processor	The notional commodity business used to calculate the base milk price
NMPB	Notional Milk Price Business, comprising the notional milk powder manufacturing business conducted by the Notional Processor as implied by Fonterra's Farmgate Milk Price Manual
RCP	Reference Commodity Product. These products, manufactured and sold by the Notional Processor, are in the Reference Basket. They currently include WMP, SMP, BMP, Butter and AMF
Reference Basket	The RCPs used to calculate the base milk price
Reasons paper	Fonterra's Reasons papers, one of which is produced alongside the Manual for each dairy season, and another when Fonterra discloses its base milk price calculation at the end of each dairy season
SMP	Skim milk powder
SSP	Standard specification product. A specific product specification for each RCP that the Notional Processor is assumed to manufacture
WACC	Weighted average cost of capital
WMP	Whole milk powder

Attachment D Inflationary cost variances and cost drivers

Cost line	% change (NZD/kgMS basis)	Unit cost update basis	Usage rate basis
Variable manufacturing costs			
Packaging	+6.3%	Actual unit packaging costs for Milk Price base Product Specifications.	Packaging usage items as per Fonterra Product Specification, Wastage as per Fonterra actuals after outlier data exclusions.
Energy	+10.1%	Actual rates	Actual usage rates from Milk Price Energy Audits on Fonterra Plants (Darfield / Pahiatua), Equipment supplier data for Butter, AMF and BMP.
Water	+4.9%	Budget rates	Equipment supplier information.
Cleaning & CIP	-7.3%	Actual rates	Equipment supplier Information and Plant acceptance testing information.
Consumables	+3.8%	Actual rates	Equipment supplier Information.
Effluent	+4.1%	Budget rates	Effluent kg's Fat/Protein from Milk Price Loss audit of Actual Fonterra Plants.
Laboratory	+7.1%	Prior year actuals + Inflation (PPI)	Unit testing requirement as Per Fonterra Product specification, in process testing requirements as per Fonterra actual in process costs for Benchmark plants comparable to NMPB plants.
Total	+7.5%		

Cost line	% change (NZD/kgMS basis)	Unit cost update basis	Usage rate basis
Fixed manufacturing costs			
Wages & ERE	+8.6%	Actual rates	Staffing requirements, by level, for each of Fonterra's standard plants, Average per cent Overtime as per Fonterra's actuals, Average per cent temporary labour as per Fonterra's actuals, Average per cent Employee related expenses as per Fonterra actuals.
Repairs & Maintenance	+12.9%	Actual rates	Actual R&M spend as a per cent of total replacement cost of eight most similar manufacturing sites of Notional Processor. Total replacement cost of Milk Price Asset Base.
Energy - Fixed	+58.4%	Budget rates	Equipment supplier information for Peak energy demand.
Site Overheads	+45.9%	Actual rates	Average Direct and Indirect cost rates as per Fonterra's actuals, FTE provisions for non-plant site labour.
Total	+16.2%		
Other cash costs			
Commission	-18.6%	Notional unit costs.	Calculated; Once every four years an update is made to Sales overheads.
Collection Costs	+3.9%	Actual rates	Calculated usage rates from production plan using asset footprint and product mix.
Lactose	-34.7%	Notional/Actual rates	Yield calculations as per Fonterra actuals and Loss allowance based on Fonterra actuals.

Cost line	% change (NZD/kgMS basis)	Unit cost update basis	Usage rate basis
Inland Freight costs	+2.8%	Actual rates	Calculated Production volumes of each RCP at each site, with respect to actual volume milk allocated by Fonterra
Other supply chain costs	-8.3%	Actual/notional rate	Fixed usage rates for certain activities, reviewed at 4-year review
Storage costs	2.1%	Actual rates and notional rates	Peak Production volume of RCPs and Lactose requirements based notional, Fixed storage
Administration	+28.3%	Actual rates	Adjustments to exclude activities not incurred by Notional Processor
Miscellaneous costs	-109.6%	Actual rates	As incurred as per Fonterra actuals
Total	-10.9%		