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Public version

Review of Fonterra's 2018/19 base milk price calculation:

Dairy Industry Restructuring Act 2001

Final report

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Associated key documents

Publication date	Title
15 August 2019	Draft report – Review of Fonterra's 2018/19 base milk price calculation
14 December 2018	Final report – Review of Fonterra's 2018/19 Milk price manual
15 September 2018	Final report – Review of Fonterra's 2017/18 base milk price calculation
15 December 2017	Final Report – Review of Fonterra's 2017/18 Milk Price Manual: 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 August 2017	Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation

Commerce Commission

Wellington, New Zealand

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Chapter 1 Introduction

Purpose of this report

1.1 This report sets out our final conclusions from our statutory review of the extent to which Fonterra's 2018/19 base milk price calculation (**the calculation**) is consistent with the purpose of the base milk price monitoring regime (**monitoring regime**) under subpart 5A of the Dairy Industry Restructuring Act 2001 (**the Act**).[1]

1.2 This report follows our review of Fonterra's Milk Price Manual (**Manual**) for the 2018/19 season and builds on the analysis and conclusions from our previous Manual and base milk price calculation reviews.[2]

1.3 This report should be read with "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (15 August 2017) (**framework paper**) which we have applied in this review and which forms part of this report. The framework paper provides an overview of the approach which we take in our Manual and base milk price calculation reviews and includes: [3]

1.3.1 an overview of how the base milk price is set;

1.3.2 our interpretation of key legislative provisions guiding our statutory reviews; and

1.3.3 our practical approach to our statutory reviews.

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1 The term 'base milk price' used by the Act is the price per kilogram of milk solids set by Fonterra for a dairy season. This is currently set at $6.35 per kilogram of milk solids for the season just ended on 31 July 2019 that is under review in this report. This report uses the terms 'farm gate milk price' and 'base milk price' interchangeably.

2 For our report on the 2018/19 Manual review, see: https://comcom.govt.nz/__data/assets/pdf_file/0021/110496/Final-report-Review-of-Fonterras-2018-19-milk-price-manual-14-December-2018.pdf
For our reports on our reviews for earlier seasons, see: http://www.comcom.govt.nz/regulated-industries/dairy-industry/review-of-fonterra-s-farm-gate-milk-price-and-manual/statutory-review-of-milk-price-calculation-2/.

3 Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (15 August 2017).

Scope of our review of the 2018/19 calculation

1.4 In our proposed approach paper, we stated that the key focus areas for this year's review were: [4]

1.4.1 **asset beta** – Fonterra commissioned a new report on asset beta.[5] We have considered the arguments raised, in particular whether the report provides any new material points and/or compelling evidence that could warrant changing our established approach to calculating the asset beta;

1.4.2 **environmental costs** – we asked how the milk price calculation factors in any environmental costs, in particular how the renewal of resource consents are dealt with, and costs of updating existing plants to meet more stringent consent requirements than those that applied when the plants were first constructed;

1.4.3 **energy costs** – we asked how Fonterra's decarbonisation plans have or will be factored into the calculation model, and over what timeframes; and

1.4.4 **materiality** – we sought information on how Fonterra and its auditors approach materiality with respect to the components of the milk price calculation and how the materiality assessments are used to inform any work undertaken on Manual amendments, calculation amendments or site audit work programmes (if relevant). We also asked for Fonterra's and other stakeholders' views on whether (and if so, how) materiality should play a role in setting the scope of work for our reviews.

1.5 Since we published the proposed approach paper on 7 June 2019, we decided to add the following matter as a focus area of our review. This was not identified as a focus area in our proposed approach paper as the change was first signalled by Fonterra in its reasons paper, which we received on 1 July 2019.[6]

1.5.1 **administration and other overhead costs** – approximately $45m of additional costs have been included for the 2018/19 season. Fonterra has explained that the increase is to account for higher-than-inflationary movements in some categories of costs and changes in the external environment.

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4 Commerce Commission "Proposed approach and focus areas for our review of Fonterra's 2018/19 base milk price calculation – 7 June 2019" (7 June 2019).

5 Graham Partington and Stephen Satchell "Report to Fonterra: Discussion of the asset beta for use in milk pricing" (14 March 2019).

6 Fonterra is required to provide its reasons for the view expressed in its certificate about the extent which it believes that the inputs, assumptions and processes used in the proposed base milk price calculation are consistent with the purpose in section 150A of the Act, as required by section 150T of the Act.

1.6 In addition, we conducted a **fit for purpose review** of the assumptions adopted, and inputs and process used by Fonterra when calculating the base milk price.[7]

Information considered in our review process

1.7 In reaching our final conclusions we have considered:

1.7.1 Fonterra's reasons paper in support of the base milk price for the 2018/19 season;[8]

1.7.2 additional models and documentation that Fonterra provided to us in confidence in the course of our review;

1.7.3 submissions received on our draft report;[9] and

1.7.4 additional material that Fonterra provided to us,[10] and material that we commissioned,[11, 12] relevant to our assessment of asset beta.

How this report is structured

1.8 Chapter 2 sets out our final conclusions on the extent to which the assumptions adopted, and inputs and processes used by Fonterra when calculating the base milk price are consistent with the section 150A purpose.

1.9 We have considered substantive points raised in submissions within the body of each section and have provided a summary table of all the points raised in submissions at the end of each section. Submissions that were outside our focus areas and fit for purpose review, but to which we have nevertheless responded, are detailed in Appendix A.

1.10 Appendix B provides a glossary of the key terms and abbreviations.

Our review framework

1.11 As noted above, this report should be read with our framework paper as we have conducted this review in accordance with the framework set out within it.[13]

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7 For the other revenue and cost components that are not part of the focus areas, we undertake a 'fit for purpose' review. This is explained in further detail in our framework paper - Commerce Commission, above n 3, at 73.

8 Fonterra "Reasons paper in support of Fonterra's base milk price for the 2018/19 season" (1 July 2019).

9 For submissions on our draft report, see: https://comcom.govt.nz/regulated-industries/dairy/milk-price-manual-and-calculation/milk-price-calculation/milk-price-calculation-201819-season#projecttab

10 Partington and Satchell, above n 5.

11 Cambridge Economic Policy Associates "Notional Processor Asset Beta" (11 July 2019).

12 Cambridge Economic Policy Associates "Consideration of Partington and Satchell Report to Fonterra dated 1 August 2019" (5 September 2019).

13 Commerce Commission, above n 3.

Chapter 2 Final conclusions

Purpose of this chapter

2.1 In this chapter we provide our final conclusions on the consistency of the assumptions, inputs and processes of the base milk price calculation with the section 150A purpose.

2.2 Specifically, we set out:

2.2.1 a summary of our overall final conclusions for the key focus areas and the fit for purpose review;

2.2.2 our detailed findings from the review of the key focus areas; and

2.2.3 our detailed findings from the fit for purpose review.

Summary of overall conclusions

Focus areas review

2.3 With the exception of administration and other overhead costs on which we have been unable to conclude due to timing constraints,[14] our final conclusion is that the assumptions adopted, and the inputs and process used by Fonterra in calculating the 2018/19 base milk price are consistent with the efficiency dimension of the section 150A purpose.[15]

2.4 With the exception of the asset beta, our final conclusion is that the assumptions adopted, and the inputs and process used by Fonterra to calculate the 2018/19 base milk price are consistent with the contestability dimension of the section 150A purpose.

2.5 We consider that it is appropriate for us to conduct a focused review of administrative and other overhead costs and also more generally of the allocation methodologies for deriving Notional Milk Price Business (**NMPB**) costs from Fonterra costs, where applicable, in our 2019/20 calculation review. Although we have not reached a conclusion on Fonterra's administrative and other overhead costs, we have nevertheless made some observations about the approach that Fonterra has taken.[16]

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14 Fonterra provided the detailed supporting information regarding administration and overhead costs after the 1 July 2019 deadline, on 25 July 2019. This is explained further from paragraph 2.20 below.

15 Our discussion of Fonterra's administration and other overhead costs and the timing constraints we have faced are set out in greater detail from paragraphs 2.20 below.

16 The observations are set out at paragraph 2.29 - 2.39 below.

2.6 Having considered submissions, the additional material provided by Fonterra regarding the asset beta of the notional producer (**NP**), and having commissioned our own independent advice on asset beta, we reaffirm our conclusion from our 2017/18 calculation review that an efficient processor with a similar risk exposure to the NP is unlikely to have an asset beta as low as Fonterra's estimate of 0.38.[17] On balance we consider that this asset beta estimate is therefore unlikely to be practically feasible for an efficient processor, as referred to in section 150A(2) of the Act. Accordingly, our final conclusion is that we do not consider that this aspect of the base milk price calculation is likely to be consistent with the contestability dimension of the section 150A purpose.

Fit for purpose review

2.7 For the areas that we have analysed as part of the fit for purpose review (i.e. not the focus areas), and on which we are required to reach a conclusion, our final conclusions are as follows:

2.7.1 the assumptions adopted, and the inputs and process used by Fonterra in calculating the 2018/19 base milk price are consistent with the efficiency dimension of the section 150A purpose; and

2.7.2 the assumptions adopted, and the inputs and process used by Fonterra to calculate the 2018/19 base milk price are consistent with the contestability dimension of the section 150A purpose.

2.8 In its reasons paper for the 2018/19 price calculation, Fonterra has confirmed that it has not:

2.8.1 made any amendments to the Milk Price Manual for 2018/19 in respect of the revenue calculation; and

2.8.2 made any material changes to the relevant calculation methodology.[18]

2.9 We confirm that we rely on our conclusions from previous years' reviews for those aspects of the base milk price calculation that have not changed from previous years, and which are not included in the focus areas review or the fit for purpose review.

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17 Fonterra's asset beta estimate of 0.38 has remained the same since the 2014/15 base milk price calculation. We were subsequently unable to conclude whether the asset beta was practically feasible for an efficient processor until our conclusion in the 2017/18 calculation review.

18 Fonterra, above n 8.

Focus areas review

Asset beta

Introduction

2.10 In our 2017/18 calculation review, we concluded that an efficient processor with a similar systematic risk exposure to the NP was unlikely to have an asset beta[19] as low as Fonterra's estimate of 0.38, and on balance, we considered that this asset beta estimate was therefore unlikely to be practically feasible for an efficient processor.[20]

2.11 Following our 2017/18 review, Fonterra commissioned Graham Partington and Stephen Satchell (**P&S**) of the University of Sydney to review and assess the reports prepared in estimating the asset beta for the NP for our 2017/18 review, including a report (**CEPA 2018**) by Cambridge Economic Policy Associates (**CEPA**). We have published P&S's report (**P&S 1**) on our website.[21]

2.12 We commissioned CEPA to consider the arguments raised by P&S in P&S 1 and to advise whether any of those arguments would have changed the conclusions of CEPA 2018. In addition, we asked them whether there was any material in P&S 1 that would warrant reconsideration of our approach to estimating the asset beta.[22]

2.13 Having reviewed P&S 1, CEPA confirmed in a report (**CEPA 1**) that P&S 1 had not led them to make any changes to CEPA 2018's conclusion.[23] CEPA also did not find anything else in P&S 1 that warranted reconsideration of our approach to estimating asset beta.

2.14 Fonterra has commissioned P&S to comment on CEPA 1 and has provided us with P&S's report (**P&S 2**).[24] To assist consideration of the points raised in P&S 2, we commissioned CEPA to respond.[25] In their response (**CEPA 2**), CEPA has cited some of their (and our) past analysis where they (and we) have considered some of the important points that P&S have made. We do not repeat this analysis here and refer readers to CEPA 2.[26]

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19 The asset beta is a measurement of a firm's exposure to systematic risk where systematic risk measures the extent to which the returns on a company fluctuate relative to the equity returns in the stock market as a whole.

20 For our interpretation of practical feasibility and the efficient processor see Commerce Commission, above n 3.

21 Partington and Satchell, above n 5.

22 CEPA, above n 11.

23 Cambridge Economic Policy Associates "Dairy Notional Processors' Asset Beta" (28 March 2018).

24 Graham Partington and Stephen Satchell "Report to Fonterra: Asset beta and CEPA's response to Partington and Satchell" (1 August 2019).

25 CEPA, above n 15.

26 CEPA, above n 11 and 15.

2.15 We make the following comments on P&S 2:

2.15.1 P&S state that the low revenue beta and low operating leverage of the NP imply that the asset beta for the NP must be low. We consider that CEPA had sufficient regard to these characteristics of the NP when selecting the comparators for the asset beta analysis, and in its analysis of subsets of the comparator dataset.

2.15.2 P&S state there should be more transparency about the method for de-levering equity betas. We agree transparency is desirable and to that end set out CEPA's approach below:

> *"we used the simplified Brennan-Lally CAPM for de-levering the equity beta. We assume a debt beta of zero in our calculation. Our approach is in line with the Commission's IM approach that it has used since 2010.*[27] *The tax neutral formula takes the form of:*
>
> $$\beta_a = \beta_e(1-L) + \beta_d L$$
>
> *Where β_a is the firm's asset beta, β_e is the firm's equity beta, β_d is the firm's debt beta, and L is the firm's leverage."*

2.15.3 In selecting comparators, P&S suggest the use of fuzzy sets as a method to better employ the data, given the heterogeneous nature of the comparators in the sample and their differences with the NP. While we consider that this is an interesting suggestion, we do not think that P&S have demonstrated that the estimates produced using this approach would be more accurate or robust than those derived using the methodology used by CEPA.

2.15.4 Given P&S is advocating an empirical approach to using CEPA's data with the caveat of using fuzzy sets to weight the comparators, we consider that P&S, CEPA and the Commission all largely agree on using a sample of New Zealand and overseas dairy comparators from which to derive asset beta.

2.15.5 P&S consider that Fonterra should be included in the comparator set used to estimate beta. We note that there are arguments for and against inclusion of Fonterra in the sample set, as discussed in the experts' reports. However, CEPA's analysis indicates that including Fonterra in the comparator set has little impact on the overall beta estimate.

[27] Commerce Commission "Input methodologies review decisions: Topic paper 4: Cost of capital issues" (20 December 2016) at page 68, paragraph 295.

Our final conclusion

2.16 We have considered the arguments made in both P&S 1 and P&S 2 as well as CEPA's responses in CEPA 1 and CEPA 2 and in submission on our draft report. We have also considered the submissions on asset beta and have set out the relevant submission points and our responses to them in Table 1 below. Having considered these matters, our view is that there are no new material points that have not already been considered by us, either in dairy work, or more widely in our cost of capital work. As such, there is no new or compelling evidence that warrants changing our established approach to calculating asset beta[28] or our conclusion on the asset beta in our 2017/18 review report.[29]

2.17 Therefore, we maintain our view that an efficient processor with a similar risk exposure to the NP is unlikely to have an asset beta as low as Fonterra's estimate of 0.38, and on balance, we consider that this beta estimate is therefore unlikely to be practically feasible for an efficient processor.[30]

2.18 We are relying on our conclusion from our 2017/18 calculation review, that the asset beta used by Fonterra in calculating the 2018/19 base milk price is consistent with the efficiency dimension of the section 150A purpose.[31]

2.19 We note that Fonterra intends to commission a fresh review of the asset beta in 2019/20 for implementation in 2020/21.

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28 Our pan-sector approach to estimating the asset beta is set out in our IMs. A discussion is available here: Commerce Commission "Input methodologies review decisions, Topic paper 4: Cost of capital issues" (20 December 2016).

29 Commerce Commission "Review of Fonterra's 2017/18 base milk price calculation" (14 September 2018).

30 We note that draft changes to the Act, including in relation to the approach to asset beta, have been proposed by the government. At the earliest, implementation of the changes are unlikely to occur until the 2019/20 milk season. The terms of the reviews of the Manual and calculation are likely to be unaffected for the 2018/19 season.

31 Commerce Commission, above n 29, at 2.4.

Table 1. Summary of substantive points made in submissions on asset beta.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Asset beta	Open Country Dairy	Open Country Dairy advances a number of arguments to support its view that there is no reason to justify a move from the Commission's asset beta midpoint.	We reach a similar conclusion to Open Country Dairy on the practical feasibility of the asset beta by using the sample average as a starting point and only departing from it where there are sound reasons for doing so.	6-12
Asset beta	Fonterra	If farmer shareholders are compliance trading, then arbitrage will move the share price to a level that reflects underlying fundamentals.	We note CEPA's reservations about the impact of the activities of the Registered Volume Provider on the convergence between the prices of Shares trading on the Fonterra Shareholders' Market and the prices of Units trading on the NZX Main Board and ASX. Nonetheless, we are open to Fonterra being included in the comparator group.	5-6
Asset beta	Fonterra	Fonterra is required by the Milk Price Manual to use an asset beta recommended by an appropriately qualified independent expert. Absent a recommendation from an expert engaged by Fonterra, Fonterra does not have the ability to alter the asset beta value employed in the milk price calculation while complying with the Milk Price Manual.	We note that Fonterra intends to commission a fresh review of the asset beta in 2019/20 for implementation in 2020/21.	4
Asset beta	Synlait	We believe that a decision has been made by the Commerce Commission that an asset beta of 0.38 is not compliant. It is now time for Fonterra to be compliant by increasing the asset beta estimate used in the calculation as recommended by the Commerce Commission.	There is no new or compelling evidence that warrants changing our established approach to calculating asset beta or our conclusion on the asset beta in our 2017/18 review report. Fonterra, in its submission to our draft report, has commented that	1

Asset beta	Open Country Dairy	The Commission has all the evidence needed to now reach a firm conclusion that Fonterra's use of a low asset beta in the milk price calculation is not consistent with the contestability dimension. We submit that the Commission must now act on the material impact that the artificially low asset beta has on the base milk price, and accordingly on contestability in the dairy processor market.	under rule 42 of the Milk Price Manual Fonterra is required to use an asset beta recommended by an appropriately qualified independent expert. Absent a recommendation from an expert engaged by Fonterra, Fonterra does not have any ability to alter the value employed in the Milk Price calculation while still complying with its Milk Price Manual. Under the DIRA regime, the Commission does not have the ability to compel Fonterra to take any particular actions in this regard.	2
Asset beta	Fonterra	Regarding the footnote on page 10 which references Dr Lally's work on the effect of regulation on asset beta - The focus of the Lally paper is on whether there is empirical support for the proposition that differences in the form of regulation imply differences in asset beta; not on the impact of 'regulation' versus 'no regulation'.	The footnote is not intended to be read in the way Fonterra suggests. We have clarified this in our final report.	6
Asset beta	Synlait	Agrees with our approach and stated that P&S reports have not provided any new material points.	Noted.	1

Administration and other overhead costs

Introduction

2.20 Approximately $45m out of around $90m of additional costs has been included in the provisions for administration and other overhead costs for the 2018/19 season. Fonterra did not quantify the additional costs described in its reasons paper but explained that the increase is to account for higher-than-inflationary movements in some categories of costs and changes in the external environment.[32] Fonterra also noted that these additional allowances have been provided for under Rule 19 (non-recurring costs) for the 2018/19 season, but for next season the remainder will be provided for under the provisions of the Manual relating to overhead costs (primarily Rule 18).

2.21 We have considered the submission from Miraka on administration and other overhead costs when arriving at our final conclusions set out below. That submission point and our response to it is set out in Table 2 below.

[32] Fonterra, above n 8, at 30.

Final conclusion – contestability dimension

2.22 Given we have previously concluded that the assumptions, inputs and process associated with administration and other overhead costs are practically feasible, we consider that an increased level of costs, absent any significant change in other assumptions or in the operating environment, must also be practically feasible and therefore consistent with the contestability dimension of the section 150A purpose. Our final conclusion therefore is that they are consistent with the contestability dimension of the section 150A purpose.

Efficiency dimension

2.23 We have not been able to reach a conclusion on whether the assumptions, inputs and process underlying the calculation of administration and other overhead costs provide an appropriate incentive to Fonterra to operate efficiently under section 150A(1) of the Act. We have been unable to reach a conclusion because Fonterra did not provide us with sufficiently detailed reasons on this matter by 1 July 2019 (as required by section 150T(c) of the Act) and we have therefore had insufficient time to consider the relevant material before the publication of our draft and this final paper. We explain our position in further detail below.

2.24 On 1 July 2019 Fonterra provided to us its reasons paper that set out its reasons for its certification that the inputs, assumptions and process used in calculating the proposed base milk price were consistent with the section 150A purpose, as required by section 150T of the Act. On 3 July 2019, Fonterra notified us that it would be providing us with additional information on administration and other overhead costs.

2.25 We considered that the information provided to us in Fonterra's reasons paper on administration and other overhead costs on 1 July 2019 was insufficient for us to be able to assess the extent to which the assumptions, inputs and process underlying Fonterra's administrative and other overhead costs provided an appropriate incentive to Fonterra to operate efficiently, in light of the increase in these costs.

2.26 In our view, Fonterra failed to comply with section 150T(c) as it did not provide, by 1 July 2019, the reasons for its certification in section 150T(b) in sufficient detail to allow us to assess the extent to which the assumptions adopted and the inputs and process used were consistent with the section 150A purpose, as we are required to report on pursuant to section 150P of the Act. We consider that section 150T(c) requires the reasons to be sufficiently detailed to allow us to carry out our reporting task under section 150P.

2.27 Fonterra provided additional information on administration and other overhead costs on 25 July 2019.

2.28 In our draft report, we considered we had insufficient time to consider this additional information and assess the extent to which the underlying assumptions, inputs and process provide an appropriate incentive for Fonterra to operate efficiently under section 150A(1) before the publication date of the draft report. We consider that this is also the case for the final report. We note that we did not receive any substantive submission points from Fonterra on this matter.

Observations on explanatory information provided by Fonterra

2.29 Although we have been unable to conclude on the extent to which the assumptions, inputs and process underlying Fonterra's administration and other overhead costs provide an incentive to Fonterra to operate efficiently, we make the following observations about the explanatory material we have received.

<u>Application of Rule 19 of the Manual</u>

2.30 We understand that the total value of the adjustment of approximately $90m was determined by way of a four-yearly review of costs and that the costs have been reviewed by an independent reviewer in accordance with Rule 18 of the Manual. The total value is to be split between 2018/19 (approximately $45m) under Rule 19 of the Manual (Non-recurring costs) and 2019/20 (approximately $45m) in accordance with Rule 18 of the Manual. On the face of it, the application of Rule 19 in 2018/19 may not be appropriate for all of these costs given that some appear to relate to ongoing changes to administration and other overhead costs.[33]

2.31 The total costs have been allocated between the two seasons broadly on the basis that costs that could be reasonably deferred have been deferred to 2019/20, but that costs which are necessarily incurred should be included in the 2018/19 calculation. Fonterra's view is that the inclusion of the necessarily incurred costs in 2018/19 will therefore ensure that the calculation is practically feasible.

<u>Equality of principles in section 150A</u>

2.32 Fonterra's explanatory information states that it considers the 'efficiency principle' is necessarily subsidiary to the 'practical feasibility' principle inasmuch as that it must always demonstrate practical feasibility while it is not always possible to set an input in a manner which provides for efficiency.

[33] In our 2015/16 base milk price review, we expressed the view that costs related to the Velocity adjustment (a one-off adjustment to staff numbers assumed in the NMPB for 2015/16) could be included in the non-recurring costs line item to provide greater transparency. It appears that up to $20m of the costs being reinstated relates to the original Velocity adjustments. See below para 2.36 for further information.

2.33 The Commission's view is that the two dimensions in section 150A must both be satisfied and that they have equal weight. In our framework paper, we stated that to "satisfy the provisions in section 150A, our interpretation is that our statutory reviews must assess both dimensions", and that we "attach equal weight to both dimensions in our assessment." [34]

Use of actual instead of notional values

2.34 In considering the use of notional inputs under the efficiency dimension of section 150A, we have identified two situations where it may be reasonable to use actual data when setting the milk price:

2.34.1 when there is insufficient information to know what an appropriate notional value would be, or it would be unreasonably costly to obtain this information; or

2.34.2 Fonterra has very limited control over the actual costs.[35]

2.35 It is not clear to us that either of these two situations apply to the setting of administrative and other overhead costs, such that the use of actual costs with regard to the increase is reasonable.

Comments on efficiency dimension

2.36 We note that around $20m of costs allocated to each of the 2018/19 and 2019/20 seasons ($40m total) relates either to the failure to achieve efficiencies provided for in the 2015/16 setting of provisions for administrative and other overhead costs or to errors in the allocation process at that time between Fonterra's costs and the costs of the NMPB.

2.37 A small portion ($7.6m) of the costs allocated to 2018/19 relate to changes in the allocation model rather than higher-than-inflationary movements.

2.38 Without having performed a detailed review of this information, the limited analysis we have undertaken in the time available raises a number of lines of enquiry that we would want to be satisfied about before we could reach any conclusion in relation to the efficiency dimension in section 150A.

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34 Commerce Commission, above n 3, at 13 and footnote 8.
35 Commerce Commission, above n 3, at 52.

Concluding comments

2.39 Given these observations and the magnitude of the increase, we consider that it is appropriate to conduct a focused review of administrative and other overhead costs and also more generally of the allocation methodologies for deriving NMPB costs from Fonterra costs, where applicable, in our 2019/20 calculation review.

Table 2. Summary of substantive points made in submissions on administration and other overhead costs.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Administration and other overhead costs	Miraka	The Commission should consider the impact of the understatement of notional producer costs since 2015/16.	The Commission has reached a final conclusion on the practical feasibility of administration and other overhead costs for the 2018/19 calculation but has been unable to reach a conclusion on the extent to which such costs are consistent with the efficiency dimension of the section 150A purpose. The Commission reached its conclusions on section 150A consistency in previous years based on the information available at the time and is unlikely to have the ability to re-open its previous conclusions.	8

Environmental costs

2.40 There has been increasing public concern about the significant impact of dairy activities on the environment. With respect to milk processing this is driving changes in the use of energy to reduce emissions, and better management of processing-effluent and water use. For example, Fonterra has recently installed a water-recycling innovation at its Pahiatua plant that will save about a half a million litres of water a day during the processing season.[36]

[36] Fonterra, Media report - “Fonterra releases its Sustainability Report 2018” (29 November 2018).

2.41 Also driving changes to plant and processing costs are more stringent resource consent requirements. We have asked Fonterra how the base milk price calculation factors in any environmental costs, renewal of resource consents, and costs of updating existing plants to meet more stringent consent requirements than those that applied when the plants were first constructed. Fonterra has responded as follows: [37]

> *"the milk price calculation does not explicitly factor in any environmental costs. However, the capital costs for incremental and replacement plants reflect the costs of obtaining resource consents for the Darfield D1 dryer and site infrastructure in 2011/12, and the Pahiatua P3 dryer in 2013. While the model did not assume any replacement plants were installed between the 2016/17 and 2018/19 seasons, it normally assumes 1.1 WMP/SMP plants are replaced each year, with Darfield/Pahiatua-level implied resource consent costs therefore included in the calculation in most years. F20 is a 'reset' year for capital costs, and we will therefore be revisiting these allowances as part of that process."*

2.42 Fonterra has in recent years typically spent around $1m - $1.5m in opex per annum on renewing between 2 and 5 consents related to water take, discharge to air and wastewater. The associated costs comprise Resource Management Act 1991 costs, consultants and legal costs. A further $680k for 2019 will be capitalised.

2.43 This annual spend has approximately doubled over the past 10 years. Fonterra has estimated the cost of renewing an individual consent can vary between $40k and $1m.

2.44 Given the milk price calculation takes into account the cost of resource consents, and there are no significant immediate changes in costs, our final conclusion is therefore that environmental costs in the milk price calculation are practically feasible for an efficient processor and accordingly, satisfy the contestability criteria in section 150A.

2.45 We are relying on our conclusion from our 2017/18 calculation review, that environmental costs in the milk price calculation are consistent with the efficiency dimension of the section 150A purpose.[38]

2.46 We did not receive any submissions on our draft report on this matter.

Decarbonisation plans

2.47 There is an increasing drive towards reducing carbon emissions in the economy more generally but also in relation to milk processing in particular. The costs associated with substituting carbon energy for alternatives may be significant and will be incurred over time by a notional processor.

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[37] Commerce Commission questions to Fonterra, Q10.

[38] Commerce Commission, above n 29, at 2.4.

2.48 Fonterra's manufacturing sites source around 40% of their current processing energy from coal. Fonterra has recently announced its plans to reduce emissions by 30% across all its manufacturing operations by 2030 and to achieve net zero emissions by 2050.[39] To better understand this issue, we asked Fonterra how its decarbonisation plans have or will be factored into the base milk price calculation models, and over what timeframes.

2.49 Fonterra has advised that: [40]

> *"The model takes Fonterra's actual mix of energy sources (coal, gas, electricity ex grid, electricity ex co-generation plants) by site, together with the average prices paid by source by site. Consequently, as alternative energy sources are used by Fonterra on its commodity ingredients sites, the Milk Price model will begin using those sources at the same time, and in the same proportions, as Fonterra.*
>
> *The extent that additional capital is required to adapt a plant (e.g. coal boilers) to the use of alternative energy sources, Fonterra management will provide the Milk Price Group [MPG] with relevant details, and the MPG will if required seek external independent advice. As a general proposition, however, the Milk Price model can be expected to take into account the relevant capital costs, modified as necessary for differences between the notional Milk Price asset base and Fonterra's actual asset base, in the same year as Fonterra.*
>
> *The only potentially relevant capex spend for [the 2018/19 milk price season] was on an electrode boiler… at a non-RCP plant.*
>
> *Fonterra has made commitments to reduce coal use across its New Zealand manufacturing plants over the longer term. The MPG will factor specific initiatives into their specifications for replacement plants for the Asset base for the Notional Milk Price Business*."

2.50 We further note that there have not been any changes to investments in alternative energy use which would warrant an adjustment for the 2018/19 milk price. However, any investments in the future will need to be considered in further detail.

2.51 We understand that conversion costs are plant specific and at present, energy costs are provided for on the basis of actual costs. As such, we do not consider that there would be any reason to suggest an independent benchmark is needed.

2.52 Having reviewed the information provided by Fonterra, we are satisfied that the base milk price calculation takes into account any changes to date arising out of Fonterra's decarbonisation plans and are practically feasible for an efficient processor. Therefore, our final conclusion is that the energy and capital costs associated with Fonterra's decarbonisations plans are practically feasible for an efficient processor and accordingly, satisfy the contestability criteria in section 150A.

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39 Fonterra, Media announcement - "No new coal boilers for Fonterra" (18 July 2019).

40 Commerce Commission questions to Fonterra, Q11.

2.53 The way in which these costs are set has not changed, therefore we are relying on our conclusion from our previous calculation reviews, that the energy and capital costs associated with Fonterra's decarbonisations plans are consistent with the efficiency dimension of the section 150A purpose.

2.54 We did not receive any submissions on our draft report on this matter.

Materiality

2.55 In our proposed approach paper, we stated that we were interested in how Fonterra and its auditors approach materiality with respect to the components of the milk price calculation and how each uses its materiality assessment to inform any work undertaken on Manual amendments, calculation amendments or site audit work programmes. We also indicated that we were interested in Fonterra's and other stakeholders' views on whether (and if so, how) materiality should play a role in setting the scope of work for our reviews.

2.56 We note, for the avoidance of doubt, that this considered several different dimensions of materiality, namely:

2.56.1 the judgements or approximations applied by Fonterra in preparing or making changes to the milk price calculation;

2.56.2 the audit materiality applied by Fonterra's auditor in its audit of the Farmgate Milk Price including work done on each component in accordance with its audit work programme;

2.56.3 materiality considerations made by Fonterra in undertaking Manual amendments. These are more relevant to our review of the Manual and we intend to address this aspect of materiality as part of our upcoming review of the Manual; and

2.56.4 the judgements we make, as set out in our Approach Framework, in determining:

2.56.4.1 our key areas to focus on in our calculation reviews;[41] and

2.56.4.2 the areas we focus on as part of our fit for purpose review.[42]

2.57 Although we included materiality as a focus area in our issues paper we note, for the avoidance of doubt, materiality is not a matter that we are required to reach a conclusion on in terms of section 150A.

41 Commerce Commission, above n 3 at 72.
42 Commerce Commission, above n 3 at 73.

2.58 Nevertheless, we believe that outlining the materiality standards used at various stages of the milk-price setting process, and by us when reviewing the milk price calculation, will help interested parties to understand why we have targeted particular areas for our review.

2.59 We have considered the submissions on materiality when reaching our conclusions set out below. Those submissions and our response to them is set out in Table 3 below.

How Fonterra applies materiality in preparing the milk price calculation

2.60 For inputs derived from actual and notional transactions, Fonterra has advised that it does not apply a materiality threshold, as the objective is to directly input the actual value into the base milk price calculation. However, for notional inputs, there are ranges prescribed by the Manual that Fonterra maintains are supportable.

2.61 We consider that this approach is appropriate for the preparation of the base milk price calculation.

Materiality applied by Fonterra's auditors

2.62 In performing our reviews, we place reliance on the governance processes surrounding changes to the Manual and the setting of the base milk price. In particular we rely on audit processes to verify the reliability of the numbers used to calculate the milk price components.[43]

2.63 Audit materiality is defined by auditing standards but takes account of uncertainties inherent in the measurement of amounts based on the use of estimates, judgement and the consideration of future events.[44]

2.64 Fonterra has informed us that for the purposes of expressing its independent assurance opinion on the Farmgate Milk Price for 2018/19, Fonterra's auditor, PricewaterhouseCoopers, has adopted an overall materiality threshold of one percent of the 2018/19 May forecast Farmgate Milk Price.

2.65 While we did not seek views on the level of materiality adopted by Fonterra's external auditor, as that is a matter for its professional judgement, we think that it is important for interested parties to understand the level of materiality that Fonterra's auditors apply.

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[43] The Commission exercises its discretion to look more closely into matters where it considers it is unable to rely on these governance processes. For example, certain assumptions may not be subject to a detailed level of audit in every year.

[44] See International Standard on Auditing (New Zealand) 320 - Materiality in Planning and Performing an Audit.

2.66 We rely on the audited information provided by Fonterra. This is consistent with our practice in other regulatory contexts, where we take audited numbers as being reliable for regulatory purposes, unless we have specific reason to believe otherwise.

2.67 We apply our own discretion as to the scope and depth of our reviews, as discussed below. We note that we take into account the work undertaken by Fonterra's auditors when determining the scope of our calculation reviews. For example, if Fonterra's auditors undertook a review of a particular area, we would be less likely to include that area as a focus of our calculation reviews.

Our view of materiality

2.68 Materiality is relevant to setting the scope of our calculation reviews in two ways:

2.68.1 we use materiality to determine the areas that we choose as the key focus areas for each calculation review; and

2.68.2 for the aspects of the base milk price calculation that are not part of the key focus areas, we undertake a "fit for purpose" review. When determining the areas, we should focus on for the fit for purpose review, we apply a materiality approach.

2.69 We explain the materiality approach we apply for each of these parts of our calculation review below.

2.70 We determine the key focus areas as a matter of judgment based on the information that we have gathered on the following matters: [45]

2.70.1 outstanding issues from our previous calculation and Manual review(s);

2.70.2 issues arising from submissions made by interested parties;

2.70.3 Fonterra's review of components in its Manual;

2.70.4 Fonterra's amendments to the current season's Manual;

2.70.5 any amendments to Fonterra's approach to calculating the components that do not require a Manual amendment;

2.70.6 sensitivity of components to the milk price; and

2.70.7 any adjustments made to the milk price by Fonterra.

2.71 For the fit for purpose review, we determine the areas of focus by undertaking: [46]

[45] Commerce Commission, above n 3, at 71.1-71.7 and 72.

2.71.1 an analytical verification of the values used in the component against our previous reviews of the same component; and

2.71.2 a review of the consistency of the assumptions, inputs and processes related to the different components.

2.72 If any aspect of this fit for purpose review identifies inconsistencies with our previous analysis or other components of the base milk price calculation model, we will consider whether more analysis of that component is required.[47]

2.73 Materiality therefore assists in informing the degree of priority we assign to our review of particular assumptions, inputs and processes. We also apply a degree of judgement in each case when determining the scope of examination and the level of evidence we require to support a particular position on any changes to the inputs, processes and assumptions adopted in setting the base milk price.

2.74 Miraka, in its submission on our draft report, has suggested:[48]

- 3c/kg MS as a possible starting point for considering an appropriate quantitative threshold; and
- materiality must go beyond the scoping exercise and should pervade the review process by guiding responses to findings from the reviews.

2.75 We note these suggestions and will consider these with a view to updating our approach paper in the near future.

2.76 Given that materiality is relevant to the scope of our reviews, we will take submissions on this matter into account when we conduct a future review of our framework paper.[49]

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46 Commerce Commission, above n 3, at 73.

47 We are provided with the full model, its underlying models and documentation for purposes of our review. The public version of Fonterra's milk price model is available at Fonterra's website. We expect Fonterra to update this annually. Fonterra, "Milk Price Methodology: Milk Price Statements".

48 Miraka submission, at 6.

49 We intend to conduct a review of the framework paper in the near future. The review will include a consideration of materiality and may include a consideration of other matters.

Table 3. Summary of substantive points made in submissions on materiality.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Fonterra materiality	Fonterra	Under and over statements would have to be reasonably substantial to affect farmers decisions, particularly regarding whether to switch processors.	We note that Fonterra in its manual reasons paper continues to support the omission of a definition of 'material change' on the basis that it is intended to enable additional discretion to disclose less substantive changes in the calculation methodology while avoiding imposing an unduly onerous process around determining whether relatively insignificant items should or should not be disclosed. We continue to encourage Fonterra to define 'material change' in the context of changes to the manual. We will consider this further in our review of the manual.	3
Fonterra materiality	Miraka	It is unclear why Fonterra's input of "actual values" for "notional transactions" obviates the need for materiality thresholds... In any event a materiality threshold must necessarily be applied to determine that a specific price meets the definition of a QRS (e.g. falls within a prescribed or material range around the relevant reference price). Fonterra has confirmed the selection process for QRSs is fully automated. This adds weight to the expectation that the test for QRSs must rely on an algorithm that explicitly includes a materiality threshold.	We note that the automated criteria includes sales on the basis of Qualifying Material descriptions. Whether these sales fall outside prevailing market prices is a discretionary decision. Fonterra has confirmed that for 2018/19 the forecast base milk price solely reflects the application of automated criteria and does not involve criteria that require commercial judgement.	4

Fonterra materiality	Miraka	The Commission states that "notional inputs" depend on "ranges prescribed by the Manual". The Manual makes many references to judgements based on materiality, but a quick review of the Manual does not unearth any "ranges" which are relevant to determining materiality. The Commission is requested to provide the Manual references to which Fonterra refers.	A number of the rules express principles which require the exercise of judgement. This implies the selection of inputs from within a practically feasible range.	4
Auditor's materiality	Fonterra	Auditors advise the Milk Price Panel on all changes to components of the milk price above a de minimis threshold, and even if they are below the audit materiality threshold of 1% or approximately 6.4 cents per kgMS.	We are aware that a de minimis threshold is employed for internal reporting purposes and takes this into account when assessing financial information.	2
Auditor's materiality	Miraka	The primary parties impacted by the milk price are milk producers other than Fonterra, member suppliers and dairy processors including Fonterra (including Fonterra investors other than Fonterra member suppliers). These are not necessarily the target stakeholders for the purposes of the PwC audit. The 6.35c/kg MS threshold appears high relative to the DIRA target stakeholders. The materiality threshold also needs to be considered relative to the potential economic impact on relevant stakeholders.	We understand the different materiality contexts and have not suggested that we apply the auditor's materiality in setting the scope of our reviews. We apply our own discretion as to the level of accuracy and detail required for our consideration of consistency with the section 150A purpose.	5

Auditor's materiality	Miraka	The Commission explains that it relies on the PwC audit processes "to verify reliability of the numbers used to calculate the milk price components". The auditor's report is not provided for the purposes of the Commission's requirements. Therefore, dependence on the PwC audit is not sufficient to replace the Commission's own processes. The Commission appears to consider that the PwC audit materiality threshold is fit for purpose for its review of compliance with DIRA.		6
Commerce Commission materiality	Miraka	Failure to formulate quantitative thresholds, as set out in ISAE (NZ) 3000, raises doubts in consistency of approaches to materiality, and whether appropriate thresholds are being applied.	We note Miraka's suggestion of 3c/kg MS as a possible starting point for considering an appropriate quantitative threshold and will consider this suggestion with a view to updating our approach paper in the near future.	6
Commerce Commission materiality	Miraka	Materiality must go beyond the scoping exercise and should pervade the review process by guiding responses to findings from the reviews.	We will consider this suggestion with a view to updating our approach paper in the near future.	7
Commerce Commission materiality	Miraka	The Commission places excessive reliance on previous review work. The historical body of work needs to be assessed on a rolling basis to assure that previous conclusions remain valid.	As part of our fit for purpose reviews we consider changes in inputs and assumptions over time but will consider this suggestion with a view to updating our approach paper in the near future.	7

Commerce Commission materiality	Miraka	Miraka, in its submission on our draft report, has suggested: 1. 3c/kg MS as a possible starting point for considering an appropriate quantitative threshold; 2. materiality must go beyond the scoping exercise and should pervade the review process by guiding responses to findings from the reviews; and 3. the historical body of work needs to be assessed on a rolling basis to assure that previous conclusions remain valid.	We note these suggestions and will consider these with a view to updating our approach paper in the near future.	
Materiality generally	Miraka	It is unclear why the Commission has highlighted that "materiality is not a matter on which we are required to reach a conclusion in terms of section 150A".	We are not required to decide on the extent to which the various dimensions of materiality are consistent with the section 150A purpose. While materiality is a relevant part of the Commission's assessment, it is only required to reach such a conclusion in respect of the inputs, assumptions and processes used for calculating the base milk price.	7

Fit for purpose review

2.77 We received and reviewed Fonterra's milk price calculation model, as well as supporting models for each of the key inputs. We requested and obtained further information on a confidential basis where we considered it necessary.

2.78 With the exception of fixed energy costs (discussed below), we did not identify any material inconsistencies with previous milk price calculations. We therefore confirm our reliance on the conclusions from previous years' reviews for those aspects of the base milk price calculation that have not materially changed.

2.79 As part of the analysis set out above, we have also examined in some detail any changes in the following assumptions that have a high potential for impacting the base milk price:

2.79.1 changes in pricing assumptions, including reference to Global Dairy Trade (**GDT**) and off-GDT sales data;[50]

2.79.2 changes in sales phasing;

2.79.3 changes in timing or volume of milk collected; and

2.79.4 yield and loss calculations.[51]

2.80 We have also examined Fonterra's estimate of the FX conversion rate, as this was something that we flagged for follow-up in our review of the 2018/19 Manual.

Changes in costs

2.81 Fixed energy costs increased by 165% from the 2017/18 season. This increase was due to the impact of energy hedging costs. Gains and losses from Fonterra's energy hedging activities are included in this line, and Fonterra was forecasting at 31 May 2019 a hedging loss of $[redacted] for 2018/19, compared to a gain of $[redacted] in 2017/18.

2.82 Having reviewed the information provided by Fonterra, we consider it appropriate that fixed energy costs include the results of Fonterra's energy hedging activities, as the hedging activities do not involve the application of strategies or access to hedging products that would not be available to and reasonably adopted by an efficient processor.

2.83 Our final conclusion is therefore that the fixed energy costs in the milk price calculation are practically feasible for an efficient processor and accordingly, satisfy the contestability criteria in section 150A.

2.84 The way in which these fixed energy costs are set has not changed, therefore we are relying on our conclusion from our previous calculation reviews, that the fixed energy costs are consistent with the efficiency dimension of the section 150A purpose.[52]

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

2.85 In our 2017/18 calculation review we looked at the off-GDT prices and volumes against the previous season to obtain comfort in what was being used as a reference for prices used for the NP.

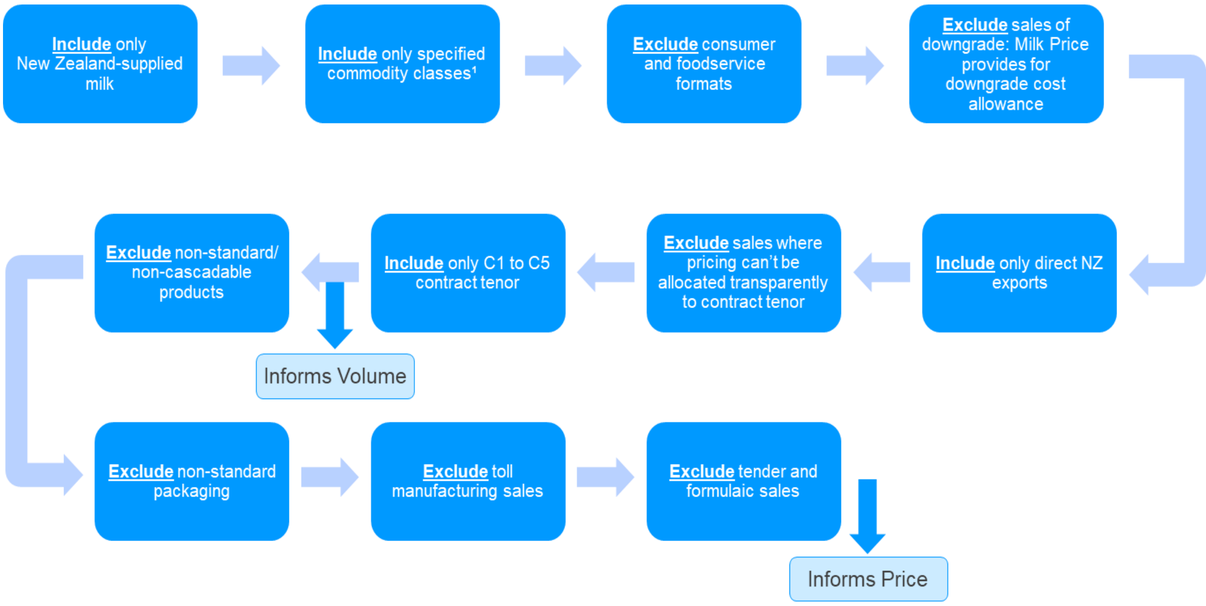
2.86 Fonterra maintains a decision tree describing the process/decision points for filtering out non-milk price informing sales. Figure 2.1 is a simplified version of this decision tree.

[50] In its 2018/19 reasons paper, Fonterra has confirmed that it has not made any amendments to the process for identifying off-GDT 'price include' sales. Fonterra, above n 8, at 46.

[51] For a full description of Fonterra's process to update the loss assumptions see Fonterra, above n 8, at 13.

[52] See Commerce Commission, above n 29, at 2.4.

Figure 2.1 Off-GDT milk price decision tree – Product to be determined in milk price calculation



2.87 In our 2017/18 calculation review final report we stated that we continue to consider that there should be more transparency around how Fonterra has determined the off-GDT sale prices used for the NP.

2.88 Accordingly, in our 2018/19 Manual review we said we would seek clarification of what Qualifying Outlier Sales (**QOS**) comprise or are likely to comprise and will identify whether they have had an impact on the selling prices of the NP.

2.89 Fonterra has explained that the QOS rule provides that a sale which otherwise satisfies the Qualifying Reference Sale (**QRS**) definition first has to be excluded from the Milk Price revenue calculation by the MPG on the basis that the price is 'too low' (and therefore in the MPG's view has not been undertaken at 'prevailing market prices'). The MPG seeks explanations from Fonterra management of each of the relatively few QRSs undertaken at materially below the relevant prevailing GDT price but has not excluded any sale on the basis that the price was too low since at least 2016. Consequently, the Panel has not been asked to consider the inclusion of any sales under the rule in that timeframe (and indeed, has not been asked to consider any potential QOS since around 2009).

2.90 For this year's review, in confirming the detailed application of the decision tree we asked Fonterra to provide:

2.90.1 an analysis of the impact of off-GDT sales on the milk price;

2.90.2 an explanation of how assurance is provided that the rules included in the decision tree are actually implemented in the milk price models and ensure that the base milk price is only informed by off-GDT contracts that are consistent with commodity contracts priced on-GDT;

2.90.3 an explanation of the factors that inform the commercial judgement used in applying the include/exclude criteria to individual sales; and

2.90.4 an explanation of the impact that automated decision criteria have on the milk price compared to the application of criteria that involve some degree of commercial judgement.

2.91 Fonterra advised that the MPG meets with management each month to assess all new stock-keeping-unit (**SKUs**), and to consider the extent to which each SKU should be considered a Qualifying Material (assessed against the decision tree). The Milk Price Steering Committee (a group of Fonterra Senior Managers) meets monthly to assess these new SKUs for consideration as to whether such SKUs should be considered a Qualifying Material, and to consider the decisions made by the MPG and management.

2.92 Following this process, Fonterra management make recommendations to the MPG for approval. PwC, as part of its audit of the farm gate milk price, audits changes including the addition or deletion of Qualifying Materials.

2.93 PwC also periodically tests the application of the automated criteria to off-GDT sales data uploads in the milk price models on a sample basis. We have requested the results of this testing for 2018/19 and have taken account of these results in our final conclusions.

2.94 Miraka, in its submission on our draft report, stated that It is unclear why Fonterra's input of "actual values" for "notional transactions" obviates the need for materiality thresholds. Miraka further submitted that Fonterra has confirmed the selection process for QRS's is fully automated. This adds weight to the expectation that the test for QRS's must rely on an algorithm that explicitly includes a materiality threshold.[53]

2.95 We note that the automated criteria include sales on the basis of Qualifying Material descriptions. Whether these sales fall outside prevailing market prices is a discretionary decision. Fonterra has confirmed that for 2018/19 the forecast base milk price solely reflects the application of automated criteria and does not involve criteria that require commercial judgement.

2.96 We have reviewed a comparison of off-GDT price-include and price-exclude data and are satisfied that the prices included in the base milk price are not systematically higher than those of sales that are not included. There is also no evidence of off-GDT pricing higher than that which can be achieved by other New Zealand processors.

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53 Miraka submission, at 4.

2.97 The proportion of off-GDT sales to on GDT sales for 2018/19 for AMF, SMP and WMP is 42/58. The proportion is slightly down from the 2017/18 season (46/54). Fonterra has included the necessary costs for the NP as a result of including off-GDT sales for WMP, SMP and AMF.

2.98 Miraka, in its submission on our draft report, states that the point of Miraka's analysis provided during the 2018/19 Milk Price Manual review was to seek an explanation for the lack of consistent outcome from off-GDT sales between consecutive years. Miraka suggested that both Fonterra and the Commission claimed the outcomes were "similar" when available evidence suggested otherwise.

2.99 As part of our review of the 2018/19 Milk Price Manual, we reviewed Fonterra's complete information on the impact of including off-GDT pricing for WMP, SMP and AMF and considered the change between years was immaterial. We have expressed our view that the use of off-GDT pricing for RCPs is consistent with pricing outcomes that could be achieved by an efficient notional processor in arms-length transactions in international markets.

2.100 Given this position, the key question regarding practical feasibility of off-GDT pricing is whether the inclusion criteria for RCP sales are appropriate and have been applied consistently from season to season. Having reviewed the information provided by Fonterra, we are satisfied that the inclusion by Fonterra of off-GDT sales as a reference for prices used by the NP is practically feasible for an efficient processor, and is therefore consistent with the contestability dimension in the section 150A purpose.

2.101 Because the process for including off-GDT costs has not changed since last year's calculation review, our final conclusion is that the inclusion by Fonterra of off-GDT sales as a reference for prices in calculating the 2018/19 base milk price is consistent with the efficiency dimension of the section 150A purpose.

2.102 In addition to the submission points we have set out and responded to in the above paragraphs, we also set out and respond to the other substantive submission points on off-GDT matters in Table 4 below. We have taken the submission points set out above, and those in the table below, into account when reaching our final report on off-GDT matters.

Table 4. Summary of substantive points made in submissions on off-GDT sales.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Off-GDT	Miraka	The point of Miraka's analysis included in the 2018/19 Milk Price Manual was to seek an explanation for the lack of consistent outcome from off-GDT sales between consecutive years. Both Fonterra and the Commission claimed the outcomes were "similar" when available evidence suggested otherwise. The Commission has not responded to the above issue and has closed down the matter by responding to an entirely different issue.	As part of our review of the 2018/19 Milk Price Manual, we reviewed Fonterra's complete information on the impact of including off-GDT pricing for WMP, SMP and AMF and considered the change between years was immaterial. We have expressed our view that the use of off-GDT pricing for RCPs is consistent with pricing outcomes that could be achieved by an efficient notional processor in arms-length transactions in international markets. Given this position, the key question regarding practical feasibility of off-GDT pricing is whether the inclusion criteria for RCP sales are appropriate and have been applied consistently from season to season. We have concluded that they are.	2-3
Off-GDT	Open Country Dairy	Use of off-GDT sales remains non-transparent and inflates base milk price. This sales information is non-transparent and increases the base milk price above the appropriate level. The Commission must remove the non-commodity aspects of the RCP price data from the calculation to be consistent with the contestability dimension.	Having reviewed the information provided by Fonterra, we are satisfied that the inclusion by Fonterra of off-GDT sales as a reference for prices used by the NP is practically feasible for an efficient processor, and is therefore consistent with the contestability dimension in the section 150A purpose.	4

Changes in volumes of milk collected

2.103 In our review of Fonterra's Milk Price Manual 2018/19, we concluded that in respect of issues raised by static or declining volumes of milk collected by Fonterra, our best course of action would be to monitor the asset stranding rules against real world behaviours for the time being with a more substantive review to be included in the 2020/21 season alongside Fonterra's review of the specific risk premium.

2.104 We note that the 2018/19 milk volume forecast is greater than the 2017/18 total volume, so there are no additional short-term plant mothballing issues we consider we need to address in this year's review of the calculation. We will look to include the long-term issue of asset stranding in our review of the 2019/20 Manual, after its four-yearly update later this year.

2.105 Miraka and Synlait raised concerns in their submissions on our draft report that we failed to address the processing capacity and collection and diversion cost implications of the volume increase in respect of mothballed plants.[54, 55] This was not a matter about which we received any submissions on our proposed approach paper.

2.106 Nonetheless we have followed up with Fonterra and confirmed that while the budget forecast milk supply for the 2019 season indicated that the Milk Price business had the capacity to process all peak milk without the mothballed plants, actual peak volume was higher than forecast. The Milk Price business therefore reduced lactose standardising to cope with the capacity shortfall during peak period, particularly in the South Island.

2.107 The milk price models use Fonterra's actual collection costs, which are not explicitly modelled. Minor changes in capacity assumed for each site are potentially relevant to an assessment of collection costs only in the peak period of October to November, when site/plant capacity constitutes a binding constraint on product mix decisions. Collection costs assumed in the milk price are therefore likely to be higher than notionally achievable because on the shoulders of the season (in particular) non-RCP production requirements are factored into Fonterra's decisions about which sites to deliver milk to, and into the sequencing of plant and site closures.

2.108 In addition to the submission points we have set out and responded to in the above paragraphs, we also set out and respond to the other substantive submission points on mothballing matters in Table 5 below. We have taken the submission points set out above, and those in the table below, into account when reaching our final conclusion on mothballing matters.

54 Synlait submission, at 1.
55 Miraka submission, at 8-9.

Table 5. Summary of substantive points made in submissions on mothballed plants.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Mothball	Miraka	It is hard to reconcile how four plants were mothballed when Fonterra was forecasting significant volume growth until well past the peak months.	The budget forecast milk supply for the 2019 season indicated that the Milk Price business had the capacity to process all peak milk without the mothballed plants, and thus the Milk Price business did not reopen any mothballed plants (this would take time in the real world, and this is reflected in the model). However actual peak volume was higher than forecast, and the Milk Price business reduced lactose standardising to cope with the capacity shortfall during peak period, particularly in the South Island. Capacity is matched on a North Island/South Island basis, to peak supply. The 2016/17 season represented the high point in the model's assumed capacity, with 3 additional plants installed in 2015/16 as a lagged response to the rapid increase in supply between 2013 and 2016. The model is still assuming more capacity than in 2015.	8-9
Mothball	Miraka	It is unclear where or how the mothballed plants fit into the analysis of the overall number of manufacturing plants attributed to the Notional Producer.		8-9
Mothball	Synlait	We are interested in whether the Commission believes the reduced number of plants is realistic in the face of increased milk volumes and four mothballed plants.		1
Mothball	Miraka	Miraka request the Commission to consider how the NP plants were configured (mothballed and operating) in 2018/19, how this is demonstrated to be able to handle milk supply changes in 2018/19, and whether that configuration is practically feasible given the previously assumed situation in 2017/18 (specifically to demonstrate that production capacity has not simply been assumed to be a flexible resource untethered from historically established physical locations).		8-9

Mothball	Miraka	The overall reduction in NP plant numbers has accelerated from net 1 reduction in 2017/18 (overall 4 "retired" replaced with 3 new plants. Miraka requests that the Commission review and comment on: • The geographic location on NP sites and processing capacity compared to Fonterra and how that impacts the costs of milk collection and diversion for consolidation of milk at full capacity processing sites. In particular, to confirm that the NP follows an appropriate production programming process including underlying costs to reflect the change in geographic location of NP processing capacity compared to Fonterra. • How the real-world costs of retiring the 5 plants in 2018/19 are accounted for by the NP.	As noted above, plant location is allocated on a North Island and South Island basis. Our understanding is that the milk price models use Fonterra's actual collection costs, which are not explicitly modelled. Minor changes in capacity assumed for each site are potentially relevant to an assessment of collection costs only in the peak period of October to November, when site/plant capacity constitutes a binding constraint on product mix decisions. Collection costs assumed in the milk price are therefore likely to be higher than notionally achievable because on the shoulders of the season (in particular) non-RCP production requirements are factored into Fonterra's decisions about which sites to deliver milk to, and into the sequencing of plant and site closures. These effects will likely swamp the impact of mothballing/non-replacement assumptions. The most significant area where the model's mothballing assumptions will potentially impact on collection costs is with respect to the Longburn site, where the model's assumption is aligned to Fonterra's actual mothballing of the site.	8-9

Yield and loss calculations

2.109 We have reviewed Fonterra's updated input assumptions on losses. We conclude that the updates to these inputs are supported by loss survey data and expert review of the loss specification offsets. A full description of Fonterra's process to update the loss assumptions can be found in its 2018/19 reasons paper.[56]

2.110 In carrying out our review we obtained and reviewed the independent loss survey audit report from Aurecon which covered the audit process, completeness and results for the 2018 Lichfield survey. We have also obtained and reviewed the Recommendations for FY19 Milk Price Manufacturing Loss Allowances report from Fonterra's independent expert, Tina Gandell.

2.111 The 2018/19 losses are in line with the losses achieved in the 2017/18 season. There were minor increases to some of the effluent loss benchmarks and a small decrease in the SMP fat composition target.

[56] Fonterra, above n 8, at 13.

2.112 We confirmed the calculated yield 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 NP with the fat and protein milk solids components of the RCPs together with associated losses.

2.113 Having reviewed the information provided by Fonterra, and performing our own analysis on the calculated yield, we are satisfied that the input assumptions of manufacturing losses are correctly recorded in the models and that there is sufficient assurance around the process of measuring and verifying the loss survey data.

2.114 Miraka submitted that the Notional Producer production yields are unlikely to be commercially feasible.[57]

2.115 We acknowledge this submission point, but based on our review of this matter as set out above, we are satisfied that the yields can be achieved by Fonterra and that they are therefore practically feasible for an efficient processor, and as such, consistent with the contestability dimension of the section 150A purpose.

2.116 Because the process for setting the yield and loss calculation inputs is in line with that used in the 2017/18 base milk price calculation review, our final conclusion is that the yield and loss calculations are consistent with the efficiency dimension of the section 150A purpose.

Other matters – Estimate of FX conversion

2.117 For completeness, we have followed up TDB Advisory's concern from our 2018/19 Manual review that Fonterra's FX disclosures in the Farmgate Milk Price Statement should be more precise and therefore less misleading.[58]Fonterra has advised that the additional precision requested by TDB in Fonterra's disclosure in the Milk Price Statement of its forecast hedge position for the current season would not in fact provide any additional information to third parties given the level of forecasting uncertainty at the time of publication of the Milk Price Statement (approximately seven weeks into the season).

2.118 According to Fonterra, the "approximately 73%" calculation cited by TDB in its submission reflects the forecast at that time of full season USD cash receipts, which in turn depends directly on forecast average commodity prices and forecast full season milk supply, among other things. Just a 5% difference between forecast and actual commodity prices, coupled with perfect forecasting accuracy with respect to all other inputs, would, for example, move the 73% estimate by around +/- three percentage points.

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57 Miraka submission, at 2.

58 TDB Advisory "Submission on draft report on review of Fonterra's 2018/19 draft milk price manual" (15 November 2018) at 2.

2.119 While we understand that a greater level of precision may assist independent processors to monitor changes, we do not consider that we are required to reach a conclusion on section 150A consistency on this matter. We invite Fonterra to consider the progressive disclosure of more detail on the average FX conversion rate.

2.120 We have considered Synlait's submission on FX conversion when reaching our conclusions on this matter. That submission and our response to it is set out in Table 6 below.

Table 6. Summary of substantive points made in submissions on FX conversion.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
FX conversion	Synlait	There should be more transparency in the detail of average FX conversion rates to enable IPs to monitor changes and understand movements in the FX position.	We invite Fonterra to consider the progressive disclosure of more detail on the average FX conversion rate.	1-2

Appendix A Other submissions on our draft report

2.121 Table B1 captures substantive points in submissions on our draft report that were outside of our focus and fit for purpose review items, but to which we nevertheless respond.

Issue	Submitter	Summary of submission point	Commission response	Submission page reference
Commission's response to submissions	Miraka	The Commission does not adequately address issues raised in submissions and has misinterpreted Miraka's submission in some cases.	The Commission believes that it considers, understands and responds to submissions adequately and appropriately when formulating its final conclusions on the extent to which the base milk price calculation and the Milk Price Manual are consistent with the section 150A purpose.	3
Stretch targets	Miraka	Miraka considers stretch targets have the opposite effect because under its Constitution Fonterra is obliged to maximise the milk price (not profits); stretch targets make it easier for Fonterra to meet that objective which rather than encouraging efficiency would be much more likely to discourage efficiency.	We disagree. Our view is that Fonterra is still incentivised to maximise profits and therefore strive to outperform notional inputs set on an ex ante basis. We set out this view in our 2014/15 review of the Milk Price Manual.[59]	3
Commission's conclusion on section 150A	Miraka	Miraka does not consider that the milk price calculation is consistent with the section 150A purpose of DIRA. In any case, concluding that the calculation is consistent with section 150A is not the same as concluding that the milk price is an appropriate benchmark for a competitive environment, and which supports economic efficiency and effectiveness.	We acknowledges this submission point, but reiterates its conclusion on consistency with section 150A, as set out above. The Commission also notes that its role is to review the Milk Price Manual and Base Milk Price Calculation for consistency with the section 150A purpose, in accordance with the principles and processes set out in the DIRA.	1

59 Commerce Commission, "Review of Fonterra's 2014/15 Milk price manual" (15 December 2014) at para B17.

Appendix B Glossary of terms

Table B1 Glossary

Term/Abbreviation	Definition
The Act, or DIRA	Dairy Industry Restructuring Act 2001
AMF	Anhydrous milk fat
Base milk price	Farm gate milk price expressed per kilogram of milk solids
BCP	Base commodity price, or FAS-equivalent commodity price
BMP	Butter milk powder
Calculation review	Review of Fonterra's base milk price calculation for the prior season
Capex	Capital expenditure
Dairy season	1 June to 31 May
ELB	Electricity lines business
FX	Foreign Exchange
GDT	Global dairy trade, Fonterra's online auction platform used to sell commodities
kgMS	Kilogram of milk solids
Manual review	Review of Fonterra's Milk Price Manual for the current season
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., 2016/17 Manual). The Manual contains the methodology used to calculate Fonterra's base milk price
Notional Producer	The notional commodity business that is used to calculate the base milk price
NP	Notional producer
NMPB	Notional Milk Price Business, comprising the notional milk powder manufacturing business implied by Fonterra's Farmgate Milk Price Manual
Opex	Operating expenditure
RCP	Reference Commodity Product. These products are manufactured and sold by the Notional Producer. This currently consists of WMP, SMP, BMP, Butter and AMF
Reference Basket	The basket of RCPs used to calculate the Farmgate Milk Price
Reasons paper	Fonterra's Reasons paper which is provided alongside the Manual for each dairy season (this is also provided when Fonterra discloses its base milk price calculation at the end of each dairy season)
SMP	Skim milk powder
WACC	Weighted average cost of capital
WMP	Whole milk powder

Term/Abbreviation	Definition
QOS	Qualifying Outlier Sale
QRS	Qualifying Reference Sale
MPG	Milk Price Group, the independent group responsible for calculating the base milk price
MPP	Milk Price Panel