



Submission to the Commerce Commission  
on its Draft Report on its review of the F13  
base milk price

30 August 2013

PUBLIC VERSION



**Dairy for life**

## Glossary

<b>BMP</b>	Buttermilk powder
<b>kgMS</b>	Kilogram of milksolids
<b>MPG</b>	Milk Price Group, the independent group responsible for calculating the base milk price.
<b>NMPB</b>	Notional Milk Price Business, comprising the notional milk powder manufacturing business implied by Fonterra's Farmgate Milk Price Manual.
<b>NZD</b>	New Zealand dollars.
<b>RCP</b>	Reference commodity product, comprising WMP, SMP, BMP, Butter and AMF.
<b>Season</b>	The period commencing on 1 June 2012 and ending on 31 May 2013.
<b>SMP</b>	Skimmilk powder
<b>USD</b>	United States dollars.
<b>WMP</b>	Wholemilk powder

## 1 Introduction

We comment in this paper on selected aspects of the Commission's draft report on its review of the 2012/13 base milk price, published by the Commission on 15 August 2013. We have confined our comments in this submission to the areas where the Commission concluded that our inputs were not practically feasible, that further information was required before the Commission could conclude on practical feasibility, or that, while the Commission considered an input to be practically feasible, further support would be desirable. These matters comprise:

- Energy usages (considered in section 2)
- Fixed assets (considered in section 3), and
- Administrative and supply chain overhead costs (considered in section 4).

Some of the information on which our submission is based is commercially confidential. We have therefore prepared a separate public version of our submission, with information we consider commercially confidential redacted.

## 2 Energy usage

### Introduction

The Commission has concluded in its draft report that our assumption with respect to energy usages “does not appear to be practically feasible,” but has invited submissions on its draft conclusion and on the relevant supporting analysis.<sup>1</sup> The Commission’s conclusion reflects advice received from its expert, Parsons Brinckerhoff, who assert in their report that they “would expect that energy usage rates need to increase by up to 10% to reflect the practical difference between annual average approaches and an approach based on extrapolating peak usage rates.”<sup>2</sup>

### Background

We reproduce in full the rationale advanced by Parsons Brinckerhoff in support of their conclusion in respect of energy usages:<sup>3</sup>

Although GEA have modelled the key processing plant, their model is only a subset of the total plant required by the Notional Processor, and the daily production and daily steam usage rates reflect usage at peak production. The Notional Processor would need to assume significant energy (steam and power) usage for plant that is outside the scope quoted by GEA, and would also need to assume an annual average rate that is significantly worse than the rate achieved under plant guarantee conditions (season peak).

A more representative approach to the calculation of energy costs would be based on the annual site usages and annual site production for a complete Fonterra plant that is similar to the Notional Processor.

Based on a RFI response, the annual actual Fonterra plant usage is approximately 10% higher than the value assumed for the Notional Processor which supports the argument that annual totals should be used as the basis of the steam and power usage rates. Parsons Brinckerhoff would expect that energy usage rates need to increase by up to 10% to reflect the practical difference between annual average approaches, and an approach based on extrapolating peak usage rates.

Absent any explanation from Parsons Brinckerhoff as to why they consider annual average energy usages will be “significantly worse” than peak usages, we have had to make assumptions as to their underlying reasoning. Our assumptions are that Parsons Brinckerhoff’s conclusions are predicated primarily on two assumptions:

1. That Fonterra’s (and by extension, the NMPB’s) practice is to operate plants at less than full capacity on the ‘shoulders’ of the season, when milk volumes are below peak volumes. (Additional energy is consumed on plant start-up and shut-down, and if plant is operated at less than full capacity, these ‘fixed’ energy usages will be spread over smaller volumes, resulting in higher average usage per MT of finished product.)
2. That the plant operating data provided in the RFI response noted in the Parsons Brinckerhoff report lends support to assumption (1).

We comment in turn on each of these (apparent) assumptions.

### Plant operating assumptions in the milk price model

As noted above, we assume Parsons Brinckerhoff’s conclusion on energy usages reflects an assumption that Fonterra operates a high proportion of its plants at less than full capacity on the shoulders of the season, and that the NMPB would also do so. We accept that operating plants at less than full capacity will result in higher average energy usage

<sup>1</sup> Commerce Commission, *Dairy Industry Restructuring Act 2001: Review of Fonterra’s 2012/13 base milk price calculation, draft report*, 15 August 2013, (hereafter ‘Commerce Commission draft report’), p.18.

<sup>2</sup> Parsons Brinckerhoff, *A review of inputs determining the Fonterra Base Milk Price*, 14 August 2013 (hereafter ‘Parsons Brinckerhoff report’), p.27.

<sup>3</sup> Parsons Brinckerhoff report, pp.26-27.

per MT of finished product, but we do not accept Parson Brinckerhoff's apparent conclusions with respect to the materiality of this fact.

An important scale advantage available to a manufacturer with multiple plants is the ability to stagger the start-up and shut-down of individual plants as milk supply increases early in a season and as it decreases toward the end of the season, and the gains from this advantage increase with the number of plants. And because the NMPB has materially more milk powder plants, the advantage is higher for the NMPB than for actual Fonterra. Our detailed calculations suggest that in 2012/13, if the NMPB did not transport milk outside any of three North Island and two South Island regions, 12 percent of its total plant operating days would have been at less than full capacity, with approximately 6 percent of total product manufactured in plant operating at less than full capacity. These calculations require some simplifying assumptions, some of which are conservative (e.g. the 'no transportation between regions assumption') and some of which may imply an understatement of the percentage of total operating days where plants are operating at less than full capacity. We nonetheless consider it reasonable to assume that at least 90 percent of base milk price production is manufactured in plants operating at full capacity, or under 'season peak' conditions.

We commissioned from Aurecon an analysis of energy usages required for the NMPB WMP plant under the assumptions of (a) continuous peak production (a 90 day production cycle with a single full dryer CIP and two chamber CIPs) and (b) a single 24 hour production run.<sup>4</sup> This analysis shows a [ ] percent increase in steam usage per MT of finished product, and a [ ] percent increase in electricity usage, under option (b) compared to option (a). So if 10 percent of NMPB product was manufactured under 'option (b)' conditions, we would expect to see average annual steam consumption equal to approximately [ ] percent of peak steam consumption, and average annual electricity consumption equal to approximately [ ] percent of peak electricity consumption. Since steam constitutes approximately two-thirds of the NMPB's energy cost, the implied understatement in energy costs if 100 percent peak usage is assumed is approximately [ ] percent.

### Fonterra's actual plant energy usages compared to milk price model usages

The base milk price calculation reflects energy usages (and costs) in a number of ways:

- Energy costs not directly incurred in manufacturing plant operation are captured in the relevant cost centre provisions (e.g. chilled water and compressed air).
- On-site energy losses are captured in the energy prices, rather than usages (i.e. assumed usages are net of losses).
- The explicit energy usages reflect average usages per MT of production under the assumption of NMPB 'base' operating conditions, including long runs of regular WMP and medium heat SMP. Additional usages associated with manufacture of other specifications, or with short manufacturing runs, are captured in the incremental product costs calculated for the product, which in the base milk price calculation are captured as a deduction from net revenue. [ ]

All these points, but particularly the final one, are relevant to a comparison of notional NMPB energy usages to actual Fonterra usages, and to the interpretation of the actual energy usage data provided by Fonterra to the Commission and its experts:

- The Fonterra plant data we provided the Commission demonstrates that the new Darfield plant is able to replicate the milk price model energy usage assumptions when operating at full capacity and under milk price model conditions. This set of circumstances occurred in just one month in the period for which data was provided. In other months, the plant was not operated under milk price model-equivalent conditions and, as expected, energy usage was higher than provided for in the milk price model. (Differences in actual plant

<sup>4</sup> Letter dated 26 August 2013 from David Sin of Aurecon to Sri Pathmanathan of Fonterra.

operation compared to milk price model-equivalent conditions included period of production of instant WMP and [ ].)

- The fact that Darfield 1 was able to achieve milk price model-equivalent energy usages in its first year of operation is significant: it counters any objection that the model should include an additional allowance to account for potential under-performance (relative to the standard) in the initial period of a plant's operation, and it suggests that the allowances included in the model are potentially unduly conservative, given Fonterra's experience is that it is possible to achieve improvements in energy usage over time through application of continuous improvement processes.
- [ ]

## 3 Fixed assets

### Introduction

The Commission noted in its draft report that it is “unable to conclude on the practical feasibility of the capital costs in the base milk price calculation model.”<sup>5</sup> This view was predicated on Parsons Brinckerhoff’s conclusion that they “would associate an estimation accuracy range for the plant replacement costs of  $\pm 15\%$ .”<sup>6</sup>

### Practical feasibility of capital cost assumptions

Parsons Brinckerhoff make it clear in their report that they would have taken a different approach to establishing the fixed asset base for the NMPB involving, among other things, a front end engineering design approach, specification of a specific “contracting strategy”, and the development of feasibility studies for each Fonterra site included in the NMPB asset base. We accept that the approach taken to establishing the NMPB asset base did not replicate the approach that would have been employed by a real life processor actually looking to construct milkpowder processing facilities on multiple sites, but are nonetheless confident that the approach taken did in fact result in estimates of capital costs that are reasonable within the context within which they are employed. In particular:

- Parsons Brinckerhoff suggest that the quotations for installation of standard plants obtained in 2008 and 2011 “could be expected to have an accuracy of  $\pm 30$  percent”, which they subsequently narrow to  $\pm 15$  percent. We note that in both years, the supplier whose quotations were used (GEA) had current experience in the installation of plants of the same, or approximately the same, capacity as the standard milk price model plants, and was able to use this experience to calibrate its quotations within a much narrower range of accuracy, specified by the supplier as  $\pm 5$  percent. (In 2011, the GEA quotation drew heavily on the Darfield installation.)
- The replacement costs generated through the scaling exercise for site services and other ancillary assets were cross-checked against a range of Fonterra assets, and found to be acceptably close.
- Parsons Brinckerhoff raise the possibility that the difference in approaches taken to establishing manufacturing plant replacement costs and replacement costs for other assets may have resulted in “either duplication or ‘gaps’ in capex” (p.21). We note in this respect that the detailed specification for the manufacturing plants were developed so as to avoid any such gaps by appropriately qualified personnel with detailed knowledge of the relevant site services and ancillary assets, and that the resultant asset base was subsequently reviewed for completeness by DTZ.

Putting these points to one side, however, we note the Commission’s interpretation of section 150A is that “the assumptions adopted, and the inputs and process used to calculate the base milk price must, at the very least, be practically feasible today for Fonterra or another processor efficiently building an incremental plant.”<sup>7</sup> Consistent with this interpretation, our primary focus in this section is on demonstrating that the unit replacement cost of manufacturing assets assumed in the base milk price is in line with the unit installation costs actually incurred by Fonterra in the installation of its most recent incremental plant, at Darfield.

<sup>5</sup> Commerce Commission draft report, p.18.

<sup>6</sup> Parsons Brinckerhoff report, p.23.

<sup>7</sup> Commerce Commission draft report, p.26.





impact of this inconsistency will need to be reviewed (p.21).	
Neither the manufacturers' 2011 quotations nor the actual construction costs for the Darfield site have been included in updates to the MP Model version reviewed. This is inconsistent with the capital cost inputs identified in the Fonterra Reasons Paper. The updated costs will only apply to incremental plant and replacement capex which represents approximately 5% of the total F13 capital costs (p.22)	These variables have been included in the final F13 base milk price, and the relevant financial models have been provided to the Commission. This did not result in any material change in the capital charge relative to the provisions previously included.
<b>Collection Assets</b>	
There are obvious difficulties in using Fonterra's actual asset base to reflect the collection assets of the Notional Processor. For example, the location and number of Standard Plant is a different profile to Fonterra's, and hence the vehicle requirements will be different. To ensure that the collection asset base is practically feasible PB would recommend that the scope and size of assets included in the collection asset register is reviewed regularly to ensure consistency with other assumptions and inputs for the Notional Processor (p.20).	The NPMB delivers milk in materially the same volumes to the same sites as Fonterra, so there is not any obvious difficulty in using either Fonterra's actual collection costs or assuming its actual collection assets.

### 3 Overhead costs

#### Introduction

We comment in this section on the Commission's observations with respect to the approach taken to establishing the provision for administrative and other overhead costs, where the Commission:

- Noted it had some concerns with the adequacy of the evidence and supporting rationale for some of the adjustments made to Fonterra's 2011/12 budget data.
- Suggested "more easily assessable outputs might be achieved by a simpler and more transparent high level allocation approach."<sup>8</sup>
- Concluded it was nonetheless "comfortable that the level of administration and overhead costs provided for in the base milk price calculation is practically feasible."<sup>9</sup>

#### Comment

Before settling on the detailed 'bottom up' approach to establishing the relevant provision, we undertook a search for independent benchmarking data for businesses with similar operations and structures to the NMPB that might be considered sufficiently robust for use in establishing a supportable provision for the NMPB's administrative and overhead costs. This search was unsuccessful, and it was therefore necessary to resort to an approach based on Fonterra's costs.

The 2011/12 Fonterra budget data was selected as providing the most appropriate basis for establishing the cost assumptions to be used in the 2012/13 milk price. Budget data was preferred to actual data, as it reflected Fonterra's view of an achievable level of efficient operation; and 2011/12 was the most up to date budget data available at the time of setting the 2012/13 inputs. Actual 2011/12 season to date and full year 2010/11 results were used as a cross check on the budget information where required.

It was then necessary to adjust the Fonterra budget costs to account for the identifiable differences in operation between Fonterra and the NMPB. The adjustments fell into four broad categories:

- a) Activities and costs that would not be required by the NMBP, in which case the costs could be removed entirely from the costs allocated to the NMPB.
- b) Activities and costs that would be required by the NMBP at the same level as Fonterra, in which case the costs could be allocated in full to the NMPB .
- c) Activities and costs that would be required by the NMBP at a different level to Fonterra, driven by a clearly quantifiable difference in the scale of the two businesses, in which case the Fonterra cost could be allocated on an appropriately scaled basis to the NMPB.
- d) Activities and costs that would be required by the NMBP at a different level to Fonterra, but where difference in scale could not readily be quantified, in which case a best estimate, determined by suitably knowledgeable Fonterra managers and independent advisors to the MPG, of the appropriate scaled Fonterra cost were allocated on an estimated scaled basis to the NMPB.

The Commission's concerns appear to fall into two categories:

- The detailed level at which the budget costs were allocated, resulting in lack of transparency, and
- The level of support available for the scaling adjustments for costs falling within category (d) above. (The Commission appears to accept that the approach taken for costs in categories (a) – (c) was appropriate.)

<sup>8</sup> Draft report, p.121.

<sup>9</sup> Draft report, p.121.

We have some sympathy with the points raised by the Commission with respect to the transparency of this process, but do not agree that a simpler, more high level, approach would necessarily have resulted in a superior outcome.

In particular, the construction of the Fonterra budgets means that virtually none of the high level budget cost groupings clearly fall into just one of the activity/cost categories listed above, and even at the lowest level of budgeting, most activity/costs were a mix of two or three of the identified categories. So in most cases a review of the detailed costs within each cost centre was required to ensure appropriate costs were allocated to the NMPB. For instance, one low level cost centre where the activity relates to laboratory management – an activity that at first glance would seem to fit clearly under category c), and should therefore be simply scaled to match the NMPB – contained \$7.5 million of budgeted costs that needed to be excluded in their entirety from the NMPB. This was not an isolated occurrence – the Fonterra business accounting structure was designed around Fonterra’s business needs, not those of the NMPB.

We therefore decided that the only way to ensure all significant overhead costs were appropriately allocated to, or excluded from, the base milk price calculation, was to analyse and allocate the Fonterra 2011/12 budget at as low a level as necessary to get clarity on the activities and costs included in the budgets. These allocated costs were aggregated into higher level cost categories for input into the milk price model. When compared to the Fonterra budget costs, the allocations of these aggregate amounts appear to range from 18% - 90% as described by the Commerce Commission. The underlying allocations are consistent with the four categories outlined above; however these allocations, and any rationale/assumptions behind them, were recorded in separate spreadsheets and documents.

With respect to the approach taken to allocating ‘category (d)’ activities and costs, we note that a large number of overhead activities undertaken and costs incurred by Fonterra would also be undertaken by the NMPB, to a greater or lesser extent than Fonterra, but the key drivers of differences in scale cannot be precisely determined or quantified. A good example arises from the difference in complexity of the manufacturing operations – we can calculate the difference in the number of milk processing plants manufacturing for export in NZ between Fonterra and the NMPB, but the NMPB also has a less complex range of factory types, and the five factory types assumed in the NMPB are assumed to manufacture a significantly less complex range of product specifications than the same factory types in Fonterra. The difference in overhead costs that can be attributed to the difference in scale of complexity cannot be precisely quantified, but it is nonetheless necessary to make some allowance - simply scaling Fonterra manufacturing overheads for only the fully measureable difference in the number of manufacturing plants, will fail to take into account the additional overhead costs Fonterra incurs because of the wider range of plant types and product specifications.

In these instances, the chosen allocations were derived through a consultation process between the MPG and its independent advisors and Fonterra management. Our experience was that this process generated an appropriate level of tension and robustness, with the management representatives appropriately incentivised to ensure that costs that could reasonably be expected to be incurred by the NMPB were captured, while the MPG and its independent advisors are required under the Milk Price Manual principles to ensure that the inputs to the FGMP reflect costs that could be practically achievable under the NMPB assumptions, but are not overstated. The process required both the MPG (and its advisors) and Fonterra management to objectively justify to each other any proposed scaling factors and to reconcile any differences in their positions.

We accept, however, that it is difficult for a third party to objectively validate the detailed outputs generated from this approach, and will examine what can be done to rectify this prior to undertaking the review scheduled for the current year, which will generate a new set of administrative and other overhead costs for implementation in 2014/15.