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*under:* the Resource Management Act 1991

*in the matter of:* an application to the Selwyn District Council to change the Selwyn District Plan ('PC50')– including proposed amendments to the 'Dairy Processing Management Area'.

## Statement of evidence of Michael Campbell Copeland (Economics)

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REFERENCE: B G Williams (ben.williams@chapmantripp.com)  
A D W Brent (allan.brent@chapmantripp.com)

**Chapman Tripp**  
T: +64 3 353 4130  
F: +64 3 365 4587

60 Cashel Street  
PO Box 2510, Christchurch 8140  
New Zealand

www.chapmantripp.com  
Auckland, Wellington,  
Christchurch



## STATEMENT OF EVIDENCE OF MICHAEL CAMPBELL COPELAND

### INTRODUCTION

- 1 My name is Michael Campbell Copeland.
- 2 I hold a Bachelor of Science degree in mathematics and a Master of Commerce degree in economics.
- 3 I am a consulting economist and managing director of Brown, Copeland and Company Limited, a firm of consulting economists which has undertaken a wide range of studies for public and private sector clients in New Zealand and overseas. I have over 40 years' experience in the application of economics to various areas of business, including resource management matters. During the period 1990 to 1994, I was also a member of the Commerce Commission and during the period 2002 to 2008, I was a lay member of the High Court under the Commerce Act. Prior to establishing Brown, Copeland and Company Limited in 1982, I spent six years at the New Zealand Institute of Economic Research and three years at the Confederation of British Industry. A summary of my curriculum vitae is **attached** as **Appendix 1**.
- 4 With respect to the Resource Management Act 1991 (RMA), I have prepared evidence for clients covering a number of projects and policies. A selection of these is listed at the end of my curriculum vitae in **Appendix 1**.
- 5 Although this is a council hearing, I confirm I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the hearing committee. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

### SCOPE OF EVIDENCE

- 6 In May 2014, Synlait Milk Limited (*Synlait*) submitted a request to the Selwyn District Council for a private Plan Change to introduce a Dairy Processing Management Area (*DPMA*) within the Rural (Outer Plains) Zone of the District Plan. The boundary of this DPMA surrounds Synlait's existing Dunsandel milk processing site. The decision to accept the Synlait Plan Change was made by the Council on 25 March, 2015.
- 7 Fonterra has now sought a Plan Change (proposed Plan Change 50 (*PC50*)) enabling a DPMA to cover its Darfield site to recognise and better reflect the existing dairy plant established on the site and to provide for its efficient continued use and expansion. PC50 will

reduce the ongoing reliance on the resource consent process for variations or changes in the future use of the site. It has therefore been prepared to provide for the maximum envisaged scale of milk processing development that is likely to occur on the site in the foreseeable future. This will reduce the time, costs and uncertainties associated with seeking future consents for what is largely the consolidation of an existing established dairy plant.

8 My evidence addresses the economic effects of Fonterra's proposed PC50 enabling a DPMA to cover its Darfield site. Following an executive summary, my evidence covers the following:

- 8.1 The background to Fonterra's existing and future use of its Darfield milk processing site;
- 8.2 A consideration of the relevance of economic effects under the RMA;
- 8.3 A description of the Selwyn District, and Canterbury regional economies;
- 8.4 The economic benefits from the continued operation of Fonterra's existing milk processing activities at Fonterra's Darfield site;
- 8.5 The economic benefits from future expansion of milk processing activities at Fonterra's Darfield site;
- 8.6 A discussion of some potential economic costs of the continued operation and future expansion of milk processing activities at Fonterra's Darfield site;
- 8.7 The Council's section 42A report; and
- 8.8 Issues raised by submitters; and
- 8.9 Some overall conclusions.

#### **EXECUTIVE SUMMARY**

- 9 Proposed PC50 enabling a DPMA to cover its Darfield site will provide for Fonterra's Darfield milk processing plant's efficient continued use and expansion. It will reduce the ongoing reliance on the resource consent process for variations or changes in the future use of the site and reduce the time, costs and uncertainties associated with seeking future consents for what is largely the consolidation of an existing established dairy plant.
- 10 The expanded operation would be most efficiently enabled by PC50, and that operation will continue to contribute to and enhance the economic well-being of the Selwyn District and broader Canterbury regional communities by:

- 10.1 Providing employment and incomes for local residents and businesses;
- 10.2 Providing the local economy with greater diversity and resilience;
- 11 PC50 will maintain and improve resource use efficiency by:
  - 11.1 Retaining and increasing economic activity and population in the Selwyn District, enabling increased economies of scale in the local provision of goods and services;
  - 11.2 Reducing transport costs for the collection of milk and the export of finished products; and
  - 11.3 Reducing externality costs associated with road transport including road accident costs, road transport pollution costs and travel time costs for other road users.
- 12 PC50 will not give rise to economic externality costs.

#### **BACKGROUND TO FONTERRA'S EXISTING AND FUTURE USE OF ITS DARFIELD MILK PROCESSING SITE<sup>1</sup>**

- 13 Fonterra Co-operative Group Limited<sup>2</sup> is New Zealand's biggest company and produces over 2 million tonnes of dairy products each year, with 95% exported to customers and consumers in over 140 countries.
- 14 Fonterra processes milk across 30 processing sites in New Zealand. These sites employ around 6,250 people and provide around \$525 million in wages and salaries. Fonterra has an annual turnover of approximately \$22 billion. The company is co-operatively owned by over 10,500 shareholders, who are a mix of family owned farms and corporate entities.
- 15 Fonterra's Darfield milk processing plant is located on a 680 hectare site on State Highway 73, just north of the township of Darfield. It was opened in 2012 when the first milk powder dryer was commissioned and a second milk powder dryer was commissioned in August 2013. When operating at full capacity, the plant processes 8.6% of New Zealand's peak milk production. It is one of four milk processing operations in the Canterbury region<sup>3</sup> and was developed in response to increasing milk volumes and a shortage of processing capacity in the region. Currently the plant produces 220,000 tonnes of regular and instant whole milk powder per annum, with 7.2

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<sup>1</sup> Material in this section provided by Fonterra.

<sup>2</sup> The manufacturing sites are in the name of Fonterra Limited, which is part of Fonterra Cooperative Group Limited.

<sup>3</sup> The others are at Culverden, Clandebye and Studholme. Fonterra's plant at Kaikoura closed in April 2016.

million litres/day of milk processed at the peak of the season. The milk powder produced is exported through the Port of Lyttelton to markets in South East Asia, the Middle East and the People's Republic of China. The Darfield plant is estimated by Fonterra to account for approximately 15% by value of New Zealand's dairy exports.

- 16 Fonterra's Darfield plant farmer suppliers are largely located in the Canterbury region. Unlike in the North Island's more mature dairy areas, milk supply growth in South Island dairy areas has averaged around 4-5% per annum in the past decade (with a small decline in 2015/2016, but which is expected to improve again such that a 4-5% rate of growth is expected to continue in the future). Also, under section 73 of the Dairy Industry Restructuring Act (*DIRA*), Fonterra is required to accept all new applications to become Fonterra shareholder farmers and all applications to increase the volume of milk supplied by shareholding farmers.<sup>4</sup> Therefore Fonterra is required to maintain and expand processing capacity to meet future growth in the supply of milk from existing and new Fonterra farmer suppliers.

## **ECONOMICS AND THE RMA**

### **Community Economic Wellbeing**

- 17 Economic considerations are intertwined with the concept of the sustainable management of natural and physical resources, which is embodied in the RMA. In particular, Part 2 section 5(2) refers to enabling "*people and communities to provide for their ... economic ... well being*" as a part of the meaning of "*sustainable management*", the promotion of which is the purpose of the RMA.
- 18 As well as indicating the relevance of economic effects in considerations under the RMA, this section also refers to "*people and communities*" (*emphasis added*), which highlights that in assessing the impacts of a proposal it is the impacts on the community and not just the applicant or particular individuals or organisations, that must be taken into account. This is underpinned by the definition of "*environment*" which also extends to include people and communities.
- 19 The continued operation and expansion of Fonterra's dairy product manufacturing capacity at the Darfield site will enable the residents and businesses of the Selwyn District, Christchurch City and the Canterbury region to provide for their social and economic wellbeing.

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<sup>4</sup> In some exceptional circumstances, Fonterra can refuse to accept additional volumes of milk for processing. These circumstances relate to minimum volumes of milk solids and where transport costs for a new applicant exceed those of its highest transport cost existing supplier.

### **Economic Efficiency**

- 20 Part 2 section 7(b) of the RMA notes that in achieving the purpose of the Act, all persons "*shall have particular regard to ... the efficient use and development of natural and physical resources*" which include the economic concept of efficiency<sup>5</sup>. Economic efficiency can be defined as:
- "the effectiveness of resource allocation in the economy as a whole such that outputs of goods and services fully reflect consumer preferences for these goods and services as well as individual goods and services being produced at minimum cost through appropriate mixes of factor inputs"* <sup>6</sup>.
- 21 More generally economic efficiency can be considered in terms of:
- 21.1 Maximising the value of outputs divided by the cost of inputs;
  - 21.2 Maximising the value of outputs for a given cost of inputs;
  - 21.3 Minimising the cost of inputs for a given value of outputs;
  - 21.4 Improving the utilisation of existing assets; and
  - 21.5 Minimising waste.
- 22 PC50 is intended to enable, at the least cost, the continuation and expansion of dairy product manufacturing capacity at the Darfield site. I consider this consistent with the efficient use of resources, especially in regard to reducing consenting costs for Fonterra, the Council and public alike, minimising milk collection transport costs and the continued utilisation of substantial assets with remaining economic life and enabling economies of scale in production that can be achieved at the site. In my view PC50 will allow that continued operation and expansion to occur most efficiently, as I expand on below.
- Viewpoint**
- 23 An essential first step in carrying out an evaluation of the positive and negative economic effects of a development project is to define the appropriate viewpoint that is to be adopted. This helps to define which economic effects are relevant to the analysis. Typically a district (or city) and wider regional viewpoint is adopted and sometimes even a nationwide viewpoint might be considered appropriate.

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<sup>5</sup> See, for example, in *Marlborough Ridge Ltd v Marlborough District Council* [1998] NZRMA 73, the Court noted that all aspects of efficiency are "*economic*" by definition because economics is about the use of resources generally.

<sup>6</sup> Pass, Christopher and Lowes, Bryan, 1993, *Collins Dictionary of Economics* (2<sup>nd</sup> edition), Harper Collins, page 148.

- 24 The Darfield dairy manufacturing site is located in the Selwyn District, which is part of the Canterbury region. However Christchurch City is also part of the local economy which significantly benefits from the continuation and expansion of milk processing capacity at the site since firstly, many of the staff reside in Christchurch (as well as Selwyn), and secondly, Christchurch businesses as well as Selwyn based businesses provide goods and services to the plant. Also there will be increased employment and expenditure in the local Selwyn and Christchurch economies during any expansion of the plant at the site. Therefore in this report the economic effects are considered in relation to the local Selwyn District economy and also in relation to the broader Canterbury region (incorporating Christchurch City effects).
- 25 There are also private or financial benefits associated with the continuation and any expansion of Fonterra's operations at the Darfield site. Generally these benefits are not relevant under the RMA and the main focus of this evidence is therefore on the wider economic effects on parties other than Fonterra and its customers. Economists refer to such effects as "externalities"<sup>7</sup>.
- 26 However, Fonterra is owned by its farmer shareholders and financial benefits to Fonterra impact on the "economic (and social) well being" of these farmer shareholders including those within the local community – i.e. the Selwyn District and wider Canterbury region. Also financial benefits to Fonterra are relevant with respect to the "efficient use and development of natural and physical resources" and New Zealand's export competitiveness, given the importance of dairy product exports to the New Zealand economy.

## **BACKGROUND TO SELWYN DISTRICT AND CANTERBURY REGION'S ECONOMIES<sup>8</sup>**

### **Population**

- 27 Statistics New Zealand's June 2016 population estimate for the Selwyn District is 56,200 or 1.2% of New Zealand's population. In 2009 population in the District was estimated to be 39,600, implying an increase of 41.2% over the period 2009 to 2016, as compared to only 9.1% for New Zealand as whole. Statistics New Zealand's 'medium' population projections<sup>9</sup> have the Selwyn District's population increasing to 89,400 in 2043 – i.e. an average rate of increase of 1.7% per annum over the period 2016-43, compared to an average rate of growth for New Zealand of 0.7% per annum.

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<sup>7</sup> Defined as the side effects of the production or use of a good or service, which affects third parties, other than just the buyer and seller.

<sup>8</sup> Data in this section from Statistics New Zealand.

<sup>9</sup> Statistics New Zealand prepare three sets of projections – high, medium and low – according to natural population change (i.e. the net effect of birth and death rate assumptions) and net migration assumptions. These projections do not explicitly incorporate assumptions about different rates of economic development.

- 28 Statistics New Zealand's June 2016 population estimate for the Canterbury region is 599,900 or 12.8% of New Zealand's total population. It is the second largest region in New Zealand in terms of population. The Canterbury region's population is estimated to have declined between June 2010 and June 2012 by 11,700 (2.1%) due to Christchurch City's population falling by 21,200 (5.6%) after the earthquakes and only some of the consequent out-migration relocating to neighbouring districts within the Canterbury region. The region's population over the period 2009 to 2016 has grown by 7.0%. Statistics New Zealand's 'medium' population projections have the region's population increasing at an average rate of 0.7% per annum to 729,200 over the period 2016-43.

### **Employment**

- 29 Employment data highlights the dependence of the Selwyn District on the agriculture sector. In February 2015, 2,990 jobs (17.7%) of the Selwyn District's 16,190 jobs were in the agriculture, forestry and fishing industry group, with most (an estimated 2,840 jobs) being agricultural jobs. Dairy cattle farming accounted for 920 jobs (5.7% of total employment) and sheep, beef cattle and grain farming 710 jobs (4.4% of total employment). There were 2,100 jobs (13.0% of total employment) in the manufacturing sector, including 1,250 jobs (7.7% of total employment) in food manufacturing of which dairy product manufacturing accounted for 470 jobs<sup>10</sup> (2.9% of total employment). Taken together, dairy cattle farming and dairy product manufacture directly account for 8.6% of total employment in the District. With the inclusion of the flow on, or "multiplier" effects, (see next section of this report), the dairy sector accounts for around 13% of total employment in the District.
- 30 Other important employment sectors in the District are public administration and safety (2,260 jobs or 14.0% of the total), education and training (1,880 jobs or 11.6% of the total), construction (1,400 jobs or 8.6% of the total), retail trade (1,020 jobs or 6.3% of the total), professional, scientific and technical services (1,010 jobs or 6.2% of the total), and health care and social assistance (790 jobs or 4.9% of the total).
- 31 Statistics New Zealand estimate total employment in the Canterbury region in February 2015 at 284,110, which represents 13.9% of the total persons employed in New Zealand. The agriculture, forestry and fishing industry group employed 15,070 persons, of which 14,242 were engaged in agriculture (including 97% of agriculture and fishing support industry employees based on the proportionate shares in agriculture and fishing). Other significant sectors are manufacturing employing 34,860 (of which the most significant subsectors are food products manufacturing (11,510)<sup>11</sup>, machinery

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<sup>10</sup> A 2014 figure as the 2015 figure is confidential.

<sup>11</sup> Including meat and meat products (4,730), dairy products (1,920) and seafood (880).



and equipment manufacturing (5,460), fabricated metal products manufacturing (3,480) and transport equipment manufacturing (2,430)), construction (31,710), health care and social assistance (30,580), retail trade (28,710), education and training (21,470), professional, scientific and technical services (20,530) and accommodation and food services (18,450). Besides the tourism related aspects of sectors such as retail trade, education and training and accommodation and food services, the key drivers of the Canterbury economy remain largely agriculture and manufacturing.

- 32 There are important linkages between the performance of the Canterbury regional economy (which is heavily dependent upon agriculture and agricultural product processing) and the Christchurch City economy. Apart from construction activities associated with the Christchurch rebuild, and tourism which accounts for some but not all<sup>12</sup> of the jobs created in the retail trade and accommodation and food services sectors, the key economic drivers for Christchurch City are manufacturing and services provided to the agriculture and agricultural product processing activity within the wider Canterbury region.

#### **ECONOMIC BENEFITS OF MAINTAINING CURRENT OPERATIONS OF FONTERRA'S DARFIELD MILK PROCESSING PLANT**

- 33 Before Fonterra developed the Darfield milk processing plant, milk from the Selwyn District and the surrounding North and Mid-Canterbury catchment areas was processed at Fonterra's Clandeboye plant near Timaru, and when this plant had capacity constraints, at Fonterra's Edendale plant in Southland. The opening of the Darfield plant not only led to a significant reduction in truck and tanker kilometres (up to 30,000 truck and tanker kilometres per day) but also spread capacity risk across two large Fonterra plants within Canterbury and the three largest Fonterra plants in the South Island.
- 34 In addition, there are a number of advantages in maintaining production capacity at the Darfield site as compared to relocating production capacity to potential new sites and/or the expansion of other existing plants. The key advantages are:
  - 34.1 The continued optimum use of existing relatively new "sunk" assets, which otherwise would be largely "stranded" – i.e. the continued use of plant, machinery and buildings with significant remaining economic life but which would have little if any residual value if the plant reduced its operating

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<sup>12</sup> Employment in tourism is difficult to identify from official statistics since the relevant sectors such as retail trade and accommodation and food services for which data is collected meet the needs of domestic and international visitors, business travellers and local residents and businesses.

capacity or ceased operating and these assets had to be sold or relocated to other sites;

- 34.2 The site is large enough to allow for future expansions to cope with predicted future increases in North and Mid Canterbury milk supply;
  - 34.3 The site is on a main road with good road network links;
  - 34.4 The site is adjacent to the rail network for delivery of inputs and export of milk products;
  - 34.5 The site is close to Lyttelton Port;
  - 34.6 The site is close to Darfield and Christchurch City for skilled staff and support industries;
  - 34.7 The site has a sufficient supply of good quality water, a reliable electricity supply and is of sufficient size to enable on-site wastewater disposal; and
  - 34.8 The site is some distance from neighbours and effects on them can be mitigated.
- 35 Most of the plant's operational input supplies other than milk and employee labour come from Christchurch City. Some local Selwyn District firms also provide goods and services to the plant including, for example security services, laundry services, gardening services, canteen outsourcing, electrical maintenance services and mechanical maintenance services. Fonterra estimate around 10% of the value of operational input supplies (other than milk and employee labour) are supplied from within the Selwyn District.
- 36 The Darfield milk processing plant currently employs 250<sup>13</sup> permanent full time equivalent (FTE) staff, as well as a significant number of contractors and temporary staff. It is estimated that at least 50% of the staff directly employed at the plant reside permanently within the Selwyn District, whilst a number of contractor staff will also be local residents. For the 125 staff residing in the Selwyn District, their estimated wages and salaries are \$9.4 million per annum.<sup>14</sup>
- 37 In addition to these direct economic impacts there are indirect impacts arising from:
- 37.1 The effects on suppliers of goods and services provided to the site from within the District (i.e. the "forward and backward linkage" effects); and

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<sup>13</sup> My technical report used a figure of 200 employees. Recent staff increases has seen the number grow to 250.

<sup>14</sup> I.e. based on an average annual salary of \$75,000.

- 37.2 The supply of goods and services to employees at the site and to those engaged in supplying goods and services to the site (i.e. the “induced” effects). For example, there will be additional jobs and incomes for employees of supermarkets, restaurants and bars as a consequence of the additional expenditure by employees living within the Selwyn District.
- 38 District multipliers can be estimated to gauge the size of these indirect effects. The size of the multipliers is a function of the extent to which a district economy is self-sufficient in the provision of a full range of goods and services and the district’s proximity to alternative sources of supply. District multipliers typically fall in the range of 1.5 to 2.0<sup>15</sup> and taking the low point of 1.5, given the Selwyn District’s close proximity to Christchurch, implies total impacts (i.e. direct plus indirect impacts) of Fonterra’s current operations at its Darfield site of:
- 38.1 188 additional jobs for local Selwyn District residents; and
- 38.2 \$14.1 million per annum in additional wages and salaries for local Selwyn District residents.
- 39 In addition to the additional revenues, employment and incomes generated by the Darfield plant itself, condensate and process water from the plant is used to irrigate a neighbouring farm owned by Fonterra (492 hectares irrigated) and two other third party farms (the first 174 hectares irrigated and the second 121 hectares irrigated). The Fonterra farm is used for supplementary feed production, with the third party farms being used for dairy support and irrigated sheep farming respectively. The irrigation using condensate and process water from the Fonterra plant is estimated to improve farmer returns by \$250-\$500 per hectare for dairy support and \$650 per hectare for irrigated sheep farming<sup>16</sup>. This implies additional earnings from the irrigation using the plant’s condensate and process water of \$0.25 million to \$0.41 million per annum across the three farms.
- 40 Further there are important economic linkages between Christchurch City’s economy and farming and agricultural product processing in the rural hinterland of the Canterbury region. The Darfield milk processing plant, its dairy farm suppliers, its local suppliers of goods and services and their employees purchase goods and services from Christchurch City businesses providing employment and incomes for

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<sup>15</sup> Work undertaken for the Christchurch City Council and the Canterbury Regional Council by Mr. Geoffrey Butcher estimated employment and household income (i.e. wages and salaries) multipliers for the Canterbury region of around 2.5. (See Appendix 8 of evidence of Mr. Geoffrey Butcher (dated 27 August 2010) for the Christchurch City Council and for the Canterbury Regional Council Regional Council, in the matter of appeals pursuant to Clause 14 of the First Schedule to the RMA in relation to Proposed Change 1 to the Canterbury Regional Policy Statement.)

<sup>16</sup> Ford S.J. (2011); Farmer Returns from the Irrigation of Condensate Water; a report prepared for Fonterra.

Christchurch City residents. For example, Lincoln University's Agribusiness and Economic Research Unit (AERU)<sup>17</sup> has estimated farms in the Selwyn and Waimakariri Districts spend \$306 million per annum<sup>18</sup> in Christchurch City, whilst rural businesses (which will include Fonterra's plant at Darfield) within the two Districts account for a further \$511 million per annum. Combining these expenditure flows with the indirect ("multiplier") expenditure flows raises this to \$2.2 billion, and this is estimated to generate around 10% of the City's gross domestic product (GDP) and more than 12,500 fulltime equivalent jobs for Greater Christchurch residents.<sup>19</sup>

- 41 Conservative<sup>20</sup> estimates for the direct and indirect effects of Fonterra's Darfield plant's existing operations for the Canterbury region (principally in the Selwyn District and Christchurch City) are the creation of 500 jobs and incomes of \$37.5 million per annum.
- 42 Consequently restrictions or unnecessary regulation placed on Fonterra's milk processing plant's current operations impacts negatively not just on Fonterra shareholder suppliers but also businesses and residents within the Selwyn District, Christchurch City and the wider Canterbury region.

#### **ECONOMIC BENEFITS FROM THE EXPANSION OF PROCESSING CAPACITY AT FONTERRA'S DARFIELD SITE**

##### **Increased Economic Activity during Construction of Additional Dryers and Related Facilities<sup>21</sup>**

- 43 Exactly when expansion occurs will depend on dairy production at the relevant time – although based on current long-term growth, the next (Stage 3) expansion of processing capacity on Fonterra's Darfield site (i.e. the addition of a third new dryer and related facilities) is likely to commence within the next 5 years and will take around two years to complete. Further expansion after that is possible and for the purposes of assessment I have referred to a Stage 4 expansion (i.e. the addition of a fourth new dryer and related facilities) that will take a further two years to complete, and will commence three to five years after the Stage 3 expansion. Each of the two stages would be expected to cost around \$390 million (excluding any further land costs were further land

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<sup>17</sup> See AERU: *The Wheel of Water; Agricultural Expenditure Flows for Selwyn and Waimakariri Districts into Christchurch*. Report prepared for Aqualink. September, 2013.

<sup>18</sup> Of which dairy farm expenditure is \$68 million.

<sup>19</sup> The analysis is conservative in that it excludes the activity associated with agricultural product processing plants within Christchurch City and it only focuses on Selwyn and Waimakariri Districts and not districts further south within the Canterbury region.

<sup>20</sup> Relates only to Fonterra's fulltime workforce of 200 staff and assumes a regional multiplier of 2.0. Note: No account is taken of on-farm employment and incomes since without the Darfield plant it is assumed milk production would be unchanged.

<sup>21</sup> Unless stated otherwise data in this section provided by Fonterra.

considered necessary). The majority of the equipment, materials and services required for the plant's expansion will be sourced from within New Zealand, with the remainder imported from overseas. Local Selwyn District suppliers will be used wherever possible, but realistically most suppliers from the Canterbury region will be predominantly located in Christchurch City. Goods and services, which may be supplied locally (i.e. from businesses located within the Selwyn District) include excavation services, concrete, road construction materials, fencing, shelter belt planting, re-grassing, catering services, laundry services, accommodation, security services and construction labour.

44 During each expansion construction phase, an on-site workforce starting at 50 employees and peaking at 700 employees will be required with an estimated monthly average of around 300 employees. Wage and salary payments for these employees are estimated to average \$18.75 million per annum.<sup>22</sup> It is expected around half of the construction workforce will reside permanently within the Selwyn District or Christchurch City, providing additional jobs and incomes within the local economy.

45 However in addition to these direct economic impacts will be the direct (or 'multiplier') impacts. Using a multiplier for the Selwyn District of 1.5 and assuming half of the construction workforce will reside within the District, implies total impacts (i.e. direct plus indirect impacts) during each of the two construction phases of:

45.1 225 additional jobs for local Selwyn District residents; and

45.2 \$14.1 million per annum in additional wages and salaries for local Selwyn District residents.

46 For the Canterbury region, 2.0 is a more realistic conservative multiplier, given the greater self-sufficiency of the total region, which includes Christchurch City. The total impacts for the Canterbury region during each of the two construction phase are estimated to be:

46.1 600 additional jobs for Canterbury residents; and

46.2 \$37.5 million per annum in additional wages and salaries for Canterbury residents.

### **Increased Economic Activity during Expanded Plant's Operation<sup>23</sup>**

47 After the expansion of processing capacity, the site will require additional inputs of materials and services. These are likely to be largely drawn from the Canterbury region, with some of these goods and services provided by local Selwyn businesses. Around 10% of

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<sup>22</sup> Based on an average salary per employee of \$62,500 per annum.

<sup>23</sup> Unless stated otherwise data in this section provided by Fonterra.

Fonterra's current Darfield plant maintenance expenditure is with contractors based within the Selwyn District and this is likely to continue after the plant expansion. Locally provided goods and services are likely to include security services, laundry services, building and ground services, canteen outsourcing, electrical maintenance services, waste treatment sludge disposal and mechanical maintenance services.

- 48 Once the two new dryers and related facilities are operational Fonterra expects the current workforce at the site (including milk tanker drivers) will grow from 250 to 485 – i.e. there will be 235 additional jobs. Their additional wages and salaries are estimated at \$17.6 million per annum (on the basis of an average salary for plant employees and drivers of \$75,000 per annum). These additional workers are likely to reside in the Selwyn District or Christchurch, further increasing levels of expenditure in the local economy.
- 49 Again using a local multiplier of 1.5, and assuming a 50/50 split between workers residing in the Selwyn District and Christchurch implies an increase in direct plus indirect employment of 176 jobs and an increase in direct plus indirect household income of \$13.2 million per annum for the Selwyn District economy.
- 50 For the Canterbury region, using a multiplier of 2.0, the total increase in employment is 470 jobs and the total increase in household income is \$35.2 million per annum.

#### **Economic Benefits from Increased Economic Activity**

- 51 As indicators of levels of economic activity, economic impacts in terms of increased expenditure, incomes and employment within the local and regional economies are not in themselves measures of improvements in economic welfare or economic wellbeing. However, there are economic welfare enhancing benefits associated with increased levels of economic activity. These relate to one or more of:
  - 51.1 Increased economies of scale: Businesses and public sector agencies are able to provide increased amounts of outputs with lower unit costs, hence increasing profitability or lowering prices;
  - 51.2 Increased competition: Increases in the demand for goods and services allow a greater number of providers of goods and services to enter markets and there are efficiency benefits from increased levels of competition;
  - 51.3 Reduced unemployment and underemployment<sup>24</sup> of resources: To the extent resources (including labour) would

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<sup>24</sup> Underemployment differs from unemployment in that resources are employed but not at their maximum worth; e.g. in the case of labour, it can be employed at a higher skill and/or productivity level, reflected in higher wage rates.

be otherwise unemployed or underemployed, increases in economic activity can bring efficiency benefits when there is a reduction in unemployment and underemployment. The extent of such gains is of course a function of the extent of underutilized resources at the time and the match of resource requirements of a project and those resources unemployed or underemployed; and

51.4 Increased quality of central government provided services:

Sometimes the quality of services provided by central government such as education and health care are a function of population levels and the quality of such services in a community can be increased if increased economic activity maintains or enhances population levels.

- 52 It is reasonable to presume that increases in economic activity (i.e. expenditures, incomes and employment) within the local Selwyn District economy as a consequence of expansions of milk processing capacity at Fonterra's Darfield site will give rise to one or more of these four welfare enhancing economic benefits for the local community.

**POTENTIAL ECONOMIC COSTS OF EXPANSION OF MILK PROCESSING CAPACITY AT FONTERRA'S DARFIELD SITE**

**Lost Agricultural Production**

- 53 Lost agricultural production is not an external cost of continued use and expansion of milk processing capacity at the Darfield site. The productive value of the land in alternative uses (such as agricultural and other use) has been internalised into the cost structure of the development – in other words Fonterra in purchasing the land has paid a price reflective of future net returns from alternative uses for the land. Such costs are not costs to be borne by the wider community.
- 54 In any case the increase in the land's rateable value is indicative of the land being used more efficiently than if it continued only in its previous use of rural land (being the area where the factory itself and any proposed expansion will be primarily located).
- 55 Furthermore the plant and roads on the site currently require less than 2% of the site (13 hectares<sup>25</sup> out of 680 hectares), and the remainder of the site continues to be used for agricultural purposes with an improved supply of irrigation water from the plant's treated wastewater system. Also there is an additional 212 hectares of third party irrigation, increasing production from these properties which are not currently irrigated.

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<sup>25</sup> The Stage 2 expansion only involved an additional 0.5 hectares of site coverage.

### **Reductions in Tourism<sup>26</sup>**

- 56 Whilst tourism is not as significant a driver of the District economy as other industries (e.g. agriculture), the District is the home to several ski-fields (Broken River, Mt Cheeseman, Craigieburn, Mt Olympus, Porters Ski Area and Temple Basin) and the Arthurs Pass National Park and offers a wide range of outdoor activities for visitors to the District to enjoy.
- 57 The plant does not impact on outdoor pursuits in the District such as skiing, tramping, mountain climbing or fishing. The evidence of Mr Greenaway in relation to the initial Stage 1 development of the plant concluded that it would not cause adverse impacts on regional tourism activity. Therefore the plant or any proposed expansion of it will not have any discernible negative impact on tourist visitor numbers, their length of stay in the District and tourist expenditure in the District.
- 58 In fact the presence of a major manufacturing plant within the District is likely to lead to some increase in visitor numbers to the District and benefits in terms of additional visitor spending on locally provided accommodation and hospitality.

### **Utilities**

- 59 Externality costs can arise when utilities provided by central or local government (e.g. roads, water supply, storm water and flood control systems and wastewater disposal) are not appropriately priced. In the case of Fonterra's milk processing plant at Darfield no such externality costs arise.
- 60 Fonterra has met the costs of improvements onto State Highway 73 and the level crossing providing access to the site from the existing road network. Fonterra and its farmer suppliers also make payments via road user charges and rates for ongoing maintenance and necessary upgrades to the state highway and local district council road networks.
- 61 With respect to water supply, on-site bores are used for the plant. For storm water and wastewater disposal the plant is totally self-sufficient.
- 62 Therefore the plant does not use the Selwyn District Council provided services and there can be no concerns that other ratepayers of the District are providing subsidised services to the plant.

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<sup>26</sup> The tourism impacts of the development of a milk powder plant on the site were covered in detail in the evidence of Mr. Rob Greenaway for the Stage 1 resource consents application.



## THE COUNCIL'S SECTION 42A REPORT

- 63 At paragraph 91 and 92 the Council's section 42A report discusses the economic effects of proposed PC 50. The report relies on a peer review of my technical report attached to the AEE and which was undertaken by **Mr Geoffrey Butcher**. His peer review is included as Appendix 10 to the Section 42A report. **Mr Butcher** agrees with my assessment of the economic wellbeing and economic efficiency benefits of the plan change. In addition, he considers the quantitative direct and indirect employment and income effects from the continuation of existing operations that I estimated are likely to be conservative.<sup>27</sup>
- 64 I do not agree with **Mr Butcher** that noise, smell and visual matters should form part of the assessment of whether the plan change will lead to an economically efficient use of resources. These types of effects are best articulated by appropriately qualified experts and should not be assessed within an economic efficiency framework.
- 65 Finally, I consider that the section 42A report author, Ms Melanie Foote, has chosen unfortunate language at her paragraph 92 in describing "adverse economic effects" as "acceptable" (given the overall economic effects are overwhelming positive). Notwithstanding this minor and semantic point, it seems that Ms Foote agrees in the round with my analysis.

## ISSUES RAISED BY SUBMITTERS

### Property Value Effects

- 66 I note Dean Douglas and Sain Jenkins (submitter #1) and Geogina McKeaver Eaves (submitter #2) list property value effects among the reasons for opposing Plan Change 50. Fonterra's position with respect to noise, smell and visual effects of the Plan Change is that such effects are minor. That is also the uncontested expert evidence. On that basis, in my view there will be no degradation in nearby property values. However, leaving this aside, any reductions in property values (or constraint on the escalation of property values in the future), as a consequence of Plan Change 50 are a reflection of, and not in addition to, any such effects. These aspects are considered in the effect assessments by the appropriate technical experts and therefore any impact on property values (if there was one) is not a matter to be considered in an RMA effects assessment as this would mean the same effect is considered twice under different headings.
- 67 I understand that property value changes being a reflection of rather than additional to noise, smell or visual effects has been proscribed by the Environment Court in *Foot v Wellington City*

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<sup>27</sup>Mr Butcher has used a computer-based input-output model to estimate specific multipliers for the Selwyn District and Canterbury region. His multiplier estimates are higher than the conservative multiplier estimates I used in my analysis.

*Council* ENE Wellington W73/98, 2 September 1998 which dealt with the impact of height restrictions on properties in Oriental Parade.<sup>28</sup>

Dated: 8 March 2017



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Michael Copeland

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<sup>28</sup> See paragraphs 249-256 of the Decision.

## APPENDIX 1: CURRICULUM VITAE OF MICHAEL COPELAND

**DATE OF BIRTH** 3 October 1950

**NATIONALITY** New Zealand

**EDUCATIONAL** Bachelor of Science (Mathematics) 1971

**QUALIFICATIONS** Master of Commerce (Economics) 1972

### PRESENT POSITIONS

(Since 1982) Economic Consultant, Brown, Copeland & Co Ltd

(Since 2010) Director, Healthcare New Zealand Holdings Limited

### PREVIOUS EXPERIENCE

1978-82 NZ Institute of Economic Research

Contracts Manager/Senior Economist

1975-78 Confederation of British Industry

Industrial Economist

1972-75 NZ Institute of Economic Research

Research Economist

1990-94 Member, Commerce Commission

2001-06 West Coast Regional Council Trustee, West Coast Development Trust

2002-08 Lay Member of the High Court under the Commerce Act 1986

2003-11 Director, Wellington Rugby Union

2010-13 Director, Southern Pastures

### GEOGRAPHICAL EXPERIENCE

- New Zealand
- Australia
- Asia (Cambodia, India, Indonesia, Kazakhstan, Malaysia, Nepal, Pakistan, People's Republic of China, Philippines, Tajikistan, Sri Lanka, Uzbekistan, Viet Nam)
- South Pacific (Cook Islands, Fiji, Kiribati, Tokelau, Tonga, Tuvalu, Vanuatu, Western Samoa)
- United Kingdom

### **AREAS OF PRIMARY EXPERTISE**

- Agriculture and Resource Use Economics (including Resource Management Act)
- Commercial Law and Economics (including Commerce Act)
- Development Programme Management
- Energy Economics
- Industry Economics
- Transport Economics
- RESOURCE MANAGEMENT ACT SPECIFIC PROJECTS
- Port storage facilities at Westport;
- The proposed Clifford Bay ferry terminal;
- The proposed pipeline and related facilities to utilise water from the Waikato River for metropolitan Auckland;
- A container terminal expansion by the Ports of Auckland;
- The proposed Variation No. 8 to the Wellington City District Plan covering height and other controls on development of the airspace above the Wellington railway yards;
- Proposed expansion of Paraparaumu town centre within the Kapiti Coast District;
- Wellington City Council's heritage preservation policy;
- Solid Energy's proposed West Coast Coal Terminal at Granity;
- Solid Energy's Mt William North coal mine at Stockton in the Buller District;
- The proposed Waimakariri Employment Park;
- The designation of land for a proposed motorway extension in the Hawke's Bay;
- The Hastings District Council's Ocean Outfall – two consent renewal applications;
- A proposed new shopping and entertainment centre in Upper Hutt;
- Rezoning of land in Upper Hutt from Business Industrial to Residential;

- New regional correctional facilities in Northland, South Auckland, Waikato and Otago;
- Proposed controls on wake generation by vessels travelling within the waterways of the Marlborough Sounds;
- The expansion of marina facilities within the Marlborough Sounds;
- Southern Capital's proposed new township at Pegasus Bay, north of Christchurch;
- Renewal of water resource consents for the Tongariro Power Development Scheme;
- Economic analysis inputs to a Section 32 report for the Waitaki Water Allocation Board;
- The imposition of land use restrictions within noise contours surrounding Christchurch International Airport;
- The expansion of the Whangaripo Quarry in Rodney District;
- The economic significance of Winstone's proposed quarry at Wainui, in the north of Auckland City;
- A proposed five star hotel development for Wanaka;
- Holcim's proposed new cement plant near Weston in the Waitaki District;
- TrustPower's proposed new wind farm at Mahinerangi in Central Otago;
- TrustPower's proposed new Arnold hydroelectric power scheme on the West Coast;
- McCallum Bros and Sea Tow Limited's appeal before the Environment Court regarding extraction of sand from the Mangawhai-Pakiri embayment north of Auckland;
- The development of the Symonds Hill pit at Winstones' Hunua Quarry;
- The rezoning of land for residential development at Peninsula Bay, Wanaka;
- The rezoning of land for more intensive residential development at PekaPeka on the Kapiti Coast;
- A gondola development for the Treble Cone skifield;

- A gondola development for the Snow Farm and Snow Park skiing and snowboarding facilities;
- The extraction of gravel from the bed of the Shotover River;
- The proposed Hilton hotel development on Wellington's Queen's Wharf;
- Land use restrictions in relation to the Runway Extension Protection Areas for Christchurch International Airport;
- A new residential and commercial development by Apple Fields at Belfast on the outskirts of Christchurch;
- A proposed business park development on land at Paraparaumu Airport;
- The proposed redevelopment of Wellington's Overseas Passenger Terminal;
- The proposed Central Plains irrigation scheme in Canterbury;
- The staging of residential and business development at Silverdale North in the Rodney District;
- The redevelopment of the Johnsonville Shopping Centre;
- A Plan Change enabling the relocation of existing development rights for a residential and commercial development on Mount Cardrona Station in the Queenstown Lakes District;
- A new Pak'n Save supermarket at Rangiora;
- New supermarkets at Kaiapoi, Whitby, Silverstream and Havelock North;
- The extension of the TeRereHau wind farm in the Tararua District;
- MainPower's proposed new wind farm at Mount Cass;
- Fonterra's proposed new milk processing plant at Darfield and its subsequent expansion;
- Fonterra Pahiatua milk powder plant expansion;
- Fonterra's proposed new coal mine in the Waikato District;
- Assessment of the economic significance of ANZCO's Canterbury operations to the Canterbury regional economy;
- Resource consent extensions for Oceana Gold (New Zealand) Limited's gold mining operations at Macraes Flat in north-east

Otago, the Globe Mine at Reefton and a proposed underground gold mine at Blackwater on the West Coast;

- Designation of land for NZTA's Waterview motorway project in Auckland;
- Designation of land and resource consents for NZTA's Transmission Gully motorway project in Wellington;
- Designation of land and resource consents for NZTA's MacKays to PekaPeka Expressway;
- Designation of land and resource consents for NZTA's PekaPeka to Otaki Expressway;
- Resource consents for NZTA's Basin Reserve Bridge Project;
- Resource consents for NZTA's Puhoi to Warkworth motorway extension;
- Resource consents for the Ruataniwha Water Storage Scheme;
- Assessment of the economic effects of a Queenstown Airport Corporation's proposed Notice of Requirement for the designation of additional land for aerodrome purposes;
- Assessment of the retail effects of proposed Plan Change 19 to the Queenstown Lakes District's District Plan;
- Assessment of the regional and national economic significance of Lyttelton Port;
- The economic benefits of utilising a Recovery Plan under the Canterbury Earthquake Recovery Act for the rehabilitation and enhancement of facilities at Lyttelton Port;
- The economic effects of the Lyttelton Port Company's Capital Dredging Project;
- Meridian's proposed new Mokihinui hydro scheme;
- Assessment of the economic effects of alternative wreck recovery options for the MV Rena;
- Assessment of the economic benefits and costs of Transpower's corridor management approach to giving effect to the National Policy Statement on Electricity Transmission in District and City Plans;
- Assessment of economic effects of a proposed extension to Arrowtown's urban boundary;

- Assessment of the economic benefits of overhead deployment of ultrafast broadband infrastructure;
- Assessment of the economic benefits of the proposed Ruataniwha Water Storage Scheme;
- Preparation of evidence for Transpower in relation to the proposed Ruakura development on the outskirts of Hamilton City;
- Preparation of two reports reviewing the economic benefits of the Hobbiton movie set at Matamata;
- Assessment of the economic benefits of renewal of a water discharge consent for Silver Fern Farm's Belfast meat processing plant;
- Preparation of evidence for Transpower in relation to the Proposed Auckland Unitary Plan;
- Preparation of evidence for Transpower, Ngāi Tahu Property Limited, the Lyttelton Port Company, Canterbury International Airport Limited, Tailorspace Limited, Church Property Trustees, the Roman Catholic Bishop of the Diocese of Christchurch, Pacific Park Limited, Fulton Hogan and the Christchurch Aggregates Producers Group in relation to the Proposed Christchurch Replacement District Plan;
- Preparation of evidence for Darby Planning LP, Soho Ski Area Limited, Treble Cone Investments, Lake Hayes Ltd, Lake Hayes Cellar Ltd and Mount Christina Limited in relation to economic issues concerning the Rural and Rural Recreation and Rural Lifestyle Chapters of the Proposed Queenstown Lakes District Plan;
- Preparation of evidence for Coastlands Shoppingtown Limited in relation to the proposed Kapiti Coast District Plan;
- Preparation of evidence for Tinline Properties Limited in relation to a proposed plan change to enable the establishment of an out of centre supermarket.