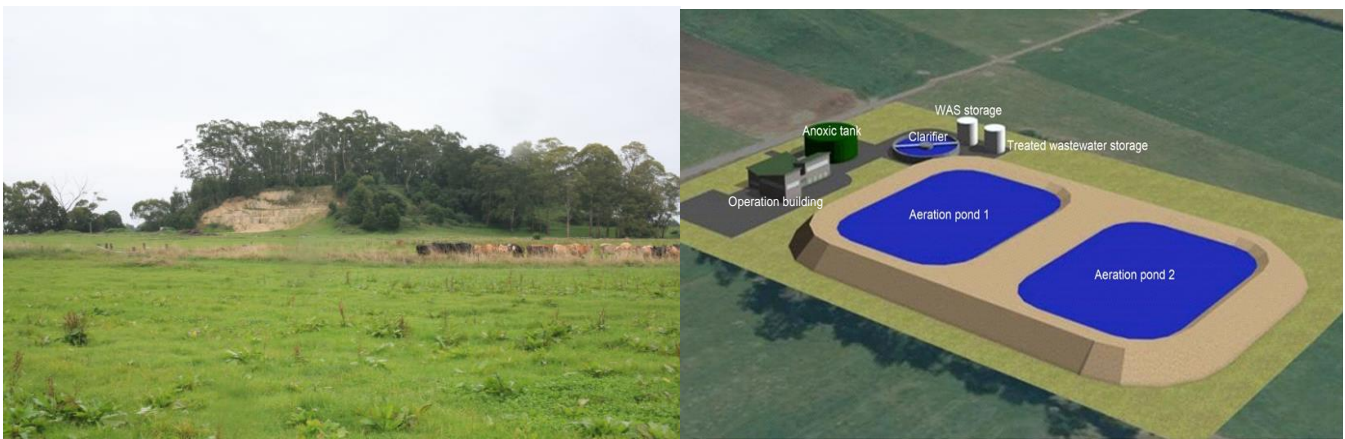


Fonterra Limited



Appendix O: Economics Assessment



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**APPLICATION FOR REPLACEMENT CONSENTS TO ENABLE THE CONTINUED
OPERATION OF FONTERRA'S HAUTAPU MILK PROCESSING PLANT**

ASSESSMENT OF ECONOMIC EFFECTS

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9 July, 2018

SUMMARY

1. Fonterra's Hautapu milk processing plant processes 4 million litres of milk per day at the peak of the season and produces 77,000 tonnes of cheese and milk powder products each year. Also the Hautapu site is one of only two dairy manufacturing sites in New Zealand producing lactoferrin. Lactoferrin is a multifunctional protein, which is one of the components of the human body's immune system. It provides in particular antibacterial activity for human infants. As such it is a high value product contributing to the Hautapu site's importance to Fonterra's dairy manufacturing activities.
2. Milk to the Hautapu site is provided by farms primarily within the Waikato Region. The site employs around 315 fulltime equivalent (FTE) staff,¹ whose wages and salaries generate significant expenditure with local businesses. In addition Fonterra engages a range of local contractors at the site and purchases local goods and services from businesses located within the Waipa District, Hamilton City and elsewhere within the Waikato Region.
3. The Hautapu site is within the Waikato River catchment and hence must give 'recognition to' the requirements of the Waikato Regional Council's proposed Healthy Rivers Plan Change (PC1). PC1 is to implement the Vision & Strategy for the Waikato River goals and objectives to protect and restore the Waikato River's water quality. Fonterra is seeking to replace a number of consents to enable the continued operation of the Hautapu plant. Although PC1 is still yet to become operative its draft policies and objectives provide direction to Fonterra as to the expected reduction in contaminants (in particular nitrogen, phosphorus, sediments and bacteria), from entering the Waikato River catchment.
4. In 'aligning' itself with the Vision and Strategy for the Waikato River and PC1, Fonterra has proposed a long term water and wastewater strategy for the Hautapu site. This proposes capital investment of an estimated \$40 million to build and operate a wastewater treatment facility, or equivalent technology, to enable an integrated approach to wastewater management of both application

¹ Staff numbers fluctuate depending on seasonal requirements.

onto land and/or disposal into the Waikato River. The application for consents covers not only activities involving discharges to the environment but also the building of the wastewater treatment facility. The purpose of this report is to assess the economic effects of the replacement consents, which will enable the continued operation of the Hautapu plant.

5. There are a number reasons why granting the consents sought will enable Fonterra to continue the efficient operation of its activities on the Hautapu site. These include:
 - a. Sufficient milk production capacity in the immediate area and wider surrounding catchment;
 - b. Optimised location from the perspective of milk and dairy products transportation;
 - c. The proximity of a skilled workforce;
 - d. The proximity of supplier businesses with appropriate expertise and experience;
 - e. The proximity of a good road network for plant inputs and outputs;
 - f. The ability to minimise and mitigate adverse environmental effects for neighbours and the wider community;
 - g. Economies of scale and scope as compared to relocating processing capacity to a number of alternative sites; and
 - h. Sufficient consumptive water supply to run the existing plant and reuse systems.

6. The current (June, 2017) book value for the Hautapu plant is \$110 million. The latest estimate (June, 2017) for the Hautapu plant's replacement value is \$710 million and much of this value is sunk – i.e. it could not be recovered if the plant was forced to downsize, close or be relocated.

7. Manufacturing, including food product manufacturing, is an important component of the Hamilton City economy. Other important sectors include health care and social assistance, retail trade, education and training, professional, scientific and technical services, construction and accommodation and food services. These are also important sectors in the Waipa District and Waikato regional economies together with agriculture.

8. The replacement consents enabling the continued operation of the Hautapu milk processing plant with improved environmental outcomes, will maintain the economic wellbeing of people and communities within the Waipa and Waikato Districts, Hamilton City and the Waikato Region by:
 - a. Maintaining significant direct and indirect employment opportunities for local residents;
 - b. Maintaining significant direct and indirect wages and salaries for local residents;
 - c. Maintaining significant levels of direct and indirect expenditure with local businesses;
 - d. Maintaining population and economic activity levels within local communities thereby maintaining the breadth and quality of services available to local residents and businesses;
 - e. Providing greater employment choice for local residents; and
 - f. Continuing Fonterra's contributions to local community activities.

9. The replacement consents sought by Fonterra will maintain resource use efficiency by enabling:
 - a. The continued use of existing plant and equipment with significant sunk costs;
 - b. The minimisation of the associated transport costs for milk collection and finished product dispatch;
 - c. The continued utilisation of a trained and experienced workforce and businesses with appropriate expertise and experience within close proximity of the plant;
 - d. The continued benefits from economies of scale and scope as compared to re-locating milk processing capability to a number of alternative sites; and
 - e. The maintenance of population and economic activity levels (or "critical mass") in the Waipa District and the Waikato Region, thereby providing economies of scale and competition in the local provision of goods and services.

10. There are also economic efficiency benefits associated with consents being granted for a longer term as compared to short term consents. The budgeted cost for the replacement consents sought by Fonterra is in excess of \$1.5 million without allowance for potential hearing costs.² Longer term consents not only save more frequent consent renewal costs, but also provide greater certainty for investment in, and management of, the plant. Of particular importance to the Hautapu site's proposed replacement consents is that longer term consents provide appropriate incentives for investment to be made to achieve significant improvements in wastewater quality. Fonterra are proposing to invest an estimated \$40 million to improve the cumulative effects of its wastewater management, both onto land and direct to the Waikato River, consistent with the requirements of the Vision and Strategy for the Waikato River and subsequent changes to the Regional Policy Statement and PC1.
11. There are no economic externality costs from the replacement of the resource consents Fonterra are seeking for the Hautapu site, since no third parties will need to absorb economic costs as a consequence of the consents being granted.
12. The Resource Management Act 1991 (RMA) requires the consent authority when considering an application for consent of an existing activity to "*have regard to the value of the investment of the existing consent holder.*"³ The value to Fonterra (and its shareholder suppliers) of its investment in the Hautapu plant can be considered in terms of either the value of the plant (\$710 million replacement cost) or the foregone future earnings of the plant if it was forced to close. By both of these measures, the value of the Hautapu plant is significant to the existing consents' holder.
11. Fonterra is proposing significant capital and operational investment to be made to help restore and protect the Waikato River from its cumulative activities and its "Best Practical Option" selection for wastewater treatment

² The Hatapu and Reporoa consent replacement applications are being run in tandem with an estimated total cost without hearings of \$1.5 million. Much of this cost relates to investigations into feasible wastewater improvement options for each of the plants which are consistent with the Proposed Waikato Regional Plan Change 1 requirements for wastewater discharges into the Waikato River.

³ See Part 6, Section 104 (2A) of the RMA.

and disposal is consistent with the objectives and policies within PC1. The replacement consents it seeks will enable the construction of facilities for, and the implementation of, the proposed “Best Practical Option”.

1. INTRODUCTION

Background

- 1.1 Fonterra Limited (Fonterra) operates the Hautapu milk processing site in the Waipa District near Cambridge. Wastewater from the plant is irrigated onto farms in both the Waipa and Waikato Districts. In addition Fonterra have a point source discharge to the Waikato River. The Hautapu site is within the Waikato River catchment and hence must satisfy the statutory and regulatory requirements for these activities, including the Vision & Strategy for the Waikato River and Waikato Regional Council's Regional Policy Statement (RPS) and the proposed Healthy Rivers Plan Change (PC1). PC1 is to implement the goals and objectives of the Vision & Strategy for the Waikato River. These are to protect and restore the Waikato River's water quality. Although PC1 is still yet to become operative its draft policies and objectives provide direction to Fonterra as to the expected reduction in contaminants (in particular nitrogen, phosphorus, sediments and bacteria), from entering the Waikato River catchment.
- 1.2 Fonterra is seeking the replacement of a number of consents to enable the continued operation of the Hautapu plant, including the discharge of dairy factory wastewater onto land (consent 961142 - Bardowie and Bruntwood farms) and associated discharge of odours to air, the discharge of processing wastewater to the Waikato River (consent 961143), and two small groundwater takes for the purposes of flushing irrigation pipework (consents 111044, 122028). The discharge consents both expire on 31 January 2019 and the groundwater takes expire in June and July 2019. In considering the wastewater strategy for the Hautapu site, Fonterra has considered that the strategy cannot be considered without inclusion of the wastewater irrigation undertaken on the Buxton farm (consent 110637 – expiry 31 July 2024). The consideration of alternatives to the current activity and location for these, that have culminated in the proposal for construction and operation of a wastewater treatment facility, or equivalent, means Fonterra is also lodging critical consent applications for this facility.
- 1.3 With respect to the discharge of treated wastewater activities, key policies under proposed PC1 include:

- (a) Policy 9c: This policy seeks to *“Encourage cost-effective mitigations where they have the biggest effect on improving water quality”*.
- (b) Policy 10: This policy seeks to provide for point source discharges of regional significance – *“When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment and microbial pathogens to water or onto land, provide for the*
 - (i) *Continued operation of regionally significant infrastructure; and*
 - (ii) *Continued operation of regionally significant industry”*.
- (c) Policy 11: This policy seeks the adoption of the Best Practical Option, requiring *“any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto land in the Waikato and Waipa River catchments to adopt the Best Practicable Option to avoid or mitigate the effects of the discharge at the time a resource consent application is decided.”* And
- (d) Policy 12d: This policy includes as an additional consideration, for point source discharges in relation to water quality, to have regard to – *“The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or bacterial pathogens when treatment plant processes are already achieving a high level of contaminant reduction through the application of the Best Practical Option.”*

1.4 For the Hautapu plant site, Fonterra has wastewater irrigation and a point source discharge to the Waikato River. While looking to reduce the contaminant loads to the river, Fonterra wishes to increase the volume of treated wastewater to the river since this is a key aspect to ensure the sustainability of both the land disposal capacity and the Waikato River.

1.5 The Hautapu site was first established at this location as a creamery in 1886 and now is Waipa’s largest manufacturing site producing 77,000 tonnes of cheese and milk powder products per annum. Included in this annual production are 37,000 tonnes of cheese (about 11% of Fonterra’s total production), 16,000 tonnes of

protein powders (about 10% of Fonterra's total production), 4,000 tonnes of whey powders (about 8% of Fonterra's total production), and 7,000 tonnes of lactose powder (about 8% of Fonterra's total production). The site is also the only Fonterra manufacturing site (and one of only two dairy manufacturing sites in New Zealand) manufacturing lactoferrin, a multifunctional protein that is one of the components of the human immune system. At the peak of the season the Hautapu site processes 4 million litres of milk per day drawn from the surrounding Waikato Region.

- 1.6** The site employs around 315 fulltime equivalent (FTE) staff,⁴ of whom approximately 30% live in Hamilton City, 9% live in the Waikato District, 50% live in the Waipa District, and 6% live in the Matamata-Piako District. As such the wages and salaries paid to employees at the site generate significant expenditure with local businesses. In addition the site engages a range of local contractors and purchases local goods and services from businesses located within Waipa District and the wider Waikato Region. The bulk of the Hautapu site's production of dairy products is transported by rail to the Port of Tauranga for export.⁵
- 1.7** The Hautapu dairy manufacturing site (together with the Te Awamutu dairy manufacturing site) is described in the Waipa Operative District Plan as a significant industry that is important to the local and regional economy.

Report Objective

- 1.8** The objective of this report is to assess economic effects of the continued operation of the Hautapu site on the Waipa District, Hamilton City and Waikato regional economies. The report will form part of the Assessment of Environmental Effects (AEE) to be lodged in relation to the consents sought by Fonterra.

⁴ Staff numbers fluctuate depending on seasonal requirements.

⁵ Fonterra's Crawford Street storage centre site in Hamilton is integrated with the KiwiRail network and is linked with Fonterra's manufacturing sites around the Central North Island including Te Awamutu, Waitoa, Morrinsville, Te Rapa, Whareroa, Lichfield, Tirau, Canpac and Hautapu. The site is an important part of Fonterra and Toll NZ's logistics strategy to reduce traffic congestion and carbon emissions – with the centralized storage site reducing 50,000 truck movements per annum from local roads.

Report Format

1.9 This report is divided into 7 parts (in addition to this introductory section). These are:

- (a) The background to Fonterra's Hautapu site's operations;
- (b) A consideration of the relevance of economic effects under the RMA;
- (c) A description of the Waipa District and Waikato regional economies;
- (d) The economic benefits from the replacement consents;
- (e) A discussion of some potential economic costs from the replacement consents;
- (f) The economic costs of the imposition of more stringent consent conditions; and
- (g) Overall conclusions.

2. BACKGROUND TO FONTERRA'S HAUTAPU SITE'S OPERATIONS⁶

2.1 Fonterra is a global leader in dairy nutrition, and is the preferred supplier of dairy ingredients to many of the world's leading food companies. Fonterra is New Zealand's largest company and a significant employer, with more than 11,500 New Zealand based staff and more than 9,500 employees based overseas.

2.2 Fonterra is a farmer-owned co-operative, collecting more than 17 billion litres of milk from its 10,500 shareholders annually. In the last 10 years, Fonterra has spent more than \$1 billion on research and development, drawing on generations of dairy expertise to produce more than two million tonnes annually of dairy ingredients, value added dairy ingredients, specialty ingredients and consumer products. These products are exported to more than 100 markets worldwide. Fonterra operates 23 milk processing sites in New Zealand.

2.3 Within the Waikato region, Fonterra has eight dairy factories at Hautapu, Te Awamutu, Reporoa, Tirau, Waitoa, Te Rapa, Lichfield, and Morrinsville, a large distribution centre (Crawford Street) and corporate offices (London Street) in Hamilton, its Canpac packaging manufacturing and printing plant in Hamilton and

⁶ Material in this section provided by Fonterra.

a storage facility at Waharoa. Tatua Cooperative Dairy Company Limited has a dairy factory at Tatanui and Open Country Dairy Limited has a dairy factory at Waharoa. The Waikato dairy manufacturing industry together with its supplying farmers employ approximately 10,530 persons and contribute around \$2.2 billion to (or nearly 11% of) the Waikato region's GDP.⁷

- 2.4** Fonterra's Hautapu site suppliers are largely located in the Waikato Region, which is a mature dairy area and as a result milk growth is expected to average about 1% per annum reflecting farm productivity improvements rather than an increase in cow numbers.⁸ 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.⁹ Therefore Fonterra is required to maintain processing capacity to meet the future supply of milk from existing and new Fonterra farmer suppliers.
- 2.5** Fonterra other milk processing plants within the Waikato Region operate at or near to their current capacities, processing milk collected from their respective catchments.
- 2.6** The current (June, 2017) book value for the Hautapu plant is \$110 million. The latest estimate (June, 2017) for the Hautapu plant's replacement value is \$710 million and much of this value is sunk – i.e. it could not be recovered if the plant was forced to downsize, close or be relocated.¹⁰ In addition the Hautapu site has a number of other economic advantages for a milk processing plant, which may not be achievable at alternative sites. These include:

⁷ Data from: Employment – Statistics New Zealand; GDP - Dairy Trade's Economic Contribution to New Zealand; NZ Institute of Economic Research for Dairy Companies Association of New Zealand; February, 2017.

⁸ Milk production volumes vary from year to year due to factors such as the payout level (when the payout is low more cows are culled) and climatic conditions affecting grass growth.

⁹ 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.

¹⁰ The replacement cost is a better reflection of the economic value of the plant to Fonterra (and the national economy) than the book value, since it covers the costs that would be incurred if the plant was forced to close and the same volume of milk needed to be processed elsewhere. The book value of the plant is for accounting purposes rather than a measure of its economic value.

- (a) Sufficient milk production capacity at the site to service the immediate area and wider surrounding catchment;
- (b) Optimised location from the perspective of milk and dairy products transportation;
- (c) The proximity of a skilled workforce;
- (d) The proximity of supplier businesses with appropriate expertise and experience;
- (e) The proximity of a good road network for plant inputs and outputs;
- (f) The ability to minimise and mitigate adverse environmental effects for neighbours and the wider community;
- (g) Economies of scale and scope as compared to relocating processing capacity to a number of alternative sites;
- (h) Sufficient consumptive water supply to run the plant and reuse systems; and
- (i) Suitable wastewater disposal options.

2.7 Replacement consents will enable Fonterra and its supplier shareholders to continue to benefit from these economic advantages of the Hautapu site for milk processing. Closure or downsizing of the plant due to the replacement consents not being granted, would result in efficiency losses, higher costs and reduced returns for Fonterra's farmer shareholders. In addition there would be economic costs for the broader Waipa District, Hamilton City and Waikato communities. These are covered later in this report.

3. ECONOMICS AND THE RMA

Community Economic Wellbeing

3.1 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 II section 5(2) refers to enabling "*people and communities to provide for their ... economic ... wellbeing*" as a part of the meaning of "*sustainable management*", the promotion of which is the purpose of the RMA.

- 3.2** As well as indicating the relevance of economic effects in considerations under the RMA, this section also refers to “*people and communities*”, 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.
- 3.3** The continued operation of the Hautapu plant enables the residents and businesses of the Waipa District, Hamilton City and Waikato Region to provide for their social and economic wellbeing.

Economic Efficiency

- 3.4** Part II 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 efficiency¹¹. 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”¹².

- 3.5** More generally economic efficiency can be considered in terms of:
- Maximising the value of outputs divided by the cost of inputs;
 - Maximising the value of outputs for a given cost of inputs;
 - Minimising the cost of inputs for a given value of outputs;
 - Improving the utilisation of existing assets; and
 - Minimising waste.

¹¹ 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.

¹² Pass, Christopher and Lowes, Bryan, 1993, *Collins Dictionary of Economics* (2nd edition), Harper Collins, page 148.

- 3.6** The continued operation of Fonterra's Hautapu site is consistent with the efficient use of resources, especially in regard to the ongoing use of significant existing assets and transport cost savings.

Value of Investment to the Existing Consent Holder

- 3.7** Part 6, Section 104 (2A) of the RMA requires the consent authority when considering consents for an existing activity to "*have regard to the value of the investment of the existing consent holder.*" The value to Fonterra (and its shareholder suppliers) of its investment in the Hautapu site can be considered in terms of either the value of the plant (\$710 million estimated replacement value) or the foregone future earnings of the plant if it was forced to close. By both of these measures, the value of investment at the Hautapu site is significant to the existing consents' holder.

Viewpoint

- 3.8** 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.
- 3.9** The Hautapu milk processing plant is located in the Waipa District, which is also the location of the residences of around 50% of its employees. The plant's operations also impact on Hamilton City (home to around 30% of the plant's employees and the source of the majority of the locally provided goods and services to the plant) and the wider Waikato Region. Therefore in this report the economic effects are considered in relation to the Waipa District, Hamilton City and the Waikato Region.
- 3.10** There are also private or financial benefits associated with the continued operation of Fonterra's Hautapu site. Generally these benefits are not relevant under the RMA and the main focus of this report is therefore on the wider economic effects

on parties other than Fonterra and its customers. Economists refer to such effects as “externalities”¹³.

3.11 However, Fonterra is owned by its farmer shareholders and financial benefits to Fonterra impact on the “*economic (and social) wellbeing*” of these farmer shareholders including those within the local community – i.e. the Waikato 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.

4. BACKGROUND TO WAIPA DISTRICT, HAMILTON CITY AND WAIKATO REGIONAL ECONOMIES¹⁴

Population

4.1 Statistics New Zealand’s June 2017 population estimate for Waipa District is 53,000. In 2006, population in the District was 43,700, implying growth of 21.3% over the period 2006 to 2017, as compared to growth of 14.6% for New Zealand as whole. Statistics New Zealand’s ‘medium’ population projections¹⁵ have Waipa District’s population increasing to 65,900 in 2043 – i.e. an average rate of increase of 0.8% per annum over the period 2017-43, the same as the projected average annual rate of population growth for New Zealand..

4.2 Statistics New Zealand’s June 2017 population estimate for Hamilton City is 165,400. In 2006, population in the City was 134,800, implying growth of 22.7% over the period 2006 to 2017, as compared to growth of 14.6% for New Zealand as whole. Statistics New Zealand’s ‘medium’ population projections have Hamilton City’s population increasing to 224,800 in 2043 – i.e. an average rate of increase of 1.2% per annum over the period 2017-43, compared to an average rate of population growth for New Zealand of 0.8% per annum.

¹³ 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.

¹⁴ Data in this section from Statistics New Zealand.

¹⁵ 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.

- 4.3** Statistics New Zealand's June 2017 population estimate for the Waikato Region is 460,100. In 2006 population in the region was 393,200. The region's population over the period 2006 to 2017 has grown by 17.0%. Statistics New Zealand's 'medium' population projections have the region's population increasing to 562,100 in 2043 – i.e. an average rate of increase of 0.8% per annum over the period 2017-43.
- 4.4** February, 2017 data on employment from Statistics New Zealand shows the importance of the agricultural sector to the Waipa District economy. Agriculture, forestry and fishing provides 2,850 jobs or 15.7% of the District's 18,200 jobs, including 2,754 jobs in agriculture¹⁶ of which 1,000 are dairy farming jobs and 240 sheep and beef cattle and grain farming jobs. Manufacturing is the next most significant employment sector with 2,100 jobs (11.5% of total employment), including 1,050 food product manufacturing jobs (including 580 dairy product manufacturing jobs and 170 meat and meat product manufacturing jobs), Other important sources of employment for the Waipa District are retail trade (2,100 jobs or 11.5% of total regional employment), education and training (1,750 jobs or 9.6% of total regional employment), construction (1,750 jobs or 9.6% of total employment), professional, scientific and technical services (1,150 jobs or 6.3% of total employment), health care and social assistance (1,150 jobs or 6.3% of total regional employment) and accommodation and food services (1,050 jobs or 5.8% of total regional employment).
- 4.5** Employment data highlights the importance of manufacturing to the Hamilton City economy. In February 2017, 9,600 jobs (11.0%) of the City's 87,400 jobs were in manufacturing including 2,450 food product manufacturing jobs (including 1,050 dairy product manufacturing jobs and 330 meat and meat product manufacturing jobs), 1,750 fabricated metal product manufacturing jobs, and 1,350 machinery and equipment jobs. Other significant sources of employment within Hamilton City are health and social assistance (14,700 jobs, or 16.8% of total employment), retail trade (9,300 jobs or 10.6% of total employment), education and training (8,700 jobs or 10.0% of total employment), professional, scientific and technical services (7,500 jobs or 8.6% of total employment), construction (6,800 jobs or

¹⁶ Includes agriculture support services.

7.8% of total employment) and accommodation and food services (5,400 jobs or 6.2% of total employment).

- 4.6** For the Waikato Region in February, 2017 there were 186,800 jobs. Manufacturing provided 23,600 jobs (12.6% of total employment) with 9,500 jobs in food manufacturing (including 3,700 meat and meat product manufacturing jobs and 3,500 dairy product manufacturing jobs), 2,850 in machinery and equipment manufacturing, 2,550 wood and wood products manufacturing and 2,450 fabricated metal products manufacturing. Agriculture, forestry and fishing is another significant sector in the Waikato Region providing 17,800 jobs (9.5% of total employment), including 15,970 jobs in agriculture¹⁷ of which 7,300 are dairy farming jobs and 1,850 sheep and beef farming jobs. Other important sources of employment for the Waikato Region are health care and social assistance (21,400 jobs or 11.5% of total regional employment), retail trade (19,000 jobs or 10.2% of total regional employment), education and training (17,000 jobs or 9.1% of total regional employment), construction (14,500 jobs or 7.8% of total employment), accommodation and food services (13,600 jobs or 7.3% of total regional employment), and professional, scientific and technical services (11,800 jobs or 6.3% of total employment).

5. ECONOMIC BENEFITS FROM THE REPLACEMENT CONSENTS

Maintaining Economic Activity within Waipa District, Hamilton City and Waikato Regional Economies¹⁸

- 5.1** The Hautapu milk processing plant employs around 315 FTE staff, one of the largest single employers in the Waipa District and wage and salary payments to these staff generate significant expenditure with local businesses. Fonterra spends an estimated additional \$47 million per annum on other goods and services (excluding milk) required at the plant. The bulk of this is with local Waikato region businesses, principally located within the Waipa District and Hamilton City. Goods and services to the plant provided by local firms include packaging materials, cleaning products and services, motor vehicles, freight and maintenance contractor services.

¹⁷ Includes agriculture support services.

¹⁸ Unless stated otherwise data in this section provided by Fonterra.

- 5.2** These are the direct economic impacts for the local economy from the plant's operation.¹⁹
- 5.3** However in addition to these direct economic impacts there are indirect impacts arising from:
- a. The effects on suppliers of goods and services provided to the plant from within the Waipa District, Hamilton City and the wider Waikato Region (i.e. the "forward and backward linkage" effects); and
 - b. The supply of goods and services from within the Waipa District, Hamilton City and the Waikato Region to employees at the plant and to those engaged in supplying goods and services to the plant (i.e. the "induced" effects). For example, there will be additional jobs and incomes for employees of supermarkets, restaurants, bars, and short term accommodation as a consequence of the additional expenditure by employees directly employed at the plant.
- 5.4** 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 an area's economy is self-sufficient in the provision of a full range of goods and services and the area's proximity to alternative sources of supply. Multipliers typically fall in the range of 1.5 to 2.0 and taking the mid-point of this range (i.e. 1.75) implies total impacts (i.e. direct plus indirect impacts) of:
- 550 FTE jobs for local Waikato Region residents; and
 - \$80 million per annum in additional expenditure with local businesses.
- 5.5** Most of the direct and indirect benefits of the plant's continued operation will accrue to the Waipa District and Hamilton City residents and businesses because (i) these are the places of residence of most of the plant employees; (ii) many of

¹⁹ No account is taken in this section of the direct and indirect economic impacts of dairy farming within the Waikato Region. Dairy farming will in general not be affected by whether the resource consents are renewed – i.e. milk produced within the region it is assumed will be diverted to other milk processing plants if replacement consents are not granted. However to the extent that replacement consents with stricter consent conditions than sought are granted these may add to the costs of milk processing, and farmers will be impacted as a consequence of lower payments for milk.

the employees living outside of Waipa District and Hamilton City will purchase goods and services from Hamilton City businesses; and (iii) Waipa District and Hamilton City businesses are most of the suppliers of goods and services to the plant.

Economic Benefits from Increased Economic Activity

5.6 As indicators of levels of economic activity, economic impacts in terms of increased expenditure, incomes and employment within the local economy 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:

- a. 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;
- b. Increased competition: Increases in the demand for goods and services allow a greater number of providers of goods and services in markets and there are efficiency benefits from increased levels of competition;
- c. Reduced unemployment and underemployment²⁰ of resources: To the extent resources (including labour) would be otherwise unemployed or underemployed, higher levels of 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 within the local economy at the time and the match of resource requirements and those resources unemployed or underemployed within the local economy; and
- d. 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 breadth and quality of such services in a community is higher with higher levels of economic activity, particularly to the extent they lead to or maintain higher levels of population.

²⁰ 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.

- 5.7** The Hautapu milk processing plant gives the Waipa District, Hamilton City and the Waikato Region greater critical mass and as a consequence the local residents and businesses can expect some increased benefit from economies of scale, greater competition, increased resource utilisation and better central government provided services.

Other Economic Efficiency Benefits

- 5.8** There are a number of economic efficiency benefits from Fonterra obtaining replacement consents to enable the continued operation of the Hautapu site. These have been listed earlier in Section 2 of this report and include the continued use of existing plant and equipment with an estimated replacement value of \$710 million,²¹ the minimisation of transport costs (and carbon footprint) for milk collection and finished product dispatch, the availability of a trained and experienced workforce and businesses with appropriate expertise and experience within close proximity of the plant, and economies of scale and scope as compared to re-locating processing capability to a number of alternative sites.
- 5.9** There are economic efficiency benefits associated with consents being for a longer term as compared to short term consents. To undertake a consent renewal process will typically require a project timeframe of at least 2 years, and for more complex applications requiring technical assessments to evaluate adverse environmental effects and how these might be remedied or mitigated this timeframe could extend to up to 4 years. The budgeted cost to renew these Hautapu plant consents for Fonterra is around \$1.5 million without allowance for potential hearing costs.²² Longer term consents not only save more frequent consent renewal costs, but also provide greater certainty for investment in, and management of, the plant. In addition, greater certainty over a longer consent length provides for considerably greater confidence in committing to any future

²¹ In addition to the economic efficiency benefits from the continued use of plant and equipment having a replacement value of \$710 million, Fonterra's significant investment in the Hautapu plant is also relevant in terms of Part 6, section 104 (2A) of the RMA, which requires regard to be given to the value of the investment of the existing consent holder.

²² The Hautapu and Reporoa consent replacement applications are being run in tandem with an estimated total cost without hearings of \$1.5 million. Much of this cost relates to investigations into feasible wastewater improvement options for each of the plants which are consistent with the Proposed Waikato Regional Plan Change 1 requirements for wastewater discharges into the Waikato River.

investment within the site - e.g. improved and more efficient technology. Of particular importance to the Hautapu site's replacement consents is that longer term consents provide appropriate incentives for investment to be made to achieve significant improvements in wastewater quality.

5.10 The comprehensive review of wastewater treatment options, including the conversion of the Bardowie, Bruntwood and Buxton farms to pasture cut and carry operations and the proposed wastewater treatment plant or equivalent technology as detailed in the Best Practicable Option report²³ indicates a significant capital investment in excess of \$40 million. This investment will achieve substantial reductions in the cumulative nutrients discharged to the environment as shown in Table 5 of that report.

5.11 When determining an appropriate duration for any consent granted for a point discharge, PC1 requires consideration be given to:

- (a) *“The magnitude and significance of the investment made or proposed to be made in contaminant reduction measures and any resultant improvements in the receiving water quality”;* and
- (b) *“The need to provide appropriate certainty of investment where contaminant measures are proposed (including investment in treatment plant upgrades or land based application technology)”.*

5.12 Maintaining these economic efficiency benefits is consistent with *“the efficient use and development of natural and physical resources”* (Part 2, section 7(b) of the RMA) as well as enabling *“people and communities to provide for their economic and social wellbeing”* (Part 2, section 5(2) of the RMA).

Greater Economic Resilience for Waipa District and the Waikato Region

5.13 As discussed earlier in this report, both the Waipa District and the Waikato Region are significantly dependent upon the agricultural sector. Therefore the Hautapu milk processing plant helps provide greater diversity and balance to these economies. Although it involves the processing of an agricultural commodity,

²³ Hautapu Site Wastewater Strategy Best Practical Option Assessment; Draft for Consultation; Prepared for Fonterra by Mitchell Daysh; April, 2018.

having milk processing capacity within the District and region provides employment opportunities and incomes less dependent upon returns to the agricultural sector. This makes these local economies more resilient to agricultural commodity price cycles.

Rates Income to the Waipa District Council and Waikato Regional Council

- 5.14** The Hautapu plant pays around \$100,000 per annum in rates to the Waipa District Council and \$25,000 to the Waikato Regional Council. Whilst these payments are for services provided by the Councils and from which Fonterra and its employees benefit, economies of scale mean that should the Councils lose this income, the range and quality of services provided by the Councils would diminish and/or payments by other ratepayers in the District and Region would need to increase.

Community Sponsorship Programmes

- 5.15** In recognition of the important role the community plays in helping Fonterra realise its potential, the company provides financial and other support to a number of initiatives at the local community level through its Fonterra Grass Roots Fund. The Upper Waikato Region, covering Auckland South to Waikato (including Waipa, Hautapu, Morrinsville, Te Aroha, Waitoa, Matamata, Thames and Pukekohe) has an annual budget of \$96,000. The types of organisations that have benefited in the past include Plunket, fire brigades, lifesaving organisations, schools, kindergartens, calf clubs and group days, and sports clubs.

6. POTENTIAL ECONOMIC COSTS OF THE REPLACEMENT RESOURCE CONSENTS

Lost Alternative Land Uses

- 6.1** Lost alternative land uses of the site are not an external cost of Fonterra's continued use of the Hautapu site for milk processing. The productive value of the land in alternative uses is internalised into the cost structure of the Hautapu 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.

Utilities

- 6.2** 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 Hautapu milk processing plant, no such externality costs arise.
- 6.3** Fonterra and its farmer suppliers make payments via road user charges and rates for the ongoing maintenance and necessary upgrades to the state highway and local council road networks as a consequence of milk tanker movements within the site's catchment.
- 6.4** With respect to the sites storm water and sewage wastewater the Hautapu site is completely self-sufficient. In 2014/15 Fonterra invested in a sewage treatment plant and associated dripper field at a cost of \$1.35 million and are currently upgrading the site storm water system at a cost of \$4.5 million. The site does rely on Waipa District Council for part of its potable water requirements in addition to its own groundwater supply bores. The supply of water from Council is covered by an agreement including the cost for water volume taken. Fonterra meets its share of any water supply costs in the same manner as other ratepayers. Fonterra is not cross-subsidised by other ratepayers within the District and region.

7 REPLACEMENT CONSENTS WITH MORE STRINGENT CONDITIONS

- 7.1** Fonterra is proposing to invest in its wastewater treatment system and in other operational changes to reduce the impact of its activities on the environment. This is considered to be consistent with the proposed requirements of the Waikato Regional Council's PC1 in relation to the Waikato and Waipa River Catchments. (Mitchell Daysh Planning Assessment, May 2018).
- 7.2** Fonterra in its selection of the proposed "Best Practical Option" for wastewater treatment and disposal has had regard to the policies in PC1 including:
- (a) Policy 12 c, which involves taking account of *"The ability to stage future mitigation actions to allow investment costs to be spread overtime and meet the water quality targets"*; and

- (b) Policy 12 d, which involves taking account of *“The diminishing return on investment in treatment plant upgrades in respect of any reduction in nitrogen, phosphorus, sediment and microbial pathogens when treatment plant processes are already achieving a high level of contaminant reduction through the application of the Best Practicable Option”*.

8 CONCLUSIONS

8.1 The replacement consents enabling the continued operation of the Hautapu milk processing plant will maintain the economic wellbeing of people and communities within the Waipa District, Hamilton City and the Waikato Region by:

- (i) Maintaining significant direct and indirect employment opportunities for local residents;
- (ii) Maintaining significant direct and indirect wages and salaries for local residents;
- (iii) Maintaining significant levels of direct and indirect expenditure with local businesses;
- (iv) Maintaining population and economic activity levels within local communities thereby maintaining the breadth and quality of services available to local residents and businesses;
- (v) Providing greater employment choice for local residents; and
- (vi) Continuing Fonterra’s contributions to local community activities.

8.2 The replacement consents sought for the Hautapu site will maintain resource use efficiency by enabling:

- (i) The continued use of existing plant and equipment with significant sunk costs;
- (ii) The minimisation of the associated transport costs for milk collection and finished product dispatch;
- (iii) The continued utilisation of a trained and experienced workforce and businesses with appropriate expertise and experience within close proximity of the plant;

- (iv) The continued benefits from economies of scale and scope as compared to re-locating milk processing capability to alternative sites outside the Waipa District (or the Waikato region) with associated inefficiencies; and
- (v) The maintenance of population and economic activity levels (or “critical mass”) in the Waipa District and the Waikato region, thereby providing economies of scale and competition in the local provision of goods and services.

8.3 Fonterra is proposing to implement changes which will reduce the impact of its activities on the environment and that will ultimately achieve an improvement in water quality whether this be groundwater or surface water and hence ultimately to the Waikato River. Consequently the consent applications are considered to be in line with the requirements to protect and restore the Waikato River.

8.4 The value to Fonterra (and its shareholder suppliers) of its investment in the Hautapu plant can be considered in terms of either the value of the plant (\$710 million replacement cost) or the foregone future earnings of the plant if it was forced to close. By both of these measures, the value of the Hautapu plant is significant to the existing consent holder.