

**BEFORE INDEPENDENT HEARING COMMISSIONERS  
APPOINTED BY THE TARANAKI REGIONAL COUNCIL**

**IN THE MATTER**

of an application by Remediation (NZ) Limited for resource consents under Part 5 of the Resource Management Act 1991

**AND**

**IN THE MATTER**

applications to obtain replacement consents for Consent Numbers 5838-2.2 and 5839-2 as summarised below:

Consent 5838-2.2 – to discharge of a) waste material to land for composting; and b) treated stormwater and leachate, from composting operations; onto and into land in circumstances where contaminants may enter water in Haehanga Stream catchment and directly into an unnamed tributary of the Haehanga Stream at Grid Reference (NZTM) 1731656E-5686190N, 1733127E-5684809N, 1732277E-568510N, 1732658E-5684545N and 1732056E-5684927N

Consent 5839-2 – to discharge emissions into the air, namely odour and dust, from composting operations between (NZTM) 1731704E-5685796N, 1733127E-5684809N, 1732277E-5685101N, 1732451E-5684624N and 1732056E-5684927N

**BETWEEN**

**REMEDICATION NZ LIMITED**

**AND**

**TARANAKI REGIONAL COUNCIL**

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**EVIDENCE OF  
DR JAMES DOUGLAS MARSHALL FAIRGRAY FOR REMEDIATION NZ  
LIMITED**

**(ECONOMICS)**

**9 March 2021**

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## **INTRODUCTION, QUALIFICATIONS AND EXPERIENCE**

1. My name is James Douglas Marshall Fairgray. I have a PhD in geography from University of Auckland, and I am a principal of Market Economics Limited (ME), an independent research consultancy.
2. I have over 40 years of professional consulting and project experience, working for public sector and commercial clients. I specialise in policy and strategy analysis, evaluation of outcomes and effects in relation to statutory objectives and purposes, assessment of demand and markets, urban and rural spatial economies, land use, and core economic processes. This research is within my core disciplines of economic geography / spatial economics and spatial planning. I have applied these specialties in more than 900 studies throughout New Zealand.
3. I am a qualified commissioner, through the Making Good Decisions programme (2017 and 2020). I am an Associate Member of the New Zealand Planning Institute (since 2013).
4. I have wide-ranging research experience in policy evaluation and impact assessment from an economic perspective through a range of economic assessments in the Resource Management Act 1991 (**RMA**) context, including evaluation of the benefits and costs of policy options, and economic processes and decision-making.
5. During 2014, I was engaged to prepare the core material for the section 32 guide released by the Ministry for the Environment, and I was the presenter on economic matters for the nationwide series of workshops on section 32 guidance.
6. I have studied regional and district economies throughout New Zealand, and the roles of key sectors in the economy. I have undertaken a wide range of studies into business and residential land demand, across many cities, and districts throughout New Zealand.
7. My research and evidence have covered regional and urban economies, business sector studies, business location preferences, residential demand

and dwelling and location preferences, and urban development matters generally, within the context of the RMA and regional and district plans.

8. Of direct relevance to this matter, I have undertaken a range of research into the Taranaki region and New Plymouth District economies and community, including the role of the port, effects of sand dredging, urban development and analyses of retail and other markets. I am familiar with the regional economy. In 2020, I examined the likely effects on the regional and district economies of different Alert Levels for the Covid-19 pandemic response. That included analysis of the economy structure to identify how each sector would be impacted under each Alert Level, and overall effects on each local economy.

#### **CODE OF CONDUCT**

9. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and to the extent that I am giving expert evidence, I have complied with it in preparing this Paper. I confirm that the issues addressed are within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

#### **PURPOSE**

10. I have been retained by Remediation NZ Limited to prepare a statement of evidence on relating to its application to renew consents to enable the operation of its waste treatment and recycling facility at Uruti in northern Taranaki.
11. For this, I have examined the role of the Remediation NZ plant in the Taranaki economy, and considered the future contribution of the plant to the economy if its consents are renewed. I have also examined the counter-factual, in terms of the opportunity cost to the economy if the re-consenting is not successful.
12. My assessment is in relation to s104(1)(a) of the RMA as to the economic impacts and benefits of the operation. It is also relevant to s 104(2A) in terms of the value of the existing investment as a relevant consideration.

## **APPROACH**

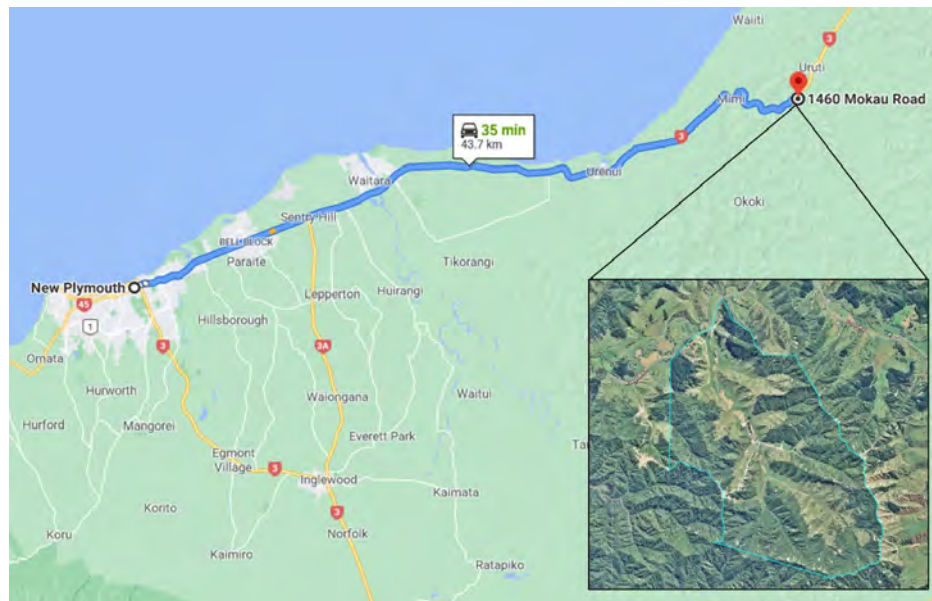
13. Economic assessment of business and other activity is an important part of resource management. There are two aspects to this.
14. The first is the standard “economic” assessment, to examine the role of an entity in terms of the standard metrics of the economy, notably \$ value added (equivalent to GDP) and employment. This is the contribution to economic activity, and is measured in terms of direct contribution, and indirect and flow-on contribution to show significance for other industries. For this, I have applied a quite standard methodology, first establishing the key parameters of the Taranaki regional economy, then examining the role of the plant within that economy, and understanding its significance.
15. The second is the “economy” assessment, to understand the role of an operating entity within the economy. That is in terms of relationships with other industries and sectors, and how the services provided by the entity enable and enhance other business activities. That assessment is important especially when considering an established operation such as the RNZ facility, where one aspect of economic benefits is from avoiding disruption to established activity patterns and interactions. An activity may be significant because it offers specialised services which enable other activities to function efficiently, even if it deals with relatively small shares of those activities, and the economic indicators like contribution to GDP and employment are modest at the regional level.

### **The Uruti Facility**

16. Remediation (NZ) Ltd (RNZ) specialises in organic fertiliser production and sales, processing and converting via vermiculture and composting a wide range of organic waste streams into marketable biological products suitable for agricultural and horticultural land as a fertiliser and soil conditioner. RNZ provides a simple and sustainable waste minimisation method to deal with a range of unwanted organic waste streams, as an alternative to other disposal methods such as landfill.

17. The Uruti plant itself lies within New Plymouth District and Taranaki Region, approximately 2km south of Uruti village<sup>1</sup> (Figure 1). The closest neighbour is over 1.5km from the plant. RNZ also have locations in Bell Block and Brixton for compost and fertiliser sales, and for business management and administration.

*Figure 1: Location of Uruti Composting and Vermiculture Facility*



(Source: TRC Maps 2020, Google Maps)

18. The plant accepts a range of organic waste and drilling by-products in accordance with the resource consent conditions. Through the process of composting and vermiculture, these waste material inputs are converted into soil conditioner and organic fertiliser.

### **Taranaki Economy 2020**

19. The total regional economy is estimated at \$9.8 billion in 2020<sup>2</sup>, up from \$6.9 billion in 2000. That indicates real growth in the order of 1.8% per annum. Over that period, employment increased from 49,100 to 59,600 persons<sup>3</sup>. The regional economy has grown more slowly than the national rate, although the national figure is heavily influenced by the strong growth in Auckland and the northern North Island.

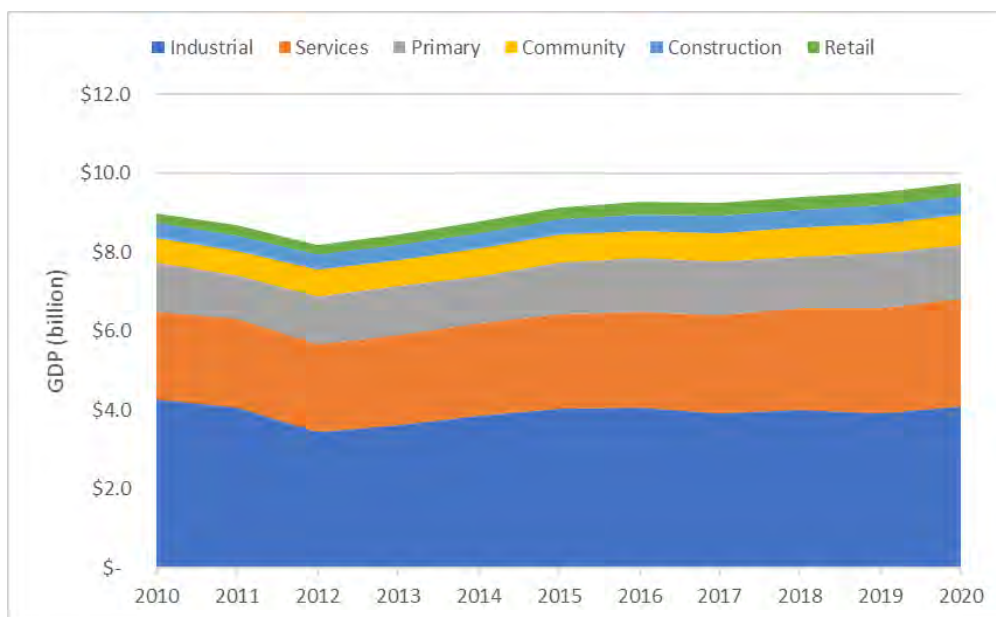
<sup>1</sup> 1460 Mokau Road

<sup>2</sup> Infometrics (2020) Taranaki Economic Profile – GDP measured in 2020 prices.

<sup>3</sup> Measured as the Modified Employment Count (MEC) to include both employees and working proprietors

20. New Plymouth is the dominant city in the region (with two-thirds of regional population), with a network of rural service towns. Taranaki Region's population reached 124,600 people in 2020. Between 2000 and 2020 the region's population grew by 0.8% per annum, a lower rate than national population growth.<sup>4</sup>

Figure 2: Taranaki Economy – Structure and GDP (\$ billion)



21. This context is important to show the scale and nature of the economy in which the Uruti plant operates. Over the period from 2000 to 2012, regional GDP declined to \$8.2 billion. However, the regional economy has been growing consistently since 2012, peaking in 2020 at \$9.8 billion. Figure 2 shows that region's economy has had a relatively consistent structure over the last decade.
22. That said, the signalled decrease in the oil and gas industry highlights the need to grow other sectors. Currently, the oil and gas industry is a major contributor to the economy, accounting for approximately 17% of Taranaki's total GDP in 2020. The region will need to transition from the established structure to a more diverse economy, including high-value activity centred around the skills, knowledge and enterprise. An action plan was launched in April 2018 to boost future economic growth in the region with a commitment

<sup>4</sup> Statistics New Zealand (2020) Subnational Population Estimates.

from the Provincial Growth Fund<sup>5</sup> of up to \$20m with focus on tourism, roading and energy projects.

## **IMPLICATIONS FOR THE TARANAKI ECONOMY**

### **Uruti Facility's Contribution to Economic Activity**

23. I have examined first the facility's contribution to the regional economy, in terms of the dollar (\$) value of goods and services consumed and provided, to show the contribution to the regional economy, and to regional employment. As well as the nature and scale of economic activity sustained by the plant, it indicates the potential loss to the economy if the plant were not able to continue operating. The economic activity generated shows the potential upside of the re-consenting, while the opportunity cost of not re-consenting is the potential loss to the economy.
24. For this, I have utilised StatisticsNZ and proprietary economic data, and models that Market Economics (M.E) maintains. I have estimated the economic role of RNZ Uruti plant according to its direct economic activity as input to the M.E Multi-Regional Input Output (MRIO). model of Taranaki<sup>6</sup> This model allows the calculation of all flow-on effects associated with the direct activity. That includes estimates of the flow on economic activity that is produced in other businesses which supply RNZ (indirect activity) and changes in household spend as a result of incomes generated by the economic activity (induced activity). The model provides results in terms of the key economic metrics: GDP and employment.
25. The economic impacts of the RNZ Uruti plant manifest mainly from its operational activity, as a business within the regional economy. In addition, there are 'upstream' productivity benefits that accrue to farmers and other landowners from use of the fertiliser. The operational impacts include expenditures in the local and regional economies and investment in

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<sup>5</sup> <https://www.growregions.govt.nz/assets/funding-announcements/pdu-dashboard-taranaki.pdf>

<sup>6</sup> Note that the use of the Multi-Regional Input Output model is important in this context as it allows the cross-border flows to be traced and captured in the calculations. Most traditional impact assessment techniques treat these flows as either imports or exports and their effects are excluded. However, it is important that the effects of expenditure in Ashburton that in turn support business activity across the rest of the region, either through direct contracts or the purchase of additional intermediate goods and services, are captured.

infrastructure or facilities, and include the flow on economic activity generated in other businesses that supply the RNZ or its staff.

26. These effects are summarised in Figure 3. The analysis shows that the facility generates some \$1.9m annually in Value Added, most of this in Taranaki Region, with \$0.8m in other regions. Around two-thirds of the impact is direct or indirect, the balance \$0.6m annually, is the induced effect through wages and salaries. That impact represents 0.1% of the Taranaki economy.

*Figure 3: Uruti National Economic Impact – Value Added (\$m)*

Plant Role	Direct & Indirect	Induced	Total	Share GDP
<b>Value Added</b>				
Taranaki	\$ 0.9	\$ 0.2	\$ 1.1	0.01%
Rest NZ	\$ 0.4	\$ 0.4	\$ 0.8	
Total	\$ 1.3	\$ 0.6	\$ 1.9	
<b>Jobs</b>				<b>Share Jobs</b>
Taranaki	11	3	13	0.01%
Rest NZ	5	5	10	
Total	15	8	23	

27. The facility has a similar impact in terms of regional employment sustaining an estimated 13 jobs in total (including 11 direct and indirect) and 23 in total including outside of the region.
28. This structure is as expected, and is in proportion to the scale of the operation.
29. The plant's role is well established within the regional economy, and I would expect its growth to be more or less in line with regional growth.

### **Uruti Facility's Role in the Regional Economy**

30. It is important to understand the context when considering one entity within a regional economy. As of 2020, the Taranaki regional economy has around 15,640 operating entities, employing some 59,650 persons or 3.81 on average<sup>7</sup>. That means the average business entity represents just 0.006% of

<sup>7</sup> StatisticsNZ Business Directory 2021; Market Economics 2021



the total economy. When considered only in percentage terms, an entity may not seem to be significant or even material.

31. That means it is important to also consider the facility's effect from its role in how the regional economy functions. Here the most relevant matters relate to the number and range of businesses to which it provides waste disposal services. These businesses receive costs savings, relative to alternative options (dumping or transporting out of the region) which improves their productivity and viability. I have examined the RNZ information on waste disposal revenues and volumes over the last three years.
32. The facility handles waste streams from a range of businesses, notably manufacturing, the petroleum sector, construction, and 'upstream' waste management services with requirements for disposal of their liquid, solid and other wastes. It serves some 50-70 businesses, mainly in Taranaki<sup>8</sup> and much from around New Plymouth city, and deals with around 13,000 tonnes of waste (mostly solid), 2,500 tonnes (m3) of liquid waste, and 3,000-3200 cm of drill waste, as well as 2,500-3,500 individual waste items, each year. In the future, the facility will no longer receive waste from petroleum drilling operations.
33. This demonstrates that the facility's contribution to the operation of the economy is certainly material. The nature of economies is that business entities are sustainable only as long as they contribute efficiently to the operation of the economy, and their goods and services are valued by other businesses and/or consumers. The Uruti facility has been operating for 20 years. That is a very clear indication of its ongoing material contribution to the Taranaki economy.
34. That is also evident in its customer base, which includes<sup>9</sup> the petro-chemical sector, meat processing, farming including poultry, fruit and vegetable and

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<sup>8</sup> RNZ have a contract with the New Plymouth District Council to compost the city's food scrap roadside collection programme, although a hold-up over consenting has led to food waste from New Plymouth being trucked out to Hampton Downs, rather than being composted locally.  
<https://www.stuff.co.nz/national/116332392/consent-snags-sees-new-plymouth-districts-food-scrap-sent-300kms-north>

<sup>9</sup> Specific names are not shown for privacy reasons.

grain processing and storage, construction and civil engineering, road maintenance and industrial cleaning.

35. The ability to safely dispose of solid and liquid waste is crucial to the whole operation of those sectors. In Taranaki, as in any region, it is critical to be able to deal with waste material volumes generated by the business sector and private households safely and meeting environmental standards while also being in accord with societal expectations. Having sufficient waste management capacity is important for sustaining growth in an economy.
36. The environmental and societal requirements, including in relation to leachates and odours, mean it is often challenging to establish and operate suitable waste management capacity. It is my understanding that potential for negative effects and externalities has been assessed by relevant experts, including with regard to the facility's remote location, and established long term operation.
37. The nature of waste management providing specialist services to a range of businesses across the economy means it is important as business infrastructure, comparable to water and energy supply. A facility that can achieve appropriate environmental performance standards represents regionally important infrastructure providing an essential service.
38. That is the case with the Uruti facility.

#### **Wider Effects within the Economy**

39. I have also considered the facility's wider role in the regional (and national economy) through its support for organic farming and horticultural practices. The move toward organic food production is increasingly widespread. They are a significant share of the primary industry in Taranaki – a 1998 survey indicated that 29% of primary producers were “organic”, and that share is likely to be higher now. The high quality, chemical-free nature of the Uruti plant's organic fertiliser and soil conditioning products makes it attractive to the organic farming industry.
40. There are no direct statistics to show the take-up of organic fertiliser by the primary sector, or the role of the Uruti facility's output in the sector. However,

even minor improvements in the output of organic farming entities would have material effects on the economy, as a broad indication of the potential significance to the primary sector (horticulture, dairy, beef, poultry and other), and assuming organic farming still accounts for 28% of the sector, then a 0.5% improvement in output would generate an additional contribution to the economy of similar magnitude to that of the Uruti facility itself, through additional employment and economic value.

## **SUMMARY AND CONCLUSIONS**

41. From my detailed assessment of the Uruti facility, I consider it has a material impact within the regional economy. Given the plant has been operating for nearly two decades, I consider it is very likely to have a similar or larger impact into the long term, and is likely to grow at least in line with the regional economy.
42. I also consider it has a material role in the functioning of the Taranaki economy, providing important waste disposal services for a range of sectors, and a substantial number of customers.
43. It is an important component of the infrastructure which supports the Taranaki business sector, as well as the wider community.
44. On that basis, I consider that renewing the consents of the plant to enable its continued operation (always subject to the compliance with relevant standards and rules, as addressed by other witnesses) will be consistent with sound resource management principles. This is in relation to the relevant provisions s104(1)(a) and s104(2A) of the Act.

**J D M Fairgray**  
**9 March 2021**