



FROM THE GROUND UP

**Creating a sustainable food and
beverage economy**

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Introduction

Many food and beverage businesses in Tāmaki Makaurau Auckland were adversely affected by the impacts of COVID-19. *From the Ground Up* project aims to assist some of these businesses on their journey toward greater resilience and increased productivity, innovation, and better outcomes, by harnessing specialist expertise and following global best practice.

Started in October 2021, the project was a direct response to the needs and requests of Auckland food and beverage businesses, which continued to face uncertainty and were looking for new pathways towards growth. Through academic research and interviews with key industry stakeholders, we discovered a clear need for businesses to consider innovative business models and value-add products to survive and meet the global demand for New Zealand-made products.

From the Ground Up supports Tātaki Auckland Unlimited's economic development activities, with a focus on sustainable food and beverage innovation and the circular economy. The purpose of this work is to establish frameworks, aligned to four workstreams, that will provide a basis for future initiatives and interventions.

The project aligns with central and local government actions to lower carbon emissions to combat climate change. In Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, Auckland Council has identified the need to grow a low-carbon, resilient food system that provides all Aucklanders with access to low-carbon, fresh and healthy food.

Project outline and aims

From the Ground Up consists of four workstreams:

- 1. Onehunga:** Identify activations for the Onehunga community that support urban renewal, focusing on seafood and the circular economy.
- 2. Mussel Farming:** Create a strategy for the development of mussel farming in Clevedon, connecting Onehunga and The Coromandel, with a focus on sustainable growth.
- 3. Sustainable Seafood Initiative:** Create inter-regional alignment with a focus on sustainable growth and collaboration between the seafood sectors in Auckland and The Coromandel.
- 4. Potato Starch Proposition:** Assist Earthpac, an Auckland business manufacturing an environmentally sustainable alternative to single-use plastic trays, as an opportunity for businesses in the sector to create new value by harvesting waste streams and moving towards a circular economy model.

Opportunities

**THROUGH BRIDGING CULTURES AND BUILDING COMMUNITIES,
THIS PROJECT HAS IDENTIFIED OPPORTUNITIES FOR FOOD AND
BEVERAGE SECTOR GROWTH IN THESE KEY AREAS:**



Innovation in
the value-add
sector



Developing a strong
collective narrative
around local food



Community
development through
food & beverage
activations



Sustainability &
circular economy
principles in the
seafood sector



Stakeholder
partnerships to
deliver a high-
value proposition

Project team

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Tātaki Auckland Unlimited – Tāmaki Makaurau Auckland’s economic and cultural agency, committed to making our region a desirable place to live, work, visit, invest and do business. As an Auckland Council-controlled organisation, Tātaki Auckland Unlimited delivers a coordinated, region-wide programme to maximise cultural, social and economic benefits for our residents and visitors. Driving investment and innovation, Tātaki Auckland Unlimited supports Auckland businesses to thrive.

ESP Culinary Consulting is owned and operated by Eric Pateman, one of the world’s leading consultants and strategists in the food and beverage sector. Eric combines his background as a chef with an MBA in Finance and international experience in more than 100 countries. With COVID-19 and the disconnect this brought to the rest of the world, Eric’s expertise as a global industry leader has enabled the *From the Ground Up* project to put a wider lens on the issues facing New Zealand as we seek to re-establish our links with the rest of the world.

Workstream 1: Onehunga

With a deep connection to the Manukau Harbour, Onehunga Wharf was acquired by Auckland Council as part of a vision to improve connection with the town centre and transform the area into a new community with homes, cafés, and a retail space that would retain its seafaring history and spirit. Onehunga has a rich heritage and is one of Tāmaki Makaurau Auckland’s earliest suburbs developed around a working port on the Manukau Harbour.

Growth and development in Onehunga

Eke Panuku Development Auckland, the Council-controlled organisation that delivers urban regeneration in Auckland, identified Onehunga as an ideal location for development. It was chosen for several reasons, including its proximity to the Manukau Harbour, Tāmaki Makaurau Auckland’s city centre, and Auckland Airport, making it a prime location for commercial and residential investment. Eke Panuku is integral to supporting and facilitating the growth and development of Onehunga.

The Onehunga Business Association (OBA) represents over 400 local landlords and businesses within the Onehunga Business Improvement District (BID) area. With the key function of promoting and developing Onehunga’s shopping and business centre, its members liaise and engage with Auckland Council, the Maungakiekie-Tāmaki Local Board, and other authorities to advocate on behalf of their members for the economic development of the area. As such, they have a keen interest in the significant investment and improvements planned for Onehunga.

“We want to see the Port of Onehunga developed to provide a vibrant market environment that benefits and attracts locals in Auckland’s south, as well as visitors from the wider Tāmaki Makaurau region, New Zealand, and the world.”

**Peter Gibson, Chairperson,
Onehunga Business Association**



From the Ground Up identified the need for synergy between key stakeholders so we can collectively work toward greater outcomes that leverage strengths already existing in the area to support the development of a sustainable food and beverage economy.

PROJECT AIM

The aim of this workstream is to identify activations and initiatives that focus on seafood, circular economy, to support the urban renewal of Onehunga.

KEY STAKEHOLDERS

<p>Onehunga Business Association</p>	<p>Amanda Wellgreen, Onehunga Town Centre Manager Peter Gibson, Onehunga Business Association Chairperson</p>
<p>Eke Panuku Development Auckland</p>	<p>Richard Taylor, Priority Location Director, Isthmus</p>

KEY LEARNINGS

The project team interviewed key stakeholders and reported these key learnings.

Onehunga Business Association (OBA)

- There is a need to reflect the history of the Manukau Harbour – and all the peoples who have been part of its history and will be part of its future – by reconnecting the communities of the Manukau Harbour through public access to Onehunga Wharf.
- There is a history of delayed projects and disconnection from the water due to the placement of the motorway.
- The OBA’s geographical boundary is to be extended to include the area towards the Onehunga waterfront.
- The OBA organises a series of events throughout the year to promote Onehunga, which may include:
 - Onehunga Festival
 - Culinary Crawl
 - Light-Up Onehunga – a celebration of Matariki and winter
 - The Toi Onehunga pop-up art gallery

Eke Panuku Development Auckland

The Onehunga Wharf was initially earmarked as mixed-use area, however, it has been determined that this is not feasible due to high infrastructure costs, rising sea levels due to the impact of climate change, and the East West Link - which will create a significant development challenge due to the requirement to potentially reconfigure all access routes to the wharf.

- Eke Panuku is currently working on an updated business case, the results of which are expected to be shared publicly late 2023.
- Despite the challenges of mixed-use development at this site the aspiration to provide some form of public access and public space in the Wharf Precinct remains. A more patient approach to development will likely be required which, if funded, would be delivered as a series of smaller staged projects rather than one big scheme.



- The immediate focus of the Transform Onehunga programme are the town centre blocks.
- Several major new projects are planned for the Onehunga town centre precincts in the coming years, including residential and commercial developments, exciting new public spaces, and improved streets and laneways that will make Onehunga one of Auckland’s most liveable neighbourhoods.
- A walking and cycling connection between Onehunga Wharf and the town centre is also planned, in response to the strongly expressed desire of the Onehunga community for a safe pedestrian link between the town centre and the Manukau Harbour and the Ngā Hau Mangere bridge.
- A major expansion of Dress Smart, the town’s retail complex, is planned, including new shops, dining options, improved carparking and a new opening onto Onehunga Mall, and a new supermarket is proposed.
- Eke Panuku is also working with the Onehunga Business Association on its plans for the revitalisation of Onehunga and is open to working with 'From the Ground Up' project team on activations and longer-term opportunities to enhance Onehunga and its regional destination appeal further.

RECOMMENDATIONS

We have identified a number of activations and initiatives to assist the transformation and urban renewal of Onehunga. These have long-term benefits but are also able to be implemented while awaiting approval for other urban renewal work.

The recommendations are based on key learnings and international best practice and are split into:

Short-term activations (1-12 months)

Medium-term activations (2-3 years)

Long-term activations (3+ years)

Short-term activations (1-12 months)

Initially, we suggest a focus on small-scale activations that continue to build community and business camaraderie, leveraging current activity led by the Onehunga Business Association.

The following activations are models that could be replicated or serve as a framework.

[Captain Kai Moana](#), Dury: The Captain Kai Moana food truck is the brainchild of Karim White. Currently based in Drury, Captain Kai Moana brings affordable and delicious kaimoana to the people. This 'boat on wheels' serves classic Kiwi seafood dishes at affordable prices and [has a huge community following](#).

Gather and Roam HQ, Whangamatā: This initiative by well-known Auckland Chef Simon Wright utilises a food truck within a warehouse space to provide a link between indoor dining and a transportable food delivery station. Set in an industrial park with outdoor dining, the venue also places food and beverage within an industrial setting and references the coastal aspect of Whangamatā.

[Saint Peter, Fish Butchery](#) and [Charcoal Fish](#), Australia: These initiatives by Chef Josh Niland include a restaurant, a fish butchery and a grill, respectively. This provides a perfect example of how various aspects of accessing fish and seafood can be integrated into a dining and retail

experience serving fish and seafood from sustainable fishers.

[Flavours of the Sea initiative](#), Belgium: This initiative works with the [North Sea Chefs](#) to promote sustainable fishery products from the North Sea, with a focus on using lesser-known fish and making use of the whole fish. The chefs take great pride in working with what local fishers catch but also work with bycatch, fish that are netted by ships by accident when other types of fish have been caught.

Flavours of the Sea supports increasing consumer demand for fish provenance and freshness. Chefs and restaurateurs are positioning the Belgian Coast as a contemporary destination with great options for local gastronomy through an innovative campaign that aims to highlight the work being done at the Belgian Coast to promote sustainability.



PROPOSED EVENT FOR ONEHUNGA: ANNUAL SEAFOOD FESTIVAL

Creating a sustainable seafood festival that brings together food, live music, and storytelling around kaimoana holds multiple benefits to the Onehunga community. This could be a stand-alone event or integrated with the annual Onehunga Festival. Activities could include:

- cooking demonstrations featuring local chefs using freshly caught seafood and products from Onehunga businesses
- market stalls with local food and beverage providers
- storytelling by iwi elders about the local history and the connection between Onehunga, the Manukau Harbour and seafood (including the history of Onehunga settlement, the connection from Onehunga to The Coromandel, and the regeneration of the bay)
- a Kai Ika booth educating the community about seafood sustainability
- a sponsored dinner educating the community about circular economy and food waste in support of Everybody Eats.

International examples of similar festivals include:

- [Prince Edward Island International Shellfish Festival, Canada](#): Operating for 25 years, this event includes

demonstrations, cooking competitions, live music, and the Shellfish Pavilion of food offerings from local vendors. The 2022 kick-off dinner featured food from several nationally regarded chefs and was sold out months in advance.

- [Maine Lobster Festival, United States](#): This internationally recognised celebration of local seafood attracts visitors from around the world and features food, a seafood cooking contest, arts and crafts, entertainment, children's events, races, and a parade.
- [Narooma Oyster Festival, Australia](#): This festival unites growers, chefs, producers, and the public in a celebration of the oyster as well as sustainable fish and shellfish, abalone, urchins, kelp, dairy and olives. Attendees can enjoy an oyster bar, food stalls, markets, shucking, a cooking programme, and fireworks.
- [Galway International Oyster and Seafood Festival, Ireland](#): The oldest oyster festival in the world is home to the Irish and world oyster shucking championship, and includes entertainment, street parades and seafood trails. The festival has been included in the AA Travel Guide as one of Europe's Seven Best Festivals; The Rough Guide's '50 Things to do before you die', and dozens of respected travel and food publications.

Medium-term activations (2-3 years)

Medium-term initiatives should leverage the short-term, community-building activations, but with more of a focus on building capability and resilience around the sustainable food and beverage sector in Onehunga.

Incubator & education facility

Development of a Māori food incubator/education facility in the Onehunga town centre or on the waterfront, working with Māori food producers to develop new products using native ingredients and seafood, providing a new take on traditional recipes. This would provide a unique opportunity to enhance the profile of traditional Māori kai but with a modern twist, creating a new generation of 'food-preneurs'.

An industry-supported education facility

Development of an industry-supported education facility to teach filleting, seafood conservation and the use of baitfish and bycatch in culinary preparations. The following international examples could provide ideas and frameworks for such an initiative.

- [Indigenous Centre for Innovation and Entrepreneurship, Toronto, Canada](#): A space designed to give the Indigenous community an opportunity to explore their entrepreneurial aspirations by providing space, business programming, advisory services, mentorship support, shared co-workspace, community event space, and connections to business networks.

- [The Circle First Nations Entrepreneur Hub, Adelaide, Australia](#): Established in partnership with the Australian Government and the South Australian Government, this organisation assists the South Australian Aboriginal Business Sector with support to build business through increased connections, capacity, capability, and confidence. The Circle team works with business owners one-on-one, providing tailored business support, solutions and referrals to a range of experts and opportunities to meet business needs.



Long-term activations (3+ years)

The proposed concept for a longer-term activation supports an intention of Eke Panuku to establish a capital programme for enhancing the existing Onehunga Wharf to support urban renewal. Subject to site structural challenges being resolved, this proposed concept includes establishing a commercial fish market and an eatery at the wharf. A formal proposal could be modelled on elements of the following international examples.

[Granville Island, Vancouver, Canada](#): Opened in 1979, Granville Island has been named one of the top urban renewal projects in the world, attracting millions of people each year from around the world. It is perhaps the best example of utilising obsolete industrial

waterfront assets for successful rejuvenation projects, transforming a derelict industrial port complex located in an urban, waterfront location in Vancouver into a vibrant hub that encompasses fresh food and beverages, marine transportation, leisure, and tourism. Its famous

Public Market is home to more than 50 independent food purveyors and contributes to the island's appeal as a renowned culinary destination. The market is complemented by the Net Loft Shops and Railspur District, which feature many of Canada's best artists, craftspeople and designers. Granville Island is also home to many cultural venues and hosts numerous performing arts and cultural festivals year-round. For Granville Island, there is a continuous programme of activities throughout the day to ensure foot traffic.

The focus is on the Public Market, which drives the bulk of the revenues and the traffic demand for the whole island. Lease rates are subsidised for artists and educational facilities, while market tenants pay street rates or a percentage of sales, due to the volume of traffic.

Common area costs to manage an island like this are very expensive. The island is on federally owned land and managed by a government entity, and we would recommend a similar model for Onehunga. The island aims for \$1 million in profit annually, welcoming more than 10 million visitors a year.

The key to the success of this type of initiative is continuous innovation. In past decades, there was a loss of focus on the area and Granville Island lost some of its appeal as a local destination. They are now focusing on correcting this and incorporating innovation hubs, food incubators and food districts.

[V&A Waterfront, Cape Town, South Africa](#): A 123-hectare mixed-use property containing 22 heritage sites and a wide range of activities, from shopping and dining to



leisure and family entertainment, all set in the midst of a bustling working harbour, with Table Mountain as a backdrop, and views over the city of Cape Town and the Atlantic Ocean. There are over 450 shops, more than 80 restaurants and a wide range of other activities for visitors.

[Pike Place Market, Seattle, United States](#): One of the oldest and largest continuously operating public markets in the United States, Pike Place Market is brought to life by the hundreds of farmers, crafters, small businesses, and residents that call it home. The market is managed by the Pike Place Market PDA, a non-profit organisation seeking to preserve, rehabilitate, and protect the Market's buildings; increase farm and food retailing opportunities, incubate and support small and marginal businesses; and provide services to the community of senior and low-income residents, farmers, and small businesses.

Conclusion

This project has identified activations that can be enabled in the short term, while the finalisation of the Onehunga revitalisation master plan is pending. These activations will unite the artistic community, local residents and small businesses of Onehunga, and develop a narrative around Onehunga that leverages the inherent food and beverage offering provided by the presence of the wharf, to draw in a wider geographic scope of visitors.

We have worked closely with the Onehunga Business Association to support its vision for the urban renewal of Onehunga community. With the major aspiration being to work towards a Granville Island-style development, our recommendation to the Onehunga Business Association is to develop stepping-stone activations in the interim, that work towards the strategy's long-term goals.

Workstream 2: Mussel Farming

Aotearoa New Zealand has a long history of both seafood-related entrepreneurship and culinary creativity, particularly in respect to mussels. This piece of work focuses on sustainable seafood innovation, including mussels, seaweed, and other prospects for developing value-add products.

PROJECT AIM

The aim of this workstream is to outline a strategy for the development of mussel farming in Clevedon, with a value-add focus, connecting Onehunga and The Coromandel. Specifically, this includes linking the Onehunga Wharf, with its connection to the sea and early Māori seafood gatherers, and the developments of Kōpū and Te Ariki Tahi/Sugarloaf wharves in The Coromandel. Clevedon lies between Onehunga and The Coromandel and is an area with an established aquaculture industry in the form of mussel and oyster harvesting.

We interviewed key stakeholders and compiled key learnings and recommendations, supported by international best practices identified by ESP Culinary Consulting and backed up by the academic research supporting this project.

RESEARCH BACKGROUND

Professor Nathan Berg of Otago University conducted academic research to identify a shortlist of the most promising avenues for New Zealand to grow the sustainable seafood industry, with a primary focus on aquaculture and seaweed production.

Professor Berg specialises in behavioural economics and teaches microeconomics, financial economics, and econometrics. He is a member of the International Social Council (United Nations) Food Futures Network and has published 15 new scholarly works.

Thirty-six interviews were conducted with selected individuals, who have an intimate knowledge of sustainability regarding New Zealand's seafood industry and marine ecosystems, food innovation and new product development, products that use mussels or other bivalves in their production, and products that use seaweed.

Interviewees were categorised as: Group A - ecologists, scientists, marine biologists and non-government organisations; Group B - small producers or other industry participants focused primarily on start-ups and SMEs; and Group C - large producers or other industry participants focused on large corporates, national aquaculture and/or export growth strategies. Multiple interviewees with iwi affiliations were included in all three of the categories.

The academic research also investigated circular economy opportunities to reduce mussel waste and utilise mussel shells in other industries. This aligns with other circular economy work across multiple sectors and addresses the need to reduce waste and meet net carbon-zero targets.

The project team also worked with Fabian Steele, a mussel farmer originally based in Clevedon, but who has more recently been working at Kōpū in The Coromandel as he rebuilds his business post COVID-19. Fabian has worked in all facets of the industry, from producer to marketing product overseas to 'playing' with value-add product to increase the domestic market appetite for green shell mussels.

"Things have changed in the sector over the last few years and the future lies in value-add," says Fabian. "If things do not change in the industry, it will be burned. The sea is getting warmer, and mussels are not growing. There is a need for the industry to do something and do it fast."



KEY STAKEHOLDERS	
Thames-Coromandel District Council	Laurna White, Community Outcomes Group Manager Mitch King, Economic Development Lead
Clevedon and Thames-Coromandel Mussel Farmers	

KEY LEARNINGS

The research uncovered a number of learnings from key stakeholders that have helped form recommendations to achieve sector growth.

The *From the Ground Up* project team travelled by barge out to the mussel farms in The Coromandel to learn about the ecosystem that supports the mussel farms and the impact on these due to weather, warming waters, and increased urban development.

While snapper are plentiful around the mussel lines, it is not easy to get fresh fish on local menus in the area. Aucklanders visiting The Coromandel do not currently have the opportunity to enjoy daily catch prepared by a chef in a local restaurant. Many of the Coromandel restaurateurs spoken to indicated that most of fish on their menus came from a central hub (sometimes in Auckland), rather than directly from the wharf and local fishers. This is partly due to quotas being amalgamated, and thus restaurants having to rely on catch from commercial fishers.

Thames-Coromandel District Council (TCDC)

Increased marine protection to ensure sustainability and future supply is vital.

- Small local fishers in The Coromandel were once able to sell fresh fish but are now prohibited from doing so, with a maximum total levy of 10kg per day.
- The TCDC is focused on how much the farmed aquaculture industry contributes to the district socially and economically, and what infrastructure the council can support to enable the industry to thrive?

Clevedon & Thames-Coromandel mussel farmers

- There is significant opportunity for the development of a seafood innovation facility for value-added seafood products.

- A huge opportunity exists within the value-add sector through product differentiation. Products such as half-shell raw frozen oysters have high potential for the export market and require the establishment of a development centre.
- Opportunity also lies in further research and development, and in marketing and branding of local and complementary products such as mussel tamales and seaweed products.
- It would be great to see more ventures like [Open Ocean Whakatōhea Mussels](#), an open ocean mussel farm centred around Ōpōtiki. This is an inspiring example of community and commercial benefits aligning, with its facilities employing local families and delivering product to consumers the day after harvesting. Support from iwi, businesses, government, and shareholder investment helped the venture to scale up.
- Most mussel farms are running at around 70% capacity, due to challenges with nutrient flow resulting from the warmer waters. This has also affected spat growth.
- To mitigate the requirement for intensive mussel farming, mussel farmers have expressed a need for farm expansion. This would help generate a higher-quality product and help them keep up with demand.
- Mussel farmers are facing higher costs due to increased fuel prices, loss of product incurred during growth, and inclement weather resulting in an inability to harvest.
- Timely resource consent is the top concern of most farmers spoken with.

Academic research findings

Increasing the proportion of seafood in the domestic market's protein consumption is feasible and would bring numerous health benefits to consumers associated with eating fish and other seafood, such as brain, eye and heart health.

- On-board digital tech has great promise in increasing the freshness, taste, and waste profiles of commercial fishing, while using price signals to better coordinate economic decisions with environmental costs directly reflected in prices.
- Seaweed and fish waste can be used as bio-stimulants that are applied to seeds, plants and soil to influence plant growth. AgriSea and Ocean Organics are among a group of New Zealand firms growing this sector.
- There is continuing growth among New Zealand's already formidable producers of mussel and seaweed containing nutraceuticals.
- Further government support is needed to help finance:
 - regulatory guidance for food start-ups
 - the consent process for marine farms
 - further economic research to measure consumer preferences, learn more about demand for novel products, and quantify the potential size of domestic and export markets
 - research and development of education and influencer campaigns aimed at the domestic market.
- According to farmers, there is little to no wastage in the sector: any unsold or damaged mussels (for example, those with cracked shells) can be turned into mussel powder, which has a shelf life of at least one year. Research shows that there is not currently an oversupply of mussel powder, although some may be stockpiled by certain producers.
- The shell represents approximately 70% of a mussel's total weight and creates a large volume of waste, some of which currently goes to landfill.
- There is an opportunity to achieve circular economy efficiencies by using the shells in medicines, fertilisers, animal feed and water treatment.
- New Zealand's mussel sales have levelled off and there is increasing competition from Thailand and Chile. The domestic market is also not as strong as it once was.
- The oil and powder segments of the sector are showing strong [growth](#) and there is increasing value for supplements and other health products. Mussel powder, mussel oil, and seaweed (macroalgae) are all mentioned in the Government's [Accelerate the Aquaculture Strategy: Investment Roadmap](#) as fledgling industries with great potential. Marine farms block trawling and other potentially damaging activities in the marine environment, thereby providing a regulatory service that protects other marine life (NIWA, 2019).



- The full academic research paper ‘Sustainable Seafood Innovation: Mussels, seaweed and other prospects for value-add’ by Professor Nathan Berg, Department of Economics, Otago Business School is found in [Appendix B](#).

ESP Culinary Consulting

- There is an opportunity for greater representation by iwi at all levels of the mussel industry, including storytelling around kaimoana.
- There are current discussions and research into the potential of multi-tier aquaculture opportunities, where existing farms could add layers of seaweed on top, potentially fin fish (snapper or kingfish), and sea cucumbers under the mussel lines. The latter would provide an opportunity to consider new products for consumption and for export to Asia.
- One of the challenges with increased production and innovation facilities is staffing shortages. [Sandford noted in its Q1 2022 report](#) that domestic supply was down due to the inability to staff facilities distributing product domestically.
- While there is increased competition within the international marketplace for mussel powder, oil and frozen half-shell product, New Zealand enjoys a competitive advantage over suppliers of black shell mussels due to superior size and nutritional composition. New Zealand mussels offer increased levels of antioxidants, omega-3 fatty acids, zinc, iron, and selenium.
- There is a significant opportunity to increase domestic consumption by creating the right marketing and narrative around the mussel industry and its benefits to the local ecosystem, for example, by providing recipes and cooking techniques that go beyond those already used (such as mussel fritters and steamed mussels).

- Shipping costs (especially air and frozen shipping containers) have more than doubled in price in the past 18 months and are having a detrimental impact on profit margins. These costs are not expected to decline in the coming year(s), so looking at adding more value to the product will allow for improved profitability within the sector.
- Most of the mussel harvest is used to supply frozen half-shell products to export markets. Generally, these are cooked, frozen and left plain. There is scope to increase this value-added segment by looking at new product ideas, which could include pre-flavoured mussel kits, frozen smoked mussels, mussel tamale, and mussels as part of meal kits (such as stir fry and fried rice).
- The value proposition of processing provides more than double the value of simply selling at a fresh commodity level, and this could be increased even further with more specialty products and flavours.

RECOMMENDATIONS

While there is already a substantial number of sustainable seafood innovators in the Auckland to Coromandel region and wider New Zealand, increased support for the sector will provide a strong prospect of achieving greater ecological, cultural, and commercial success.

This is particularly so in respect to mussels and seaweed.

Different kinds of innovators across the sector are looking for different forms of additional support, increased investment, and support to simplify, clarify, and reduce the costs of satisfying regulatory requirements.



To achieve sector growth, we recommend increased government collaboration and support in three key areas:

1. Incubator & education facility

- Further economic research to measure consumer preferences, learn more about demand for novel high-value-add products, and to quantify the potential size of domestic and export markets.
- Increased investment in R&D to support the development of new value-add products, reducing the sector's reliance on commodity markets, leading to job creation, and the improvement of the region's economic prosperity.
- Culinary created and prepared seafood-ingredient-containing products, chowders, seasonings, and other products to showcase a uniquely New Zealand cultural expression.
- Wider opportunities include multi-tier aquaculture, mussel and seaweed-containing nutraceuticals and other health products, mussel oil and powders, utilising seaweed and fish waste in biostimulants as low nitrogen complement or substitute for synthetic fertiliser.
- Use of mussel shells in medicines, fertilisers, animal feed and water treatment to achieve greater circular economy efficiencies.

- On-board digital technologies that increase the freshness, taste, and waste profiles of commercial fishing, while using price signals to better coordinate economic decisions with environmental costs directly reflected in prices.
- Support the creation of a seafood innovation centre located in the Auckland to Coromandel region.

2. Raising local awareness of seafood products

- Appropriate marketing activities and strong narratives around the products and industry, particularly with respect to mussels, to increase domestic consumption of locally produced seafood.

3. Increased marine protection to ensure sustainability and future supply

- Mussel beds and other aquacultural activities centred around bivalves benefit the waterways by filtering and cleaning them, and [can be used where possible, to clean up polluted areas](#) as has been seen recently in Auckland's Hauraki Gulf.
- This would mitigate the requirement for intensive mussel farming and help generate a higher-quality product and keep up with demand.
- Improving the consenting process for marine farms would, for example, help make the complexities of adding seaweed production to an existing marine farm more affordable.

Conclusion

Mussel farming in New Zealand is currently below capacity due to warming waters, increased shipping rates, potential over supply, and the lack of labour. The key to unlocking the industry's potential is identifying and creating value-added products and conducting market research to evaluate the best economic use of mussels.

Various industry sources identified a significant need to focus on the value-added sector to reduce the reliance on commodity prices. There is the opportunity to develop value-added products if processing facilities were developed in The Coromandel, Clevedon and Onehunga. There is also an opportunity to highlight the environmental benefits of bivalves, and to tie this into industry storytelling.

Workstream 3: Sustainable Seafood Initiative

The Sustainable Seafood Initiative workstream focuses on creating cohesive, inter-regional development for seafood innovation. How can the geographical and economic relationship between Onehunga Wharf, Clevedon, Kōpū Wharf and Te Arika Tahī/Sugarloaf Wharf in The Coromandel contribute to the growth and development of each region through collaboration around shared learnings, resources, and research? It is also important to identify this relationship and the value it brings to the New Zealand economy for long-term value via innovation and collaboration.

PROJECT AIM

The aim of our investigation is to support a strategic shift for the seafood industry from a state of regional fragmentation to a state of regional cohesion.

The objective of the research undertaken by Professor Nathan Berg of Otago University, which forms the basis of this report, was to identify a shortlist of the most promising ways for New Zealand to grow an industry that harmonises ecological, social, and commercial objectives and complements the government's [Aquaculture Strategy to 2025](#).

From the Ground Up team also tapped into the expertise of ESP Culinary Consulting, whose knowledge of global seafood innovation helped form key recommendations for this workstream.

Future focus

The Thames-Coromandel District produces at least 30 per cent of the country's aggregate tonnage of green lipped mussels, with the aquaculture industry contributing over \$70 million to the district's economy per year. The government has set a target for New Zealand's aquaculture industry to become a \$3 billion industry by 2035 to meet the world's demand for sustainable food protein.

The government's Aquaculture Strategy has committed to making substantial investments in the sector and is targeting growth in the aquaculture industry. Iwi are already major owners, operators and producers of shellfish aquaculture (for example, Moana, Sealord and Ngāi Tahu Seafood) and can be expected to play a major

role in deciding how aquaculture will develop in the coming years.

The farmed aquaculture industry is a significant contributor to The Coromandel's economic and social well-being. The development of and investment in the Kōpū and Te Arika Tahī/Sugarloaf Wharves strengthens The Coromandel's position in Aotearoa's seafood/aquaculture industry.

The Coromandel remains one of the most popular getaway destinations for Aucklanders, and the contribution this makes to the local economy was evident during the '100-day' Auckland lockdown due to COVID-19 in 2021. The lockdown had a roll-on effect on The Coromandel's local economy and businesses, with the lack of visitors and weekend residents forcing many to reduce opening hours and staffing, or in some cases even closing.

The Coromandel's coastal setting and its proximity to Auckland provides an opportunity to develop a 'seafood culinary focus' that would add to the region's attractiveness as a destination to 'escape to'; away from Auckland's more intense business-focused lifestyle. While the Whitianga Scallop Festival is in hiatus due to a rāhui on scallops, menus around the district could feature local fish, oysters and mussels, with the latter featuring creative alternatives to steamed or marinated mussels and elevating a common, but readily available, product to gourmet status.

KEY STAKEHOLDERS

Thames-Coromandel District Council

Laurna White, Community Outcomes
Group Manager
Mitch King, Economic Development Lead

KEY LEARNINGS

The major finding from the overall research data is that there is already a considerable number of sustainable seafood innovators across New Zealand. There are significant opportunities to achieve ecological, cultural and commercial success, and innovators are already investing in substantial intensities of R&D and new product development.

Different types of innovators are looking for different forms of additional support, most of which focus on simplifying, clarifying, and reducing the costs of satisfying regulatory requirements. Innovators would like the public to understand and connect with the potential ecological, cultural, and commercial value that food and seafood product innovation can generate. These values are intrinsically linked – ecological and cultural benefits improve commercial success and product value.

ESP Culinary Consulting

- New Zealand is one of the only countries in the world that is surrounded by water, and with a

thriving fishing industry, where you cannot buy fresh locally caught fish from a boat, access it in a plethora of restaurants, find it in retail channels, and celebrate it in coastal towns.

- There is a need to create a cohesive, proactive strategy for the region that addresses areas such as increased local consumption, the creation of jobs, innovation, and incubation of new businesses focusing on value-added products. This would help create employment in sectors such as processing, distribution, retail, fishing, and tourism.
- With the development of shared regional processing facilities, similar to abattoirs, the fishing and aquaculture industries could be far more innovative and provide fresh catch and value-added products to the domestic market.
- The development of a regional seafood alignment will result in a much more efficient retail and distribution network that allows for local fishers to gain increased value for their catch.

RECOMMENDATIONS

Given New Zealand's surrounding waters and thriving fishing industry, visitors assume they will have easy access to fresh, local seafood, however, this is not currently the case. Coordinated and proactive initiatives that address this issue will significantly improve the destination marketing story and boost visitor satisfaction.

1. Working together, the Coromandel and Auckland regions have an immense opportunity to set themselves apart from the rest of New Zealand, and global seafood communities in general, if they adopt a strong focus on high-value, high quality seafood that tells a uniquely New Zealand story.

- One organisation already doing this is Gravity Fishing. Gravity Fishing is a non-profit organisation established by quota owners, annual catch entitlement (ACE) holders and fishers to work together to advance their interests in inshore finfish, pelagic, and tuna fisheries. They ensure that New Zealand gains the maximum economic yields from its inshore fisheries resources, managed within a long-term sustainable framework. Their mission is to provide dynamic and transparent leadership, inform decision making and actively engage with their members, officials, and other stakeholders. They collaborate with the government to ensure improved fisheries management, undertake fisheries research and stock assessment programmes, implement and monitor fisheries management programmes, and manage and minimise environmental impacts.

- Using hand-harvested or premium treated seafood, both prime catch and underutilised species, would create a demand from both export buyers and local chefs who want to showcase the best of New Zealand. An example of this is the work undertaken by Southern fisherman Nate Smith. His mission is to ensure the sustainability of inshore fishing and harvests fish to order, using hook and line, and killing fish using the humane Japanese Ikijimi method - fish that then goes directly to the customer. This approach supports an improved narrative on quota sustainability and provides a unique selling proposition for the industry in terms of global leadership.

2. Focus on improving protection of waterways. A Marine Protection Report released in May 2022 revealed that New Zealand has similar levels of protected waters to countries like China and Russia (less than 2%), whereas more than 30% of Australia's waters are protected.

3. Implement a commercial sustainability and certification programme that looks at both commercial and recreational fishing. The closest organisation currently operating in New Zealand is FishCare. FishCare promotes best practice techniques to help recreational fishers reduce their impact on our inshore fisheries. Examples of global best practice include:

- [Ocean Wise, Canada](#): protecting and restoring marine species for ocean health and sustainable food sources.
- [GoodFish, Australia](#): Australia's Sustainable Seafood Guide is a comprehensive guide aimed at helping restaurants and food businesses embrace seafood sustainability.
- [Marine Stewardship Council, United Kingdom](#): an international non-profit organisation that recognises and rewards efforts to protect oceans and safeguard seafood supplies for the future.

4. Make changes to the quota system that allow for seafood (especially fin fish) to be sold locally without having to go through a processing facility.

5. Overcome challenges with quota and availability with local fresh fish in all regions. Small local fishers in The Coromandel were previously able to sell fresh fish but are now prohibited from doing so with a maximum total levy of 10kg/day. This has resulted in amalgamating individual quotas and selling to large fishing companies. This limits involvement in the industry and the opportunity to tell the story around local seafood.

6. Around the world, business and industry are looking at significant opportunities with seaweed (both land and ocean-based systems) for new edible products, plant-based alternatives, fertilisers, and methane reduction among other initiatives.



7. Create a compelling narrative for Auckland, The Coromandel, and New Zealand (both domestically and internationally) around the seafood industry, with a focus on the quality and uniqueness of New Zealand seafood, and celebrating the rivers and oceans, the fish stocks, and our unique geographic positioning. This will drive increased domestic and export sales, create employment, engage local iwi, and encourage both investment and visitors to New Zealand. Additionally, a thoughtful education and marketing plan engaging all layers of the sector's economy will help drive domestic demand, and could include chefs, retail chains, fishers, educational facilities from primary through to trade school, and national social, print, TV, and radio media.

8. Globally, there is a huge push for the use of baitfish and bycatch on menus and in retail channels. With the variety of fish species off the coasts of New Zealand, and the lack of diversity in harvested seafood, there is a significant opportunity for more education, marketing, and a specific catch focus. This could include an education programme for both the public and seafood retailers on using underutilised species and ageing fish, how to cook them and their health benefits, as well as providing more support and product availability for restaurateurs.

- An international example is the Marine Stewardship Council's ambassador Fabrizio Ferrari. One of the leading seafood chefs in Italy, Ferrari's restaurant

Al Porticciolo 84 was the first restaurant in Italy to obtain the Marine Stewardship Council's Chain of Custody certification. Several years ago, he learned that some of the seafood products he was using on his menu were overfished, so he swapped them out in favour of some lesser-known but more sustainable fish. He believes that the sourcing of sustainable seafood is becoming a valuable marketing differentiator that customers will expect from the hospitality industry. There is opportunity for New Zealand to select key locals to become ambassadors and advocates for the local seafood industry.

- A working group could be set up in collaboration with parties such as Te Puni Kōkiri (TPK) to identify Māori community members and leaders to help bridge communities and bring change to the seafood sector.

9. As previously identified in the Onehunga workstream, waterfront locations can be developed in a way that celebrates the proximity to the ocean and its resources, thereby creating a platform for education initiatives. One of the most prominent opportunities for a waterfront activation is within the Auckland city centre. There are underutilised real estate assets in the Viaduct Harbour area, including vacant buildings and land, which could be used to activate a barge-based park and an oyster bar, an educational facility, or a Māori culinary incubator.

Conclusion

Visitors to Aotearoa New Zealand expect to be able to enjoy fresh, sustainable seafood in waterfront areas. However, changes are required to improve access to fresh local product, sustainability, or waterfront development to make that a reality.

Seafood can and should be a key part of the New Zealand culinary story. A sustainability certification programme, more educational resources, working with designated seafood ambassadors and Māori, and broadening the focus to include a greater variety of baitfish and bycatch products are just some of the ways to make that happen.

Additionally, reducing red tape for small businesses in the field can ensure they are incentivised and able to keep products available for visitors and locals rather than just for export.

Workstream 4: Potato Starch Proposition

This workstream sought to assist Earthpac, an Auckland business manufacturing an environmentally sustainable alternative to single-use plastic trays. Earthpac trays are made from 100 per cent home-compostable potato starch, made by compression-moulding waste material collected from potato manufacturing processes.

PROJECT AIM

The aim of this project is to assist the growth of a circular economy business harvesting value from potato manufacturing waste streams. This is broken down into two key deliverables:

1. Potato starch expansion (Earthpac Starch Ltd)

Identifying ways to increase the amount of raw material for potato starch manufacture.

2. Earthpac production innovation (Earthpac Ltd)

Identifying ways to increase the manufacturing capability of Earthpac's compostable plates, to enable the business to capitalise on the new proprietary laminating technology developed for the food packaging market.

Plastics and circular economy

Traditionally, developed economies work on a linear basis, where resources are extracted, converted into a useable product or commodity, used, and disposed of.

A circular economy designs out waste and pollution, keeps products and materials in use, and regenerates natural systems. Transition to a circular economy requires fundamental redesign of existing systems, innovation, and incorporation of new technology and smart materials. Research has shown that in Auckland alone, up to \$8.8 billion in additional economic activity could be freed up through innovative circular business models.

The government's [Rethinking Plastics in Aotearoa New Zealand](#) report found that wide-scale systems change is required to address New Zealand's plastic problem. We need to reduce the amount of virgin plastic we use, improve the circularity of plastic, and take responsibility for plastic waste. Shifting away from single-use plastics would help support a wider ambition to move New Zealand towards a low-emissions, low-waste economy.

Managing resources to deliver a zero-waste circular economy would also help Auckland Council deliver Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan and reach net zero carbon emissions by 2050.

The potential of potato starch

In 2012, [research](#) showed that potato starch appeared to offer a new market and significant growth opportunities for the potato industry. Auckland was one of two potential locations in New Zealand identified for growth, due to the clustering of potato processing facilities and businesses in the region. Even then, potato processing businesses were seeking ways to reduce their waste streams, motivated in part to reduce wastewater charges, but also to maximise returns.

Research and development for Earthpac products started in 1997 under PotatoPak Ltd, and in 2011 Earthpac Ltd developed a proprietary injection-moulding technology to manufacture compostable products made from potato starch. Earthpac Starch Ltd was formed in 2014, to extract potato starch from potato manufacturing waste and produce food-grade potato starch.

Potato starch has many industrial applications, including paper manufacture, surface coating and animal feed. It is used to produce bio-surfactants for washing powders, soaps, and shampoos, and when fermented and distilled, it can be used in bioethanol production. In the food industry, potato starch is used as a binder for making sausages, noodles, and baker specialty items such as gluten-free flour.

Last year, Earthpac's products helped divert more than 11 tonnes of plastic from landfill, with more than three tonnes of Earthpac trays converted into compost.

Over the last three years, Earthpac has been working with Convex Plastics in Hamilton on the development of a laminated, compostable film and new in-house

processing technology to incorporate into the next generation of Earthpac products. This technology enables the development of highly functional moisture- and heat-resistant food packaging that can still biodegrade in home compost within five to eight weeks.

Earthpac is now able to manufacture small batches of injection-moulded, laminated trays and the target market for this new product is primary producers such as organic or niche meat producers in both export and local markets. The initial target is to replace a portion of the [250 million trays](#) used in New Zealand supermarkets annually with Earthpac's product.

Earthpac is currently facing multiple challenges:

- Export demand for potato starch exceeds their ability to manufacture.
- There is a need to access additional sources of potato waste streams and find investment to install equipment to collect potato starch at the source.
- Investment is required for equipment to increase tray manufacturing capability.
- Access to new domestic markets is needed to sell compostable trays.

KEY STAKEHOLDERS	
Earthpac Starch Ltd	Peter Gibson, Director
Earthpac Ltd	Paul Dodd, Director

KEY LEARNINGS

We discovered a number of learnings from key stakeholders and academic research, which have formed the basis of our recommendations.

1. POTATO STARCH EXPANSION (EARTHPAC STARCH LTD)

Increasing the amount of raw material for potato starch manufacture.

About the potato industry in New Zealand:

- The value of the New Zealand potato industry is \$1,160,000 annually.
- Around 525,000 tonnes of potatoes are grown annually, equating to approximately 3 billion potatoes.
- Over 282,000 tonnes go to processing plants, more than half of which is used for processing frozen chips.
- Potatoes are grown in all parts of the country, with the principal growing areas being Pukekohe (in Auckland's south), Hawkes Bay and Manawatu in the North Island, and Canterbury in the South Island.
- Production in New Zealand over the last 10 years has increased markedly, though the areas of production have remained reasonably static.
- The percentage of crops targeted for processing has also increased significantly in the last decade to around 57 per cent.
- There are over 50 varieties of potato grown in New Zealand and the main varieties are Russet Burbank, Innovator, Rua, Nadine, Agria, Moonlight, Desiree, Ilam Hardy and Red Rascal.

- The key area where potatoes are grown is Pukekohe. The main growers of potatoes are Hira Bhana, AS Wilcox and Sons Ltd, Balle Bros. and Master and Sons Ltd.

*Information provided by [Potatoes New Zealand](#)

Research findings

These key learnings come from both industry research and discussion with Professor Indrawati Oey from Otago University. Professor Oey is a Professional Member of the Institute of Food Technologists (IFT) in the United States and a Fellow at the New Zealand Institute of Food Science and Technology.

- Potato starch from processing potatoes is a multi-billion-dollar industry globally.
- High-starch-yielding potatoes are grown by China, the USA, Thailand, and the European Union, predominantly Germany and the Netherlands.
- The largest markets for potato starch are in the USA, China, the Netherlands, and South Korea.
- Being a commodity, the price of potato starch fluctuates.
- Supply of potato starch is also affected by climatic conditions with potato crop failure, as has happened in the Netherlands, which then drives demand and cost up.
- New Zealand does not currently grow high-yield starch potatoes as a source to solely produce potato starch as a commodity.

- It is highly unlikely that New Zealand could compete on scale (or shipping costs) on the global market. Shipping costs have dramatically increased as a result of COVID-19.

The project team considered the following options as potential means of increasing potato starch supply.

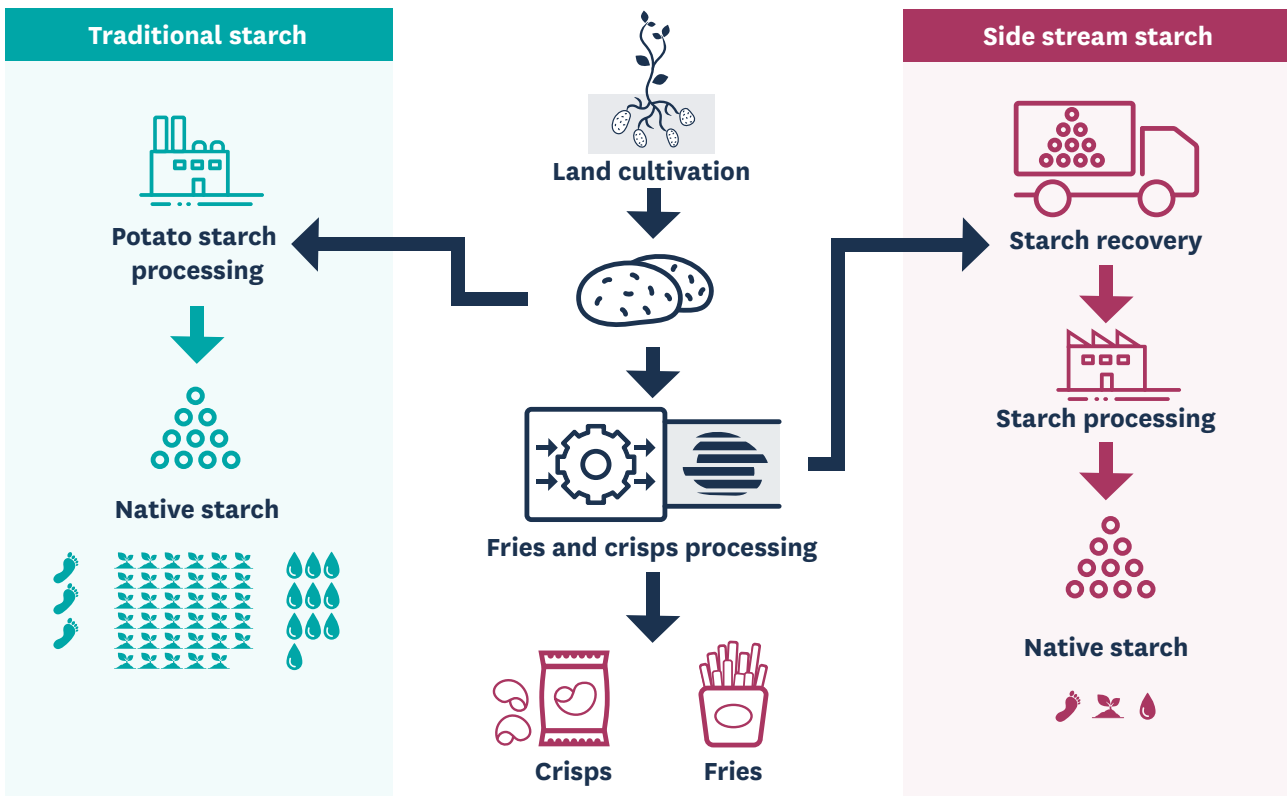
- Potato growers' consortium
- Potato manufacturing waste streams

Internationally, potato starch supply chains are highly integrated, with potato growers often being owners of potato starch mills, either directly or via co-operatives. The co-operative ownership model is often comprised of potato growers and cross-industry stakeholders pooling investment and expertise.

A recent example of a similar model is a partnership between [The Fight for Food Waste Cooperative Research Centre](#) and four of the largest potato producers in Australia. The goal is to convert 100 per cent of their potato waste into commercial benefit while reducing environmental impact.

During the project, the team became aware of another initiative underway to develop food products from waste potatoes and other vegetables via a different circular business model. If successful, this would impact Earthpac's ability to harvest potato starch directly from waste potatoes. Subsequently, Earthpac decided against considering a potato growers' consortium for increasing potato starch supply. The focus, therefore, became on waste streams, and a key opportunity to collaborate with a large-scale potato grower was identified.

METHODS FOR POTATO STARCH PRODUCTION



[Source reference](#)

Key

- Carbon footprint
- Land required
- Water required

The *From the Ground Up* project team, in collaboration with Earthpac, has investigated both private and public investment options. Investigation into government funding showed that while there are several funding options to support circular business models, this project does not fit the current grant criteria. Private investment discussions are in progress between Earthpac and a small number of potential investors.



2. EARTHPAC PRODUCTION INNOVATION (EARTHPAC LTD)

This deliverable looked at ways to increase the manufacturing capability of Earthpac's compostable trays to enable the business to capitalise on the new proprietary laminating technology developed for the food packaging market.

To do so, Earthpac requires an investment of \$2 million to purchase:

- one fully operational, injection-moulded laminating line setup
- a batch-mixing plant capable of supplying four injection-moulding lines to future-proof growth and reduce labour costs with the use of robotics.

During this project, both private and public investment options were investigated.

- In May 2022, Earthpac Ltd campaigned to raise \$2 million via PledgeMe. Unfortunately, the campaign did not meet the minimum funding target of \$850,000.
- Earthpac Ltd was also unsuccessful in its application for funding under the Ministry for the Environment's Te Tahua Pūtea mō te Kirihiu Auaha Plastic Innovation Fund as it did not meet the criteria.
- The Ministry advised that the products cannot be recycled and are unlikely to be composted, and therefore will most likely end up in landfill, where breakdown will cause greenhouse emissions. This is challenging for a lot of companies with bioplastic and alternative materials, as there are simply no suitable end-of-life options. Once New Zealand has clean, nationwide compost facilities that can accept the material, the Earthpac product would become more viable.
- New Zealand Trade and Enterprise (NZTE) has indicated that they like what Earthpac is trying to achieve and the company is able to access NZTE's

usual business resources. The investment team at Tātaki Auckland Unlimited is also canvassing the opportunity with its network of high-net-worth individuals.

As Earthpac's efforts to secure funding have thus far been unsuccessful, the project team identified another way in which the company may be able to create value: by capitalising on its IP and unique processes.

Intellectual property and intangible assets

- According to IP and intangible assets specialists [EverEdge Global](#), intangible assets are the dominant driver of company value. In 1975, intangible assets accounted for just 17 per cent of corporate value. Today, it is 90 per cent.
- Between 1995 and 2015, the share of intangible asset market value increased from 68 per cent to 84 per cent. In July 2020, [Ocean Tomo](#) updated the Intangible Asset Management Valuation (IAMV) Study to investigate the economic effects of the novel coronavirus and found that COVID-19 has accelerated the trend of increasing IAMV share, with intangible assets now commanding 90 per cent of the S&P 500 market value.
- Tangible IP assets include buildings and equipment, cash and bonds, inventory, and land. They cannot scale at exponential growth rates. Intangible assets can scale at exponential growth rates, however, they are often overlooked in business valuation. They can include many drivers of performance – brand recognition, confidential information, proprietary data, design industry expertise, certifications, unique processes, customer and network relationships, staff expertise and experience, and software.
- Intangible assets can create value in many ways and are particularly relevant to Earthpac, as it looks towards securing investment and enabling collaboration with third parties in R&D or joint ventures.

The strength of intangible assets influences commercial capability, the ability to gain and maintain market share, the ability to prevent third parties from competing, and the platform for future revenues.

Intangible assets and Earthpac can be broadly grouped into two categories:

- Functional – those that impact the underlying functionality of a product and service proposition.
- Reputational – those that drive reputation and identity in the market.

Functional intangible assets are generally more valuable when a new product is first released. However, this value generally declines as competitors catch up or the technology becomes less relevant over time. Subsequent releases of new products or programmes bump the functional value upwards again, and the process continues.

Functional intangible asset protection is particularly applicable to the release of Earthpac’s newly developed laminated, compostable film and new in-house processing technology and the next generation of Earthpac products.

Reputational intangible assets generally continue to rise in value. Provided the underlying products and services are of high quality, brand equity in the market will continue to grow in a much more durable fashion - even as particular products, services and underlying technologies come and go.

Reputational intangible asset protection is important for protecting and leveraging the existing high quality Earthpac products, the Earthpac brand, and existing networks and relationships.

Businesses interested in finding out more about how to identify and leverage intangible assets may benefit from contacting [EverEdge Global](#) with grants also available through Callaghan Innovation’s [Beyond IP programme](#).

Circular business models

There is growing support in the innovation ecosystem for circular business models from government funding, not-for-profits, and impact investors.

Typical challenges faced by circular business models:

- Lack of supporting regulation
- Complexity and inconsistency of regulations
- Financial and economic barriers, including major up-front investment costs
- Technological barriers
- Recycled materials are often still more expensive in circular business models than in linear business models
- Different skills and resources can be more expensive
- Mutual benefits for all stakeholders are necessary for collaboration
- Misaligned profit sharing along the supply chain can hinder the adoption of circular business models
- Partners work closely and increase dependency on each other, which is a risk that must be controlled.

There is an opportunity for Earthpac to connect with members of the wider sustainability ecosystem, such as XLabs and the Sustainable Business Network, and available resources, such as the network’s Circular Economy Directory. It is also worth considering marketing activity to promote the products and certification of internationally recognised standards that measure a company’s entire social and environmental impact, such as B Corp. However, this wider ecosystem support

will not be enough to support the company’s growth if Earthpac is unable to secure the required investment for expansion.

RECOMMENDATIONS

From the Ground Up recommends that Earthpac re-frames its value proposition and investment strategy to identify and leverage new value creation. This means tapping into the unrealised value of the intellectual property associated with the know-how used in the development of its in-house processing technology, which is capable of producing highly functional moisture- and heat-resistant food packaging.

The key benefit of this approach is commercial – when Earthpac seeks to raise capital, ‘spinning out’ the new technology allows potential investors to see value in this innovation (particularly in its ability to capture new markets), rather than undervaluing the company based on older technology and financial data. The *From the Ground Up* team has identified and connected with an IP specialist with the capability to enable the successful ‘spinning out’ of Earthpac’s intangible assets to support a more attractive investment proposition.



Conclusion

This project has identified a potential new source of raw material for potato starch manufacture that could allow Earthpac Starch Ltd to meet export demand. This source harvests value from wastewater from another local business manufacturing potato product – expanding Earthpac’s existing circular economy business model.

Investment remains a challenge for Earthpac, which is looking to capitalise on its new proprietary laminating technology developed for the food market, however, intangible intellectual property assets has been identified as an area for further exploration.

While circular economy business models unlock new value and can help Auckland transition to a low-carbon resilient economy, they still face many of the same challenges (such as attracting investment) as other business models.

The From the Ground Up project assisted a diverse group of food and beverage businesses affected by the impacts of COVID-19, and while each continues to face very different challenges and opportunities, there is a common need for all businesses to continue innovating and finding new ways to grow the industry.

Auckland’s food and beverage sector has the potential to combine ecological, social, and commercial objectives to achieve successful outcomes for Tāmaki Makaurau and its businesses, communities, and economy.

If you have feedback or questions on the contents of this report, please get in touch.

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