

<p>Project title</p>	<p>Fermentation Hub</p>
<p>Proponent</p>	<p>FermenTasmania is the project proponent and is an industry-led, not-for-profit industry cluster established in 2016 to accelerate innovation, growth and collaboration for fermentation-based enterprises.</p> <p>FermenTasmania’s vision is for the project to be an internationally recognised centre for excellence for the design, production and marketing of fine fermented food, beverages and other products.</p>
<p>What – Project Overview</p>	<p>The fermentation hub will deliver a 1,800 square metre purpose-built fermentation facility located at Legana in northern Tasmania, 12 km north of Launceston. The project will be a proving ground for fermentation innovation through promoting and developing fermentation-based businesses and related skills through:</p> <ul style="list-style-type: none"> • providing specific fermentation equipment and support services for product development • enabling research and education opportunities • facilitating skills and training development • offering tourism experiences. <p>What is fermentation?</p> <p>Fermentation is a transformative process in which microorganisms (bacteria, yeast and fungi) turn sugars into food acids, carbon dioxide and alcohol. Fermentation, which can occur naturally or by using a starting culture, preserves food, enhances flavours and has health benefits.</p> <p>Beer, cider, wine, whisky, ginger beer, sourdough bread, cheese, salami, yoghurt and pickles are traditional forms of fermentation that are relatively well known. Over recent years, there has been a rise in popularity in some forms that were previously less well known, including:</p> <ul style="list-style-type: none"> • kefir—a cultured fermented beverage that, similar to yogurt, is made from milk, water or coconut milk • kimchi—a staple Korean side dish, made from salted and fermented vegetables • kombucha—an effervescent drink fermented from sweetened black or green tea. 

Why – The opportunity

Tasmania has a strong reputation and potential as a producer of world-class food and beverages. The state currently exports 77 per cent of its \$4.63 billion processed food value either interstate (\$2.84 billion) or overseas (\$0.74 billion). In some markets, however, premium products are sold into commodity-based or low-value markets.

At a national level, the Australian Government has the target to develop the Australian agriculture, fisheries and forestry sector from a \$58 billion sector to \$100 billion by 2030. A key to achieving this is through unlocking innovation, growing sustainably (reducing waste), and engaging with people and communities. An annual 3.7 per cent growth rate is required to reach the target—an increase on the current growth rate of 2.6 per cent.

Through capturing more value from primary production and the circular economy through fermentation, significant economic benefits and employment opportunities would be created in Australia’s rural and regional communities where agriculture is a main economic and employment driver.

Fermentation in Tasmanian and in other areas of Australia has already been established in several markets (wines, beer, cider and cheese) where it delivers significant economic and regional benefits. An opportunity exists to expand fermentation through Australia to other areas and products to meet the increased global demand for natural products with health benefits.

Potential options to extract great value through fermentation are, for example:

- maximising the value of the circular economy from second-grade vegetables through pickling and preserving and exporting overseas – rather than using as feed for livestock
- developing plant-based food and alternative proteins, such as cheeses made from potatoes and cauliflower
- emerging enterprises testing and proving a concept and having the confidence and market support to expand on a stand-alone basis.

Current barriers to growth of value-added fermented products and advancements in the circular economy include a lack of specialised staff training to meet current and future workforce demand, and difficulty in accessing capital-intensive specialised fermentation equipment. The FermenTasmania concept enables the government to cost-effectively overcome these barriers to growth.

Project outcomes

The creation of a purpose-built fermentation facility will drive the long-term regional economic growth and employment opportunities across Australia through:



1. Product development

Key outcomes for Ferment Tasmania are to increase the use of secondary products from agriculture and enhance the circular economy. A major part of the fermentation hub's business will be to facilitate businesses to test, develop and produce fermented products. The hub's approach to product development will therefore include strong supportive measures, such as:

- Providing access to speciality and expensive equipment and production processes through rental agreements with emerging and small enterprises to allow the production of fermented products. Typically, this has been a barrier to entry for new participants due to the high upfront capital cost.
- Offering the ability to test ideas and develop new products to a marketable quantity—effectively bridging the gap between producing a product on the kitchen bench to scaling up to a commercially marketable quantity. This will de-risk new product development through taking a concept through to a pilot and then to market it in a staged and supportive environment.
- Encouraging and supporting emerging and small businesses to develop in niche/premium markets, including through commercial, marketing and export advice.
- Supporting new and growing businesses navigate regulatory challenges such as industry relevant legislation and regulation for developing products.
- Facilitating collaboration across businesses to grow circular economy opportunities.

2. Skills and training

Workforce development for fermentation-based industries through supporting skills and training opportunities is a key pillar of the fermentation hub's business. Support will be provided through many offerings, including:

- Supporting the workforce development requirements of the existing enterprises through facilitating targeted training opportunities.
- Attracting interstate and international students and retaining local students and employees to undertake training and skills development courses in Tasmania.
- Providing a purpose-built facility to enable skills and training development.
- Facilitating experiences for school groups and VET courses to be exposed to the potential career opportunities in fermentation-based industries and other science, technology, engineering, and mathematics fields.

3. Research and development

Integrating practical research and development opportunities with the technical equipment, other facilities and access to businesses is another feature of the fermentation hub. This will be achieved through:

- An internationally recognised centre of excellence for fermentation-based applied research and development with access to world-leading technology applicable to industry.
- Accelerating innovation, growth and collaboration amongst fermentation-based enterprises and the wider circular economy.
- Enhancing business, expertise and leadership capacity through education and research.
- Business support through collaborating and learning from industry experts and support networks (marketing and technical).
- Developing understanding of the human health benefits of fermented foods.
- Exploring opportunities through full production processes to improve reuse and reduce waste.

4. Agri-tourism

The fermentation hub will facilitate bespoke experiences for Tasmania's growing tourism market (e.g. learn to make your own cheese and bread courses). This aspect will increase utilisation of the facility, which will contribute to operating overhead costs and increase the awareness of fermentation-based products (including those produced within the hub) and other industry-based marketing opportunities. Experiential tourism is key to regional destinations and the opportunity to learn fermentation skills will not only attract visitors to the region, it will also encourage future workers and entrepreneurs into the industry, growing its capacity and widening its appeal as a career.

Courses can include (but are not limited to):

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| • Sourdough bread making | • Making pickles and fermented vegetables |
| • Cheese making (many different types) | • Sparkling winemaking |
| • Beer brewing | • Composting |
| • Cider making | • Biofuel fermentation |
| • Distilling and gin/whisky making | • How to use fermented products in your cooking |

An industry-led and market supported project

Several leaders in the Tasmanian and Australian food and beverage industry support the project concept and recognise the strong demand for the facility, the need for skills development and the removal of entry barriers for business. Other stakeholders have shown their support for the project through extensive engagement, including the RDS Partners July 2015 Stakeholder Consultation Survey Report. This survey was based on 96 responses, which provided strong support for the FermenTasmania concept. Responses confirmed that the sector needed an increasingly skilled workforce in technical production, new product development and business management. Subsequently, a consultation survey of about 40 fermentation-based organisations in Tasmania has supported the need for additional training and education in these areas.

Facilitating collaboration and networking

The project will establish a cluster environment of interconnected businesses, suppliers, and associated institutions. A cluster environment is considered to increase the productivity with which enterprises can compete, nationally and globally. This project provides opportunities for increased collaboration and networking in the food and beverage sector through building on the state’s primary production and through supporting the transfer of knowledge and experiences between businesses. These are both critical elements to increasing the likelihood of success for a start-up business and overall business performance.

The potential impact from the start-up community to the economy was highlighted in research undertaken by PwC that found start-up businesses have the potential to contribute over \$100 billion to Australia’s GDP and create over half a million new jobs by 2033.

Developing the Tasmanian workforce

FermenTasmania undertook a workforce development project of the Tasmanian food and beverage industry and established a clear need for workforce development activities across the entire value chain of fermenting-focused enterprises.

The project included engagement with key enterprises involved in producing value-added food and drink through fermentation. The key findings of the project indicated that at the end of 2017:

- about 1,100 people were employed in the fermentation sector in Tasmania
- total employee numbers per enterprise ranged from 1 to 57
- the median number of employees per enterprise varied between sectors, from three in the cider sector to 12 in the dairy sector.

The growth of the fermentation sector over the next three to five years will require around 350 new positions to be filled, comprising around:

- 100 management/leadership roles
- 100 specialist roles
- 150 operations roles.

Interviewees of the project indicated a strong preference for workforce development to be focused on the operations and specialist categories. The Tasmanian example for the need for future workers to support the fermentation industry is expected to be mirrored in other regions of Australia.

Realising the opportunity for fermented products

Fermented food and beverages sit at the intersection of two megatrends that are continuing to define consumption patterns—the demand for natural products that also deliver added health benefits. Innova Market Insights estimate the average annual global growth of food and beverage launches tracked with fermented claims is 11 per cent for the period from 2014 to 2018.

Growing consumer awareness about the link between gut health and overall health and wellness is a major factor driving the renewed focus on fermented food and beverages (Global Data, 2018). A 2017 survey from Ingredient Communications indicated that 73 per cent of customers are willing to pay a higher retail price for products made with ingredients they recognise and trust.

The following example illustrates the rapid growth of a small fermentation business:

- In September 2018, Organic & Raw Trading Co, which makes the MOJO brand of organic, naturally fermented kombucha, was acquired by the world's largest beverage company, Coca-Cola, in a multimillion-dollar deal. The company started making kombucha in the kitchen of the founder's home in South Australia nine years ago.
- The acquisition has led to distribution for the product increasing from about 4,000 retail outlets, including health food stores, organic markets and selected supermarkets, to more than 100,000 outlets around Australia and possibly overseas.
- According to Nielsen Homescan data, kombucha sales have risen 174 per cent over three years, while carbonated soft drink sales have fallen 0.5 per cent. Household penetration doubled last year to 5.5 per cent and now exceeds that in the US.
- Coca-Cola said kombucha was the fastest-growing beverage category in Australia, fuelled by growing consumer interest in functional, organic and pro-biotic beverages with less sugar (The Australian Financial Review, 18 September 2018).

How – Implementation

Proposed development timeline



Project construction

The capital cost estimate for the project is \$14.9 million and the annual operating costs are estimated to be \$850,000 per year.

FermenTasmania will develop, construct and operate the project, including owning the associated project assets. A project risk assessment conducted by FermenTasmania has not identified any extreme risks to the project that cannot be mitigated to a tolerable level.

The project could obtain all relevant approvals and permits to commence construction within six months of funding approval. A 12-month construction period has been forecast.

Additional stages of the project are estimated to cost between \$2 million and \$3 million. These will be tailored and timed to meet future industry needs and when public and/or private opportunities present.

The project will create total economic benefits estimated to be worth \$39.5 million in today's dollars, with a net economic benefit of \$15.9 million after subtracting the present value of upfront and ongoing costs of the project.

	<p>The project has a benefit–cost ratio (BCR) of 1.7. Consequently, the project is economically viable under the assumptions applied in the analysis. Further benefits during the construction phase of the project include the creation of 94 direct and indirect jobs and an increase in output of \$30.2 million.</p> <p>Project operations</p> <p>During operations, the Project, with support of emerging and small business, registered training providers and researchers, several significant benefits will be delivered. These include:</p> <ul style="list-style-type: none"> • Increasing value of Tasmanian food and beverages, including increased value-adding to primary produce and growing regional exports. • Increasing employment opportunities through fermentation-based enterprises. • Supporting existing fermentation-based business to meet their workforce needs to allow them to grow and expand. • Retaining Tasmania’s people and attracting overseas and interstate migration through job and training opportunities. • Introduce a new and unique offering to the Tasmanian tourism landscape, with ‘real’ experiences in making cheeses, breads, wines and other fermented products. <p>These impact of the project in operations (and construction) to the economy and employment opportunities will be quantified in the development of the detailed business case.</p>
<p>Strategic alignment</p>	<p>This Project is strongly aligned with the aims, outcomes and outputs of several national, state and regional policies and strategies, including:</p> <p>Australian Government</p> <ul style="list-style-type: none"> • Building Better Regions Fund – The \$841.6 million fund supports the Australian Government’s commitment to create jobs, drive economic growth and build stronger regional communities into the future. The Fund is structured with two grant opportunities—a community investment stream and an infrastructure projects stream. The Infrastructure Projects Stream will support projects for new infrastructure or the upgrade or extension of existing infrastructure that provide economic and social benefits to regional and remote areas. • Target of a \$100 billion agriculture, fisheries and forestry sector by 2030 – The Australian Government has the target to develop the Australian agriculture, fisheries and forestry sector from a \$58 billion sector to a \$100 billion sector by 2030. Unlocking innovation, growing sustainably (reducing waste) and engaging with people and communities are key to moving towards this ambitious goal. • The Launceston City Deal – The Deal is a 10-year plan (April 2017 to March 2027) to make Launceston one of Australia’s most liveable and innovative regional cities, with growing incomes and falling levels of disadvantage. The Australian and Tasmanian governments and the City of Launceston are cooperating to deliver integrated investment and practical actions that build on Launceston’s strengths and tackle key challenges. <p>Tasmanian Government</p> <ul style="list-style-type: none"> • Tasmania’s Sustainable Agri-Food Plan 2019-2023 – This Plan supports the Tasmanian Government’s AgriVision 2050 to grow the value of the agriculture sector in Tasmania tenfold to \$10 billion per year by 2050. The plan’s key themes are ‘grow, make, protect and

experience'. The plan recognises FermenTasmania as a key initiative under the 'investment attraction, infrastructure and brand support' theme.

- **Tasmanian Trade Strategy 2019-2025** – The Strategy sets out a coordinated approach to work with business and partners to grow trade, both domestically and internationally. It has a clear focus on building capability for SMEs, value-adding existing business activities, expanding Tasmania's international influence and providing the right conditions for all Tasmanian businesses to succeed.
- **Tasmania's 2015 Population Growth Strategy** – The Strategy outlines the approach to reaching the Tasmanian Government's target to grow the population to 650,000 people by 2050 from 515,000 people in 2015 to drive economic growth, create jobs and improve the standard of living for all Tasmanians. Two pillars of the strategy relevant to this project are
 - job creation and workforce development,
 - actively pursuing overseas and interstate migration through job and training opportunities (while also retaining Tasmania's best and brightest local talent).

Regional

- **NTDC 2019 Draft Regional Economic Development Strategy** – The Northern Tasmania Development Corporation Limited (NTDC) is the regional economic development agency owned by seven councils in Northern Tasmania. It released a Regional Economic Development Strategy in 2019, which sets out a vision for the north and identifies where future economic growth and employment is likely to come from. The strategy is centred around six key themes with specific targets (all which would be supported by this project):
 - Population growth: The strategy indicates 10,000 additional workers are required to meet the needs of a growing economy, including those with skill sets to meet demand from industries, including food and beverages services and food product manufacturing.
 - Innovation: Innovation is necessary to achieve a higher-value economy with more, higher-paying jobs. Key priority areas include enhancing skills and expertise to support growing industries and building a regional innovation ecosystem to support business.
 - Investment: NTDC aims to develop and implement a plan to attract additional capital for private sector support. Key priority areas include advocating at a regional level for investment in priority public infrastructure projects.
 - Participation and productivity: implement supporting programs to strengthen transitions to vocational training or higher education linked to the workforce; advocate for trials and pathways for disadvantaged cohorts; collaboration on relevant education and health programs; and enable the transition of businesses into new growth industries.
 - Infrastructure: High quality infrastructure provides opportunities to attract investment and connect regional businesses to the rest of the state, nation and a growing global marketplace.
 - Increasing exports: An increase of 45 per cent from current levels over the life of the strategy would significantly reduce the \$1.4 billion a year gap between the region's exports and imports. Food systems and tourism are identified areas for increased export opportunities.

<p>Funding opportunities</p>	<p>The Project will seek funding for the capital works from the Australian Government, the Tasmanian Government and the private sector through sponsorship, donations and in-kind support. Operating expenditure, including asset maintenance and replacement, will be recovered through lease and operating agreements for facility access, membership fees and rent from training course providers.</p> <p>It is proposed that the Australian Government contributes \$6.4 million (43 per cent of capital costs), the Tasmanian Government contributes \$3.4 million (23 per cent) to the capital costs of the project. The balance (\$5.1 million, 34 per cent) is provided in-kind and by other contributions from the private sector. The annual operating costs of the project will be met through levying annual charges on users.</p> <p>Without the support of the Australian and/or Tasmanian government, a loan would be required to fund any shortfall. The principal and interest repayments on the loan would increase the annual charges on users, which would be unaffordable and reduce demand. This would significantly reduce the commercial viability of the project.</p>
<p>Where we are – Current status</p>	<ul style="list-style-type: none"> • In-principle support for the project from a range of partners, including: <ul style="list-style-type: none"> - West Tamar Council: A peppercorn rent of site and providing roads and other services to the site in-kind - University of Tasmania (UTas) and the UK Institute of Brewing & Distilling to explore the development of a partnership to deliver brewing and distilling curricula through the UTas University College. - Suppliers of equipment and technical service: Provision of sponsorship and/or supply of equipment in-kind or at a discounted rate • Food Innovation Australia Limited (FIAL) provided \$840,000 to support the work of FermentTasmania to facilitate sharing and collaborating fermentation technologies. • Established potential for collaboration opportunities with several national and international organisations, including the New Zealand Food Innovation Network, Danish Food Cluster, University of California (Davis) and Eldrimner, the Swedish National Centre for Artisan Food.
<p>Response to Covid-19</p>	<p>The project will provide stimulus to northern Tasmania’s regional economy (and the broader economy) by creating \$14.9 million of direct economic activity within six months from funding approval. In addition, the project will create 94 direct and indirect jobs during construction. Once operating, the fermentation hub will provide significant support for developing and emerging food and beverage businesses. They may look to diversify their products, increase their opportunity to value-add and to enter new markets. This may provide a further opportunity for the Australian and Tasmanian governments to support small businesses recover from the impacts of Covid-19. For example:</p> <ul style="list-style-type: none"> • sponsoring product development and training courses for small business • developing the sector’s workforce through facilitating skills and training courses to assist with retention and/or redeployment of staff across business activities or job-sharing arrangements with other businesses in the sector • leveraging the FermentTasmania and fermentation hub network to assist in communicating and implementing other support initiatives from the Australian and Tasmanian governments. <p>An updated demand assessment of the project has commenced to estimate the impact of Covid-19.</p>