



FIGHT FOOD WASTE

Cooperative Research Centre

REDUCE - TRANSFORM - ENGAGE

ANNUAL REPORT

2020/2021





The Fight Food Waste Cooperative Research Centre (CRC) gratefully acknowledges the financial contribution of the Australian Government Department of Industry, Science, Energy and Resources through the CRC program as well as our participants. This report has been prepared to meet the requirements of the CRC program's 2021 annual report guidelines.

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Our Participants



About the Fight Food Waste CRC

The Fight Food Waste Cooperative Research Centre (CRC) is a 10-year, \$120 million collaboration established in 2018 that brings together 45 industry participants, 6 state and territory governments and 8 universities to tackle Australia's \$37 billion a year food waste challenge.

Our partnership will reduce food waste from paddock to plate, increase industry profitability, and enhance food rescue to deliver economic, environmental and social benefits for Australia.

Through our three research, development and education programs, we ENGAGE with industry and consumers to REDUCE food waste across the supply chain and TRANSFORM unavoidable waste into innovative products.

We will play a leading role in halving food waste in Australia by 2030, in line with the National Food Waste Strategy and United Nations Sustainable Development Goal 12.3.

Year 3 in Review

37

Active projects

8

Projects delivered

32

Scientific publications



New division
Stop Food Waste
Australia established

13

Milestones achieved to date (23%)

14

Postgraduate students commenced (27%)

\$23M

RD&E expenditure committed (25%)



'Best-in-class' Impact Assessment Model created



Strategic Plan on a Page

The Fight Food Waste Cooperative Research Centre will **ENGAGE** with industry and consumers to **REDUCE** food waste across the supply chain and to **TRANSFORM** unavoidable waste into innovative products.

Our Vision: An Australia without food waste

By uniting science and industry we will:



REDUCE
food waste
throughout the
supply chain



TRANSFORM
unavoidable waste
into innovative
products



ENGAGE
with industry and
consumers to deliver
behavioural change

2018

Baseline

1/3
of all food
produced

\$20 Bn p.a.
in Australia

7.3 M T
food waste
p.a.

298kg
per Australian
per year

13.5 M T
of CO₂-e

4 M people
food insecure

Deliver the Grant Agreement

We will first establish our initial 30-project research, development and extension program based on the best science and expertise with our existing participants. We will then develop and deliver new projects with existing and new participants that ensures we effectively deliver on all Grant Agreement performance milestones.

Deliver Future Initiatives

We will identify and target additional food loss and waste opportunities based on the National Food Waste Baseline and other key reports that will deliver significant food waste reduction and industry benefits to help achieve SDG 12.3. Additionally, we will scope and potentially develop a 10-year national behaviour change program that targets the entire food system, particularly consumers, with the Australian and state and territory governments and industry that reduces and prevents food waste from entering landfill.

2028

Accumulative
Grant Agreement
targets

30 M T
of reduced
food waste

\$2 B
Increase in industry
profitability

20 M Kg
of rescued food
distributed

30 M T
of reduced
food waste

40
Future Leaders
graduated

250 industry
people trained p.a.

OUR CORE VALUES



Purpose

Making a difference
for good



Integrity

Doing what is right



Collaboration

Working together
for better outcomes



Performance

Creating meaningful
impact

**SUSTAINABLE
DEVELOPMENT
GOALS**



Chair Report

Commitment maintained

On behalf of the Fight Food Waste CRC Board thank you one and all.

Our commercial and research partners faced unprecedented challenges during the reporting year due to the pandemic, nevertheless their commitment to reducing food waste and the work of the CRC continued unabated.

This commitment was matched by the Australian Government which recognised the importance of continuing and even expanding national efforts to halve food waste with an initiative during the year to support the establishment of Stop Food Waste Australia to work in partnership with the CRC activities already underway.

On behalf of the Board, I am pleased to introduce the Fight Food Waste CRC Annual Report 2020/2021

Despite the challenges of COVID-19 the Board is pleased to report significant achievement against company KPIs with the exception of the item highlighted below. We, collectively, are making good progress towards delivering the goals the CRC was established to deliver.



Generating new research initiatives was a challenge

Our most significant commercial challenge during the year was generating the substantial number of new research initiatives that are required to achieve the full impact that the CRC is committed to delivering over its 10-year time frame. We did not reach the targeted growth in new initiatives during the year and, prior to year's end, implemented changes to facilitate greater progress in the coming year.

Measuring our impact demonstrates progress

Our Impact Assessment Model is now fully operational and, despite not achieving the planned growth in new initiatives, results produced prior to the end of the reporting period indicate that we are making substantial progress against all seven Fight Food Waste CRC impact areas: reducing food waste and greenhouse gas emissions while increasing industry profitability, rescued food distribution, circular economy jobs, future leaders graduated, and industry people trained.

All new initiatives are now required to estimate their contribution towards these seven impact areas, and the methodology required to achieve this, as part of the project proposal process. Our intent is that this process delivers a direct alignment between the focus of each project and the CRC's 10-year planned impact.

Maintaining good governance and risk management

During the year the Board reviewed and updated the charter and responsibilities of each of the Board Committees to ensure they were best placed to assist the efficient operations of the Board. In addition, and as would be expected in the current environment, the Board's Audit, Risk Management and Compliance Committee maintained a very close watch on

emerging risks through the risk framework developed last year.

The year ahead

Realistically, the coming year is likely to retain the COVID challenges for at least the first half if not the whole period. We fully expect that this report will once again be tabled at an AGM held virtually rather than in person. As an organisation all of us will have to be innovative, not only in how to hold an effective annual conference and AGM electronically, but in how we grow new initiatives when we cannot meet face-to-face with current and prospective new partners.

The year ahead will also be one of opportunity – particularly to capture the natural synergies between the work in developing new research initiatives for the CRC and in signing up partners to Stop Food Waste Australia. The Board is confident that it can achieve this thanks to the expertise, enthusiasm, and dedication of the CRC management team together with the continued support of its commercial and research partners.

In closing, thank you again with a special thanks to my fellow Directors whose commitment was again unwavering as they addressed the many challenges and exciting opportunities that arose during the year.



John Webster
Chair



CEO Report and Executive Summary

As we prepare this year's Annual Report, with most of the eastern states in COVID-19 lockdown, our thoughts are with our impacted participants, team members and stakeholders. We thank you sincerely for your ongoing commitment and perseverance during this difficult time.

The third year of Fight Food Waste Ltd (FFWL) and the Fight Food Waste CRC has been one of expansion, despite the pandemic never being far from our minds and undoubtedly limiting our ability to network with existing and new participants. We have expanded with a new division, Stop Food Waste Australia, new partners in Goterra, Meat & Livestock Australia, Nutrafruit, Pacific Ag, Daintree Fresh and Montague Fresh, and new delivery team members across the organisation. We have developed the foundations for future financial growth in 2021/2022; planned growth that unfortunately has not been achieved in the last 12 months due to the ongoing pandemic and the difficulties it creates for business development.

Notable activities that have defined 2020/2021 include:

Throughout the year the Fight Food Waste CRC represented Australia on the development of the **United Nations Food and Agriculture Organisation (FAO)**

Voluntary Code of Conduct on Food Loss and Waste Reduction through a series of workshops in July 2020 and January 2021. The final version was endorsed to the 42nd session of FAO Conference in June 2021.

The **'Fight Food Waste – It's Easy As' social media campaign** ran from August to October 2020. The campaign was financed using COVID-19 stimulus funding with creative input provided by Saatchi and Saatchi. The campaign reached 4.5 million people in 3 months leading to 6,000 engagements and over 70,000 visits to the 'It's Easy As' landing page that contains simple tips and tricks for reducing food waste in our homes.

One of the 2020 commitments to participants was to **transform the TRANSFORM Program** with a vision of doubling the size of the program within 12 months. This process commenced on October 16 with a workshop at the University of Queensland. Prof Peter Halley stepped into the Program Leader role for Dr Paul Luckman in Q2 while recruitment commenced for a fulltime dedicated TRANSFORM Program Leader. I sincerely thank Paul and Peter for their time with the Fight Food Waste CRC. Meagan Wheeler was promoted to Deputy Program Leader in Q3. Francesca Goodman-Smith was appointed to the TRANSFORM Program Leader position and commenced in mid-April. Francesca joined the Fight Food Waste CRC from New Zealand, where she was the Waste Minimisation Manager for Foodstuffs NZ, New Zealand's largest grocery retailer, as well as co-Chair of the Upcycled Food Association Standards Committee in the USA.



Dr Val Natanelov was also appointed as the Queensland Innovation Manager in June 2021 with a clear focus on developing new TRANSFORM projects with the Queensland Department of Agriculture and Fisheries that would contribute to the growth of the TRANSFORM Program.

Throughout October to November the Fight Food Waste CRC delivered its **Industry Showcase Program** in lieu of the annual conference which could not go ahead due to COVID-19 travel restrictions. The program involved a series of 29 short videos, many still available on our YouTube Channel.

The series culminated in two keynote interviews with Dave Lewis, the Group CEO of Tesco in the UK and Chair of Champions 12.3, and Dana Gunders, Executive Director of food waste think-tank ReFED in the United States. The Participants Meeting and Annual General Meeting were held virtually on November 27, 2020.

The inaugural **United Nations International Day of Awareness of Food Loss and Waste** was held on September 29, 2020. The Fight Food Waste CRC celebrated the event through delivering webinars with the Australian Institute of Food Science and Technology and the Waite Research Institute, and by launching the report *A National Food Waste Tax Incentive: Boosting food relief through Australia's tax system* with Foodbank Australia and KPMG. Shortly after this Foodbank Australia launched the 2020 Hunger Report, which this year was sponsored by the Fight Food Waste CRC.

On November 16, 2020, **the FFWL Adelaide headquarters hosted a visit by the Hon. Sussan Ley MP**, the Australian Government Minister for the Environment. After discussing plans for the Fight Food Waste CRC and SFWA the Minister heard from participants Potatoes South Australia, Peats Soils and Garden Supplies, East Waste, the University of Adelaide, the South Australian Research and Development Institute and Food South Australia on their Research, Development and Extension (RD&E) activities within the Fight Food Waste CRC.

The REDUCE Program Leader, A/Prof Karli Verghese took long service leave between January and May 2021 with Dr Simon Lockrey acting in the Program Leader position. We thank Simon for his sterling efforts during this period. Dr Dianne McGrath also joined the CRC team in January 2021 replacing Leisha Ryding who resigned in December 2020 as the REDUCE Program Coordinator. We thank Leisha for her contributions in supporting the development and early delivery of the REDUCE Program, and we welcome Dianne who recently completed her PhD on hospitality food waste in Australia.

In February 2021 we released our 2021-2028 Investment Framework and **New Participant Value Proposition**, both available on our new Get Involved webpage together with our research provider capability statements. The framework and value proposition are to be used to help the CRC deliver on its 2018-2028 Fight Food Waste CRC Strategic Plan, specifically to deliver future initiatives that maximise the achievement against our grant agreement milestones and our overall delivery towards our seven impact targets.



The call for a National Food Waste Governance Entity was announced on August 7, 2020. FFWL, in partnership with the Fight Food Waste CRC, Waste & Resource Action Programme (WRAP), Australian Food Cold Chain Council, Australian Institute of Packaging, Australian Food and Grocery Council, Foodbank Australia, National Farmers Federation, National Retail Association, and the state governments of New South Wales, Queensland, South Australia and Victoria, submitted its Partnership Proposal on September 7, 2020. The consortium was informed of its success against a number of competing bids on October 22, 2020. Partnering workshops were conducted throughout November and December, with new partners OzHarvest, SecondBite, FareShare, the Australian Local Government Association, and the governments of the Australian Capital Territory, Tasmania and Western Australia joining throughout this process or in 2021.

The new entity, **Stop Food Waste Australia (SFWA)**, commenced operations on January 1, 2021, and will receive seed funding of \$4 million over 3.5 years from the Federal Department of Agriculture, Water and the Environment through a partnership arrangement to deliver the National Food Waste Strategy.

The division is being managed by Mark Barthel, with Sam Oakden and Carolyn Cameron joining SFWA from Food Innovation Australia Ltd (FIAL) to ensure continuity between FIAL's Roadmap and Feasibility Studies and SFWA's activities. We thank FIAL for this smooth transition.

In October 2021 SFWA will launch the Australian Food Pact, a voluntary agreement with industry partners to eliminate food waste. Other upcoming activities include refreshing the two existing Sector Action Plans (SAP) with the

food rescue and the cold chain sectors, and developing at least five new SAPs. Claire Kneller from WRAP in the United Kingdom (UK) joined SFWA in June 2021 to head up the voluntary agreement due to her global experience in this area.

Undoubtedly a major highlight for the financial year was getting our delivery team members, and most of the Future Leaders Program (FLP) students and Board together in the Adelaide Hills at Hahndorf between April 27 to 30 for an opportunistic retreat. The four days included social activities, a high performing team training session, a joint management-board strategic planning session and a student-board mixer. We thank participants South Australian Potato Company and Peats Soils and Garden Supplies for welcoming visits from our FLP students, and KPMG leaders for being involved in the FLP sessions. After 12 months apart the retreat demonstrated the benefits of face-to-face contact for all involved.

Final staff changes for the year were the departure of Communications Manager Tanya Wilkins to pursue her PhD and David Mathews for semi-retirement, and the arrival of Alison Hay to replace David in Research Director Prof Vincent Bulone's team. Thanks to Tanya and David for their efforts over multiple years.

While the above highlights demonstrate good progress in a difficult year, all CRCs should be judged on delivering against their operational plans and their commitments to their funders and participants. For 2020/2021 eight headline strategic priorities were listed in the Fight Food Waste CRC Annual Report 2019/20, and presented to participants at the 2020 Participants Meeting, of which all have been achieved except two that relate to business development targets.

The first involves all core participants being actively involved in one or more projects, of which two participants are yet to commence projects.

The second relates to a shortfall in new financial commitments for the year. New commitments for 2020/2021 collectively totalled \$542k from Goterra (new participant), Bowen Gumlu Growers Association (BGA), Meat & Livestock Australia (new funder), New South Wales Environment Protection Authority (NSW EPA), Queensland Department of Environment and Science, and various SMEs including Nutrafruit, Pacific Ag, Daintree Fresh and Montague Fresh.

This was against a target of \$873k, that would have recouped initial industry cash contribution declines against the original CRC Grant Agreement. Unfortunately, these gains were offset by industry contribution losses from two core participants of \$1.5 million. The net industry contribution loss was \$1.0 million. On the positive side, the matching tied CRC leverage becomes available to existing and new participants.

With the release of the 2021-2028 **Investment Framework**, new key appointments, and a strong focus on new business development going forward, the

Fight Food Waste CRC is determined to recover these losses and build an ongoing project portfolio that ensures delivery against our impact targets and a clear trajectory towards halving food waste in Australia by 2030.

I proudly provide the Fight Food Waste CRC Annual Report 2020/2021 to participants and stakeholders.



Steve Lapidge
Chief Executive Officer



Highlights and Achievements



Research and Collaboration

A key aim for 2020/2021 was to complete the establishment of remaining initial research portfolio projects that were developed as part of the Full Business Case. Of the five projects remaining, three are now underway with industry participants Planet Protector Packaging, ChemCentre and Chameleon, and the Abalone Council of Australia Ltd.

Projects still in development are with Gretals Australia and Regional Development Australia Murraylands and Riverland, which are expected to commence next reporting year.

Throughout 2020/2021, 11 new projects commenced, which are detailed within the program updates, and eight were completed. Completed projects are discussed in the commercialisation and utilisation section and program reports.

At the end of the 2020/2021 financial year, 19 of 57 Fight Food Waste CRC Grant Agreement milestones had fallen due, of which 11 have been achieved with an additional two achieved ahead of schedule (23%); the latter related to the Foodbank Australia-KPMG taxation project (see case study later).

For the eight that are yet to be achieved a Contract Variation has been submitted to extend milestones dates between 6 and 12 months. This is in part due to the later than anticipated start of projects, and project delays related to COVID-19 and travel restrictions.

Two important research and collaboration activities that were completed during the year include creating quarterly Participant Snapshot reports and establishing the Fight Food Waste CRC Impact Assessment Model.

The Participant Snapshot reports are now circulated to all cash-contributing participants following the quarterly reporting process. The reports detail all projects in which the participant is involved, how they are tracking and the organisation's current financial return and R&D leverage. We believe that such detailed reports are unique to this CRC and provide full transparency to participants regarding their involvement in the Fight Food Waste CRC.

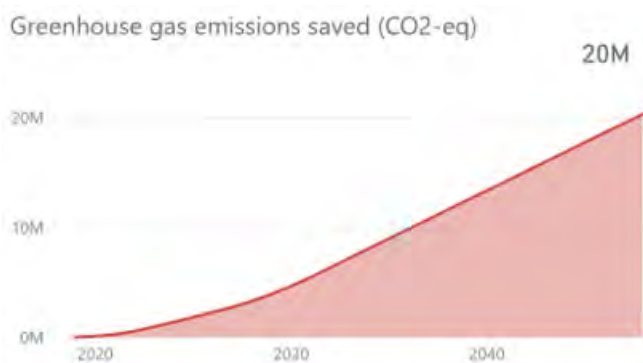
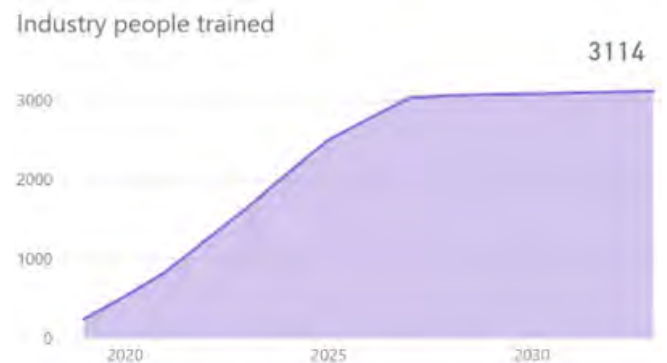
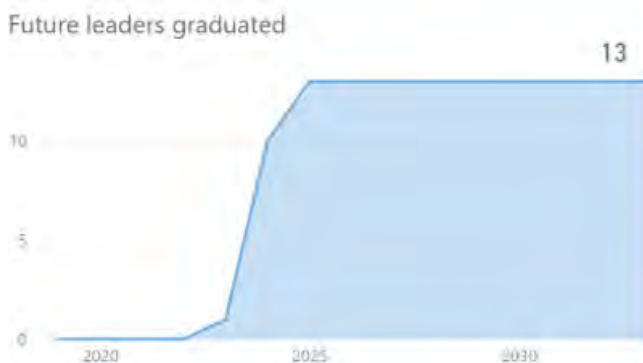
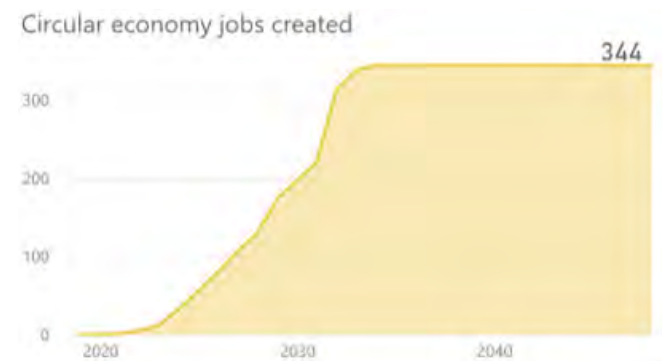
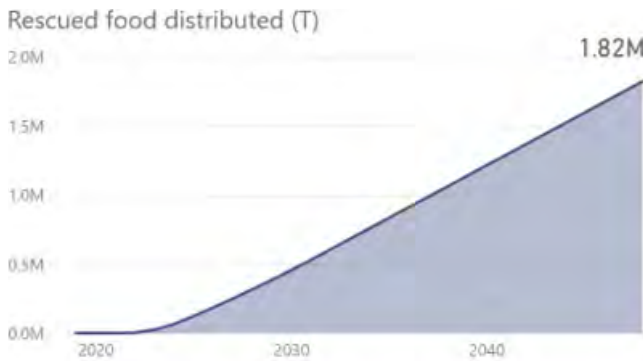
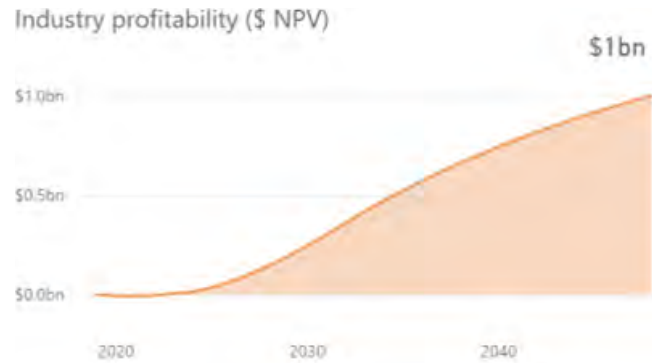
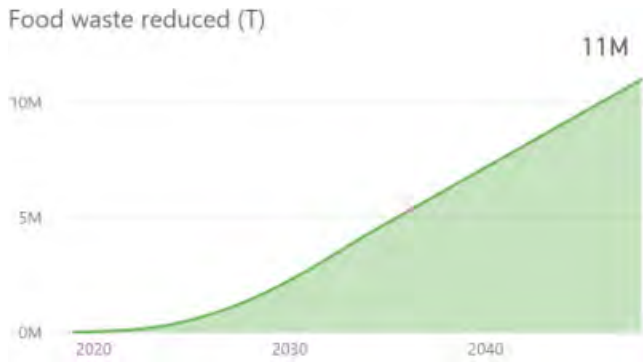
The Fight Food Waste CRC is strongly committed to monitoring its economic, social and environmental impacts, and meeting accumulative targets set out in its original business case across seven key impact areas. The Impact Assessment Model was completed in June 2021. Developing such a detailed model so early in the life of a CRC is again unique and is testament to the clear desire for the organisation to not only deliver its intended impacts but exceed them.

Our intended impacts are: 30 million tonnes of reduced food waste; a \$2 billion increase in industry profitability; 20 million kilograms of rescued food distributed; 5200 circular economy jobs; 40 future leaders graduated; and 250 industry people trained per year.

Throughout 2020/2021, all research project teams were asked to complete the Fight Food Waste CRC Impact Assessment Model: a custom Excel-based model which predicts the overall impact of their projects. Project teams identified the key impacts likely to result from their project and also provided quantitative estimates for each impact area. Based on the responses and estimates, the tool modelled impact over time for each of the seven key impact areas.

The aggregated results are summarised in the charts on the following page, which represent data from 30 research projects. It is noted that the predicted impact on food rescue distribution may exceed current needs and capabilities at this stage.








The Fight Food Waste CRC is strongly committed to monitoring its economic, social and environmental impacts, and meeting accumulative targets set out in its original business case across seven key impact areas.



Outcomes

The Fight Food Waste CRC's impact will continue to be updated and monitored. All new project proposals are now required to complete the Impact Assessment Model at the time of proposal submission, and project impact estimates will be reviewed at least annually during a project's life, plus an additional 5 years after a project has concluded.

Initial projections indicate that Fight Food Waste CRC projects and student commencements commissioned in the first three years (30% of Fight Food Waste CRC duration) will achieve the below. As projects are completed, actual impacts will be measured instead of using projections. Aggregated impact projections will be updated annually to ensure that the organisation remains on track, accountable and transparent regarding delivering results for all participants and the Australian Government. These initial projections indicate that the Fight Food Waste CRC is on track to achieving its intended impacts.

	Target	Current Estimate	% of Target
	30MT of reduced food waste	11 MT	37%
	2B increase in industry profitability	\$1B	50%
	0.02 MT of rescued food distributed	1.8 MT	9100%
	5200 circular economy jobs	334	7%
	40 Future Leaders graduated	13	33%
	250 industry people trained p.a	314	124%
	44 MT CO2-eq Greenhouse gas emission savings	20MT	46%

An important part of our research and collaboration efforts is Small and Medium-sized Enterprise (SME) engagement. The SME Solutions Centre is one of two ways by which the Fight Food Waste CRC engages with SMEs.

The FIAL-funded SME Solution Centre has continued to go from ‘strength to strength’.

Six projects are currently underway involving Grainstone, Banana Feeds Australia, Nutrafruit, Pacific Ag, Daintree Fresh and Montague Fresh. All projects involve a rapid innovation, maximum 12-month project with one of the ten Fight Food Waste CRC research providers. FIAL funding for this program must be committed by June 2022, with two to three funding opportunities of up to \$50,000 in \$:\$ cash leverage still available. Additional details on the SME Solution Centre are included in the case study section later in this report. The Fight Food Waste CRC will consider continuing this program following an evaluation of its success in June 2022.

The other way by which the Fight Food Waste CRC engages with SMEs is through the Industry Connection Hub managed by Supporting Participant Honey & Fox. The Hub involves many peak industry and regional bodies including the Australian Food & Grocery Council, the Australian Institute of Food Science and Technology, the Australian Institute of Packaging, the Australian Packaging and Processing Machinery Association, Central Coast Industry Connect, Food South Australia, Food & Fibre Gippsland and FIAL, who between them represent thousands of SMEs and food industry professionals. The Hub meets monthly to present on the Fight Food Waste CRC’s latest research findings and other matters of interest. Each monthly webinar commences with an update on all FFWL activities and opportunities that can be extended to partner organisation participants. Hub meeting attendance is open to all participants, and we encourage future involvement, particularly while virtual networking will dominate our future engagement landscape.

Commercialisation and Utilisation

Year 3 commercialisation and utilisation activities within the Fight Food Waste CRC have focused on ensuring that the findings from our initial completed projects, some of which were stage 1 or pilot projects themselves, have led to new commercialisation and utilisation opportunities. Project completions in year 3 are listed below along with the next stage for each project:

Making Australian Country Choice (ACC)

Circular with ACC and the University of Southern Queensland. The project was completed in September 2020 and the final report is available on the Fight Food Waste CRC website. ACC is currently adopting recommendations from the project to improve its circularity, and has since committed to a new red meat supply chain mapping project with Meat & Livestock Australia and the Fight Food Waste CRC.

'It's Easy As' social media campaign involving many Fight Food Waste CRC participants. The outcomes and evaluation of the project are being used to help design a future national consumer behaviour change campaign that will be essential if Australia is to halve food waste by 2030. The final report is available on the project website.

Options for utilising apple and pear pulp residue

with Green Industries South Australia and Primary Industries & Regions South Australia (PIRSA) (through the South Australian Research & Development Institute, or SARDI). The final report is available on the project website and has since led to industry enquiries about commercialising the recommendations from potentially new industry participants, which are now being pursued.



Sustainable packaging to reduce food waste with Food South Australia, the Australian Institute of Packaging (AIP) and Food Innovation Australia Ltd. This education and training project was a resounding success based on feedback from the South Australia SME food industry participants. Those involved are currently being tracked as to how they are utilising the new information they acquired. The final report is online, and FIAL and AIP plan to take the course developed with Food SA nationally.

Transformation of surplus/waste tomato and capsicum produce into value added products (Stage 1) with the Bowen Gumlu Growers Association, the Whitsunday Regional Council and the Queensland Department of Agriculture and Fisheries. Based on the success of the stage 1 project, a stage 2 project has already been approved and is underway. It is envisaged that this will lead to at least three new commercial products. The full stage 1 report remains commercially confidential; however, a progress update is available on the project webpage.

Foodbank Meals Via Y Waste App with Foodbank Australia, NSW EPA, Y-Waste and RMIT University. The stage 1 project has been completed with RMIT and won a 2020 Adobe Design award. The stage 2 project, involving widespread roll out in New South Wales, is already underway, resulting in immediate commercialisation and utilisation.

Understanding the barriers and drivers to reduce store loss and food waste at Woolworths with Woolworths and the Queensland University of Technology. Unfortunately, due to COVID-19 restrictions and the unavailability of Woolworths team members to contribute, the project stalled and was ultimately terminated.

Regarding future research and utilisation activities not previously mentioned, The Mitolo Group purchased the potato division of Thomas Foods International (TFI) Fresh Produce in November 2020. The Mitolo Group has committed to assuming TFI's research contribution to the **Converting potato waste into pre-biotics and other valuable products** project being delivered by Prof Vincent Bulone at the University of Adelaide.





Education and Training

There are two key components to education and training within the Fight Food Waste CRC: the Future Leaders postgraduate student education and training program managed by Central Queensland University; and the Industry Connection Hub industry education and training program managed by Honey & Fox.

The Future Leaders Program (FLP) has been designed to build skills in research translation and research leadership. The program sits at the nexus of applied research and the application of knowledge in an industry setting.

It is designed to deliver candidates who are industry-ready and equipped with skills beyond that offered by research partners in their regular supervision and training processes.

As of June 30, 2021, there were 14 students enrolled in the program including ten PhD students and four Masters students. Students new to the program in 2020/21 are listed in the table. The full student list is in Section 3.5 and Appendix 1.

In addition, Erin MacDonnell completed her Honours degree in 2020 at RMIT University on the #TooGoodToThrow foodie bag project, receiving a First-Class Honours, and has since enrolled in a Masters project with the CRC to complete the manufacturing and commercialisation process for the innovative product and app she developed.

Unfortunately, due to COVID travel restrictions over the last 18 months the FLP has not been able to deliver the face-to-face interactive experience for students that we desired, and the program will need to focus on enhancing this experience in 2021/2022.

The second component, the Industry Connection Hub, has been discussed in the SME section above.

It is also detailed in the ENGAGE program update, and the Australian Industry Food Waste Training Needs Analysis is a case study later in this report.

An additional education and training activity in 2020/2021 was the Sustainable Save Food Packaging project involving Food South Australia, the AIP and FIAL. More details on this project are included in the program reports and case studies.

New Students in the Future Leaders Program 2020/2021

Student	Degree	Project	Host institution	Program
Lee Williams	Masters	Development of logistics and infrastructure of a regional organics waste transformation facility	University of Southern Queensland	TRANSFORM
Hannah Churton	PhD	Policy, regulation and legislation barriers, opportunities and recommendations to maximise utilisation of food waste and food by-products	University of Southern Queensland	TRANSFORM
Jack Hetherington	PhD	Understanding business decision making when food loss and waste data becomes visible	University of Adelaide	REDUCE
Lynne Loo	Masters	Supply chain and waste mapping in the Australian wild harvest abalone industry	Curtin University	TRANSFORM
Michael Walsh	PhD	Smart compost formulations to benefit crops, soil, and the circular economy	University of Queensland	TRANSFORM
Shanmugam Alagappan	PhD	Optimising and industrialising black soldier fly (BSF) production - redirecting food waste to livestock feed production using insects	University of Queensland	TRANSFORM



REDUCE Program Update

Sitting at the top of the food waste hierarchy, reduction and food rescue are the pillars of the REDUCE program, in conjunction with whole of supply chain waste mapping, hotspot analysis, business decision systems, packaging design, packaging and processing machinery and technologies, and consumer perceptions.

We have a great foundation of projects across the portfolio which are not only addressing Commonwealth milestones but importantly demonstrating the value of collective approaches to the multi-facets of tackling food waste.

Research and collaboration are occurring in many ways. Research teams comprising academics and researchers with industry partners; undergraduate, Honours, Masters, MBA and PhD students; supply chain partners ranging from primary producers, packaging suppliers, processing and machinery, retailers working in conjunction with government agencies; and food rescue with technology suppliers.

Each interaction and collaboration brings valuable knowledge and expertise and an opportunity to work together to reduce food waste. While the COVID-19 pandemic has created challenges to travel plans and ways of engaging, project teams have, where needed, adjusted modes of data collection or extended timelines to accommodate and ensure impactful results.

With multiple research outputs including technical reports, infographics, YouTube videos and briefing documents, we are working with project teams to ensure that key insights are being shared in accessible formats. Through this, more Australian data is being collected which is providing valuable material to inform not only the projects but new research opportunities.

REDUCE welcomed two new projects that were approved and contracted late in the year: Whole of meat supply chain waste mapping and interventions – Phase 1 (which will commence August 2021) and Consumer fridge behaviour and waste reduction of red meat (which will commence July 2021), both involving Meat and Livestock Australia (MLA).

Significant time has also been spent facilitating the engagement of stakeholders and scoping development of priority research projects aligned to the Fight Food Waste CRC Investment Framework.

These include food date mark labelling; hospitals and aged care; food service; and cold chain logistics with anticipated commencement of new projects in these areas in early 2022.

Each interaction and collaboration brings valuable knowledge and expertise and an opportunity to work together to reduce food waste.



Program Leader:
Karli Verghese

Program Team:
Leisha Ryding
Simon Lockrey
Dianne McGrath



Project achievement/impact summaries

DIRECT Commercialisation

Project partners: Empauer, RMIT

The project aims to develop an industry tool, Dynamic Industry Resource Efficiency Calculation Tool (DIRECT) Online, that quantifies cost and material aspects of food loss that occurs within businesses across the food supply chain. The project will involve digitising, enhancing, piloting and commercialising DIRECT Online. The system architecture, algorithms and user interface for DIRECT are now delivered. DIRECT aligns to the global Food Loss & Waste (FLW) Standard developed by the World Resources Institute and the mass/cost flow standard ISO14051, giving companies certainty that they are using world's best practice FLW benchmarking and strategy when using the tool. National and international peer review of this methodology was also undertaken. Piloting of the tool and development of case studies has now occurred. A short-animated video highlighting the functionality of DIRECT was released and was amplified on a grand scale by the BBC globally by way of the 'Better Lives Through Better Business' film. The film was launched at the Global Summit of the Consumer Goods Forum in June 2021. The launch and commercialisation of DIRECT is scheduled for late 2021.

Save food packaging criteria and framework

Project partners: AIP, RMIT, AFCCC, AFGC, AIFST, and Save Food Packaging Consortium (Australian Packaging Covenant Organisation (APCO), Multivac, Sealed Air, Zipform Packaging, Plantic, Result Group, and ULMA Packing)

Using the industry networks of the Australian Institute of Packaging (AIP), in partnership with the AFCCC, AFGC, AIFST, RMIT University and Save Food Packaging Consortium Advisory Group, this project will produce packaging design criteria and communication tools and best practice examples. This project integrates current research literature with the collective industry knowledge within the Save Food Packaging Consortium regarding the functional properties and role of packaging in saving food from being wasted. Insights from an online survey and a series of interviews assessing the current organisational roles and practices regarding food waste concerns and save food packaging (SFP) strategies were released. Product shelf life is the first and most important consideration within new product development; consumer food waste data is relatively unknown within the industry, relying heavily on feedback and complaints for packaging design improvements; and there are trade-offs between achieving packaging targets by 2025 and food waste targets of 2030. Work continues to develop the content of the criteria (to be released and piloted in late 2021), together with the development of case studies and training modules to be implemented into organisations. (See also Case study: Education and Training - Save Food Packaging Training.)

Consumer perceptions of the role of packaging in reducing food waste

Project partners: Sustainability Victoria, Woolworths, RMIT

This project aims at understanding consumer perceptions of the role of packaging in reducing food waste. The project will support greater understanding of the role that packaging plays in food waste in the home and identify communication, packaging and supply chain solutions to support food waste reduction at home. Consumer perceptions can change rapidly amidst shifting social views like increased environmental awareness and a desire to make a meaningful impact. Regularly studying consumer perceptions is important to assess opinion shifts. Research insights from the online survey of 1,000 consumers were released presenting how consumers perceive food waste and the role food packaging plays in minimising or eliminating food waste. Input from industry, through the Think Tank series, was sought using an online qualitative survey (80 respondents) and a seminar (14 participants) discussing the results and implications of the findings from previous consumer research modules (released August 2021). The Packaging Design and Information consumer module was also undertaken which was conducted via online interviews in households. The results (released August 2021) show that there are highly complex issues and many contributing factors to food waste in the household. Improved packaging and labelling can play a role in reducing household food waste.

The opportunities for Australia's processing and packaging machinery (PPM) sector to tackle food waste

Project partners: APPMA, RMIT

Packaging and processing machinery plays an integral role in crop yields, processing of ingredients and product, and packaging of food products such as shelf life, portioning, date labelling - all elements to reducing food waste. This project consisted of three stages (literature review, industry interviews, and survey among suppliers). The global baseline literature review released in 2020 provided a landscape study of relevant PPM technologies and solutions and their potential impact on FLW. The review recommended a strategic approach be taken incorporating various aspects of the food supply chain, as well as considering investment costs, sustainability impact, and industry demand in the supply chain, rather than a piecemeal approach that implements a single technology at any given point in the supply chain. Technologies include monitoring of microbial activity for extension of shelf life for the food product, and digital transformation technologies such as neural networks, blockchain, Internet of Things, sensors and radio-frequency identification (RFID), and robotics. APPMA members were also engaged through an online cross-sectional survey and interviews to provide case information about specific experiences, challenges, and outcomes in the context of food waste reduction ambitions and projects.

Foodbank meals via Y Waste app

Project partners: Foodbank Australia, Y Waste, NSW EPA, RMIT University

This project aims to develop and deliver an app designed to redirect end-of-day prepared food surplus from quick serve restaurants in an efficient way. In stage one, completed in November 2020, Foodbank Australia worked with Y Waste and Industrial Design and Digital Media students and staff at the RMIT School of Design to develop strategies and collateral for onboarding new users through charities and merchants. Foodbank and Y Waste provided iterative feedback throughout students' development process on strategies and collateral materials. The Y Waste app was expanded to include the option of restaurants offering free meals to people experiencing food insecurity. Stage two, which commenced in March 2021, saw NSW EPA join to undertake a NSW pilot study for the rollout of the app at state level. Development updates were made on the app, with user testing conducted by RMIT Digital Media students. Planning of marketing, social media and public relations rollout plans have commenced amongst project participants and key stakeholders.

Reducing canning losses in the abalone industry

Project partners: AAA, ACA, FRDC, SARDI

This project aims to provide robust scientific data to reduce the thermal process requirements for Australian wild caught and farmed abalone, leading to increased product yield and economic return. A pilot abalone husbandry trial was conducted to assess the feasibility of housing abalone in static seawater systems with daily water exchanges.

Acceptable water quality parameters, feed consumption rates and abalone mortality were determined.

The desired strain of *Clostridium sporogenes* has been cultivated on several occasions and forced to undergo sporulation for stability and recovery assays. Growth and spore yields have been consistent. Vegetative cells remain stable in phosphate buffer and show a gradual decline in aerated seawater. Recovery of spores in abalone feed remain ongoing and other internal method validations are being conducted. The steering committee decided to utilise commercial-sized Blacklip abalone (*Haliotis rubra rubra*) sourced from wild populations as the species to undergo future experiments. This grade of abalone represents the bulk of abalone that is commercially retorted.

Supply chain monitoring and improvement to reduce banana quality loss

Project partners: Pacific Coast Eco Bananas, QDAF, AFCCC

This project aims to monitor eco-banana shipments to improve banana fruit export quality, thereby enhancing industry reputation, profitability and sustainability. Several banana shipments, across winter and summer, were tracked from north Queensland farms through to importers in Hong Kong. Increases in airfreight costs and reduction in demand has meant fewer export shipments were dispatched. Variation in handling conditions between shipments, temperature gradients across loads, consolidation time, and ethylene ripening treatment duration resulted in fruit arriving with variable quality and shelf life. This provided opportunities to improve the consistency of practice towards delivering fruit of more predictable quality.

Due to impacts on exports associated with COVID-19, the team has shifted the focus to monitor and improve the domestic leg of the export supply chain where there is considerable scope for reducing quality loss and waste. Modified atmosphere packaging (MAP) applied at the fruit packing step was found to extend the storage life by five to eight days at typical airfreight supply chain temperatures.

Investigating new food insulation materials from food waste to reduce food waste

Project partners: Planet Protector Packaging, QUT

This project aims to reduce raw material cost, enhance cold chain integrity, and improve thermal performance of the Planet Protector Packaging product range by integrating agricultural wastes into the composition of its Woolpack thermal liners. The project demonstrates the collaborative outcomes that can be achieved through a CRC. Phase 1 involved KPMG undertaking a desktop review to identify and select agrifood waste materials for potential incorporation into Woolpack liners. Phase 2 aimed to produce and test new Woolpack composites. QUT obtained samples of agricultural waste materials selected in Phase 1 for further evaluation. These were processed to produce fibres for incorporation into blends with sheep wool waste. Laboratory-scale testing was undertaken by QUT in collaboration with the CSIRO manufacturing facility at Waurin Ponds using commercial-scale production equipment. These insights will assist Planet Protector Packaging to establish supply and value chains that integrate agricultural food production waste materials into Woolpack products. Planet Protector Packaging will use the sample materials provided to validate its insulative properties.

Enhancing Foodbank's stakeholder engagement

Project partners: Foodbank Australia, CQU

This project will improve Foodbank's understanding of two key stakeholder groups: charities who receive the food; and volunteers. Enhanced understanding of motivations and expectations of volunteers may not only result in provision of a more satisfying volunteer experience, but also an increase in donation of free labour, money and good by volunteers. The 2020 Hunger Report identified that prior to COVID-19, the main groups accessing food relief were families living on a low income, the unemployed, single-parent families, the homeless, and people with mental illness. Since March 2020, some of these groups have become even more vulnerable and need to access food relief more often. Charities have seen a significant increase in the frequency of demand for food relief. In 2019, 15% of Australians experiencing food insecurity were seeking food relief at least once a week. In 2020, this doubled to 31%. Charities have witnessed two new food insecure groups emerging as a result of the pandemic: the casual workforce, and international students. The response to the global pandemic has hindered the progress of data collection regarding understanding engagement with the charity and volunteer stakeholder groups. The research team continue to adapt to new ways of gathering these insights.

On-board processing and packaging innovation in the Australian wild harvest prawn fishery

Project partners: ACPF, Curtin University, FRDC, QDAF

This project aims to enable stakeholders throughout the prawn supply chain (on-board operators, transport and storage operators, food distributors/retailers), to benchmark prawn loss volumes and value, and identify possible intervention activities. On-board trials of six species in Northern Prawn Fishery were completed in addition to the Spencer Gulf trials. Retail display assessment protocols for metabisulphite alternatives were undertaken and the first trial completed with commercial product from six vessels. Sustainable packaging trials were conducted. Data on the various boxed retail formats were obtained to show changing trends in purchase behaviour and inform on-board process planning and experimental sustainable packaging options. On-board meta-alternative trials were completed in a variety of settings (different fisheries, on-board vessels, processing facilities and retail). On-board automated machinery was designed both in Australia and remotely in Denmark due to pandemic restrictions.

We have a great foundation of REDUCE projects across the portfolio which are not only addressing Commonwealth milestones, but importantly demonstrating the value of collective approaches to the multi-facets of tackling food waste.



REDUCE Case Study

KPMG Tax Project

A case study for tax reforms to increase food donation by business

This project has developed a costed case for tax reform in Australia for submission to the Australian Tax Office and Parliamentary and Ministerial Offices, with the objective of providing the evidence and advocacy to facilitate improvements in the tax incentives available to donors of surplus food, and the services and infrastructure that supports food donation and relief.

Food relief in Australia is delivered via partnerships between the charity and food sectors. Food is donated by industry to food relief organisations, such as Foodbank, which distribute it to frontline charities for dissemination to the public. Deciding to donate surplus food and then delivering it across Australia is a logistical jigsaw puzzle, and currently producers, manufacturers and the providers of transportation, pallet hire, storage and refrigeration are expected to provide their services without any form of incentive. The current tax framework in Australia is ineffective in ensuring food producers, businesses and retailers are adequately motivated to donate surplus to food relief.

In this project, food rescue charity Foodbank Australia, joined with KPMG, the Fight Food Waste CRC, and Woolworths, to build on work previously undertaken by Macquarie University Law School. That work highlighted that international experience has shown that the most effective way to motivate the food industry to donate food and associated support services to food relief charities is via reforms to the tax system, either in the form of tax deductibles or incentives.

A summary position paper was initially prepared by KPMG considering the current domestic tax position in relation to the deductibility of donations and service to Foodbank. It covered donations and services by individuals, sole traders and companies. KPMG then completed a tax policy paper (Proposal for the introduction of a National Food Waste Tax Incentive in Australia) which included a summary of the current position in Australian domestic tax law, a review of the approach in other jurisdictions, advice on design options for a tax policy that incentivises food donation to food relief including an assessment of the risks and benefits, and possible costing to government. This was summarised in a pre-Budget submission to the Commonwealth Government by Foodbank Australia accompanied by a letter of support from 17 companies and peak bodies.

The proposed National Food Waste Tax Incentive is a way to ensure more food gets to where it is needed rather than being wasted. To explain how it would work, a food producer operating a small business may have 500kg of perfectly edible excess zucchinis with a wholesale market value of \$750. Instead of dumping them due to the better-than-expected growing season, the farmer engages a local transport company to take the zucchinis to Foodbank at a \$250 transport fee. Under the proposed system, the producer would be entitled to a net cash tax refund of \$200.

In this example, the SME truck driver is also supported to take that surplus food to cold storage. If it stays over the weekend then support will be provided to the owner of that storage facility as well as the next truck driver who delivers it to Foodbank the next week when the warehouse is open. The National Food Waste Tax Incentive unlocks additional economic activity in the Australian food industry while creating jobs to facilitate the allocation and delivery of surplus food. The National Food Waste Tax Incentive will provide a net benefit to the Australian economy – it will go a long way to reduce the \$37 billion impact that food waste currently has and ensure good food feeds people in need.

Advocacy with the Commonwealth Government continues. A video explaining the tax reform proposal was also created as a tool to aid this activity.

REDUCE Case Study

Save Food Training



Save Food Packaging and Sustainable Packaging Knowledge and Expertise (REDUCE/ENGAGE)

At the core of the Australian Institute of Packaging (AIP) is its role in the education and training of individuals and organisations working across the field of packaging. Utilising the knowledge and expertise of its members, in conjunction with its collaborations with research groups, industry associations and government, sustainable packaging and save food packaging are cornerstones of its program. Joining as a foundation participant of the Fight Food Waste CRC, the AIP has demonstrated the value and contribution such a group can make overall.

In 2016, the AIP were the first World Packaging Organisation (WPO) member to design and develop a Save Food Packaging category in the Australasian Packaging awards. This has subsequently been replicated across other member countries' national awards. Winners of the Save Food Packaging PIDA and WPO Worldstar are showcased within articles, case studies, webinar, conference presentations and training modules prepared by AIP.

The first project that the AIP has led within the Fight Food Waste CRC brings together a cross functional and multi-disciplinary team of packaging companies and industry associations, the Save Food Packaging Consortium, and researchers from RMIT University, to develop save food packaging criteria and guidelines for the sector. Insights from an online survey and interviews exploring the focus of save food design were released in February 2021.

These activities have provided a baseline for the sector currently, and determined the material needs to be developed through the criteria, guidelines, case studies and associated training materials which will be piloted through late 2021/2022. Industry knowledge and expertise regarding shelf-life extension, resealability, date labelling and packaging design are examples of information being collected and shared.

Many articles concerning the role that packaging plays in minimising food waste continue to be written by the AIP, members of the Save Food Packaging Consortium, and researchers from other packaging projects within the CRC. The findings from the CRC reports and the broader CRC project continue to be distributed globally including to Latin America, Europe, Asia, Australia, New Zealand, the USA and Canada, Indonesia, the Philippines and to World Packaging Organisation members. Several podcasts have been created, together with webinar and conference presentations for such events as: Food and Drinks Indonesia, FoodTech PackTech NZ, APCO and AIP Webinar, ProPack Philippines, Pack Impressions, Informa Markets & WPO Webinar, 2020 Global Packaging Forum: Virtual Edition, 2020 AIP Australasian Packaging Conference: Virtual Edition, and AWRE 2020. The webinars in the last year have reached a global audience of more than 2500 people.

The Sustainable Save Food Packaging project (ENGAGE Program) brought together South Australian food and beverage businesses and expertise in packaging and waste recycling, with the aim of increasing industry's understanding of the relationship between packaging and food waste.

A three-staged approach deliberately built collaboration amongst the businesses and the AIP member experts in increasing the level of knowledge about where and why food loss and waste occurs, and the role of packaging in minimising food loss. The project successfully increased the businesses' understanding of sustainable packaging and stimulated an interest in food waste reduction for the South Australian food and beverage industry. The project highlights the need for Food South Australia to actively build on these outcomes, especially in the lead up to the 2025 National Packaging targets.

Other examples of knowledge sharing, and education and training include sustainable packaging review and advice within another two REDUCE program projects: On-board processing and packaging innovation in the Australian wild harvest prawn fishery project with Curtin University ACPF, FRDC and QDAF, and assisting with the Code of Conduct and Training modules with the Australian Food Cold Chain Council. The AIP clearly demonstrates the value of cooperation and collaboration by CRC participants to tackle food waste.

TRANSFORM Program Update



The TRANSFORM Program brings the unique perspective of looking at food waste as a resource that can be used as an input into new products and processes. Where reduction is not possible, TRANSFORM projects focus on solutions to add value to food waste streams to create new products and outputs.

The TRANSFORM Program has four strategic activities which include: identifying and prioritising commercially valuable products from waste streams; developing and prototyping new technologies for waste transformation; designing decision support tools/ frameworks to optimise technology and waste input combinations; and identifying regulatory options to promote investment in waste transformation.

This financial year has seen some substantive changes and progress for the TRANSFORM Program, from resourcing arrangements to the strategic intent. An advisory group of leading academics was formed in October 2020 to provide guidance to the TRANSFORM Program and leverage expertise from the Fight Food Waste CRC research participant cohort.

Following a TRANSFORM Advisory Group meeting in late 2020, the decision was made to restructure the TRANSFORM team from a 0.5 FTE in-kind Program Leader and 1.0 FTE Program Coordinator to: 1 FTE Program Leader (position appointed in April 2021), 1 FTE Deputy Program Leader (recruitment to commence in early 2021/2022) and 0.6 FTE Program Coordinator (recruitment commenced in May 2021, with the successful candidate due to commence in July 2021).

The TRANSFORM Program will place substantial focus on high value conversion of food waste streams into products for human consumption or animal feed, aligning with Australia's efforts towards achieving Sustainable Development Goal 12.3; of halving food waste by 2030.

In 2020/2021, five Strategic Milestones for the Fight Food Waste CRC were completed by the TRANSFORM Program. These included milestones 2.1 (review of waste streams), 2.2 (initial proof of concept testing), 2.7 (review of technology needs for waste streams and products), 2.8 (conceptual solutions for modular technologies) and 2.13 (data collate on waste composition, potential hazards and volumes relevant to partner organisations).

Over the past year, the TRANSFORM Program has welcomed three PhD students (in addition to the existing PhD student who commenced in 2020/2021) and two Masters students focusing on opportunities to add value to food waste streams. These projects span from tailored compost formulations through to understanding governance frameworks that will support the valorisation of fruit and vegetable waste.

The TRANSFORM Program portfolio currently contains 14 full-scale projects. In addition, the TRANSFORM Program oversees the Small to Medium Enterprise (SME) Solutions Centre which currently

has six targeted SME projects underway. Across 2020/2021 three TRANSFORM projects were completed (Transformation of surplus/waste tomato and capsicum produce into value added products (Stage 1), Options for utilising apple and pear pulp residue, and Make Australian Country Choice Circular). Eleven projects were initiated (including four SME solutions centre projects), the remaining projects began in 2019/2020.

Four projects underway are due to be completed imminently. One additional project, New Opportunities for Abalone Processing Waste, was approved in this reporting period and will commence early in 2021/2022. At the end of the reporting period there were eight TRANSFORM projects in the development pipeline which will be progressed in 2021/2022. These projects range from technological solutions through to food waste transformation models.

In 2021/2022 the TRANSFORM team look forward to working with Fight Food Waste CRC participants to develop additional projects that will support food waste to be put to its optimal (highest value) use and deliver outcomes and impacts across the TRANSFORM Program's strategic activity areas.



Program Leader:
Francesca Goodman-Smith

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Meagan Wheeler
Jessica Morgan



Project achievement/impact summaries

Transformation of surplus/waste tomato and capsicum produce into value added products (Stage 1 & 2)

Project partners: BGGGA, Whitsunday Regional Council, QDAF

This project aims to value add to more than 40,000 tonnes of tomato and 10,000 tonnes of capsicum waste generated every year in the Bowen & Gumlu region. The stage 1 project, a collaboration between Queensland Department of Agriculture and Fisheries (QDAF) and Bowen Gumlu Growers Association (BGGGA), was completed in December 2020 and a stage two project commenced in 2021. Stage 1 established proof of concept and protocols for value adding to surplus tomatoes and capsicums. Stage 2 will further develop technologies and screen major varieties of tomato and capsicum for any significant variations in nutritional and bioactive (lycopene and β -carotene) contents in the finished products. Stage 2 began in June 2021 and is set to run until February 2022. Overall, the project (Stages 1, 2 & 3) aims to value-add thousands of tonnes of surplus/waste tomato and capsicum produce worth approximately \$300m that is currently fed to cattle or simply discarded as waste every year.

Options for utilising apple and pear pulp residue

Project partners: Green Industries SA, SARDI

This project will be a guide as to what apple and pear juicing businesses could do with the pomace/pulp that is a byproduct of their activities. There are currently more than 500 commercial apple and/or pear growers in Australia, and each year the apple and pear juicers have approximately 34,000 tonnes of pomace/pulp by-product.

Most of this is used as animal feed or compost, with little going to high value uses. As part of a collaboration between the Department of Primary Industries and Regions (PIRSA), through the South Australia Research & Development Institute (SARDI) and Green Industries SA, this project investigated the potential uses for apple and pear pulp, including compositional analysis of macro and micro nutrients, their yield and relative value, potential end-users and the relative costs of the technology to create other value-added products including pectin, fibre, celluloses and hemicelluloses. The report provided insights relevant to apple and pear juicers regarding the possibilities for extracting greater value from this by-product stream. Ultimately, this research will increase the proportion of pomace/pulp going into higher value processing options, offering the possibility for businesses to make a secondary income from the by-product through conversion into value-added products and ingredients.

Nutraceutical extraction from Australian wine industry waste

Project partners: Swisse Wellness, Swinburne University of Technology

This project aims to deliver high purity Grape Seed Extract from Victoria pinot noir grape marc; a first for Australia. The project will be the Fight Food Waste CRC's first step in to establishing the Australian nutraceutical ingredient supply chain. Approximately 1.73 million tonnes of wine grapes are used to produce wine every year in Australia. Close to finalisation, this initial pilot-project led by Swinburne University explored the extraction of Grape Seed Extract (GSE) from grape marc (skins and seeds) as a locally produced, known source, sustainable ingredient for Swisse Wellness.

To date, the laboratory stage validation, including technical feasibility and yield optimisation, has been achieved and the research team have focussed on progressing from proof of concept to high volume production. If this project is successful, Swisse intend on supplementing the 50 tonnes of GSE they import each year with locally sourced product, which would require 25,000 tonne of grape marc per annum. Additionally, if all 150 tonnes of GSE imported per annum were replaced, the 100,000 tonne of unutilised marc in Australia could be transformed and generate sales in excess of \$10 million per annum.

Converting potato waste into pre-biotics and other valuable products

Project partners: The Mitolo Group, Zerella Fresh, SA Potato Co, Potatoes South Australia, University of Adelaide

This project aims to generate novel high value products from food and agricultural waste, which increases income and profitability for the entire value chain and benefits multiple sectors through the creation of new businesses. The transformation of 100,000 tonnes of downgraded potatoes (40% of total produced for the fresh market) into high value products is an urgent requirement for the industry to improve profits. The two-year collaborative project of Australian potato producers and the University of Adelaide began in September 2019 and aims, in part, to build the foundation for a raw potato starch industry to reduce the 20,000 tonnes imported annually. The project is also investigating and trialling methods to convert the current waste stream into a range of high-value products and chemicals, with a focus on pre-biotic and other food applications recovered from the biorefinery process.

The project has developed new methods to characterise the composition of the potato biomass and has identified and quantified, in addition to the predictable starch components, several bioactive compounds which can potentially be incorporated into a diversity of commercial products. In some cases, prototypes have been established, spanning a range of applications from packaging materials to food supplements.

Utilising nut waste in the sandalwood industry to enhance profitability and sustainability

Project partners: ChemCentre, Chameleon Innovations

The project will utilise existing nut waste in the WA sandalwood industry to enhance industry profitability and sustainability through the creation of innovative high value products for local and export markets. The Australian Sandalwood is a unique native tree that is used for essential oil production. At present, the majority of the edible sandalwood nuts are left on the ground to rot due to a lack of markets for the product. In Western Australia (WA) alone, this food loss is estimated at 1,500 tonnes of sandalwood nuts per annum. This four-year project, initiated in January 2021, provides a structured and certified development pathway for total harvest by increasing utilisation and valorisation of the sandalwood nut. It will use WA plantation products to grow export market value through an established international distributor network. It is anticipated this innovative project, led by ChemCentre and Chameleon Innovations, could improve the income generated by the WA sandalwood industry by up to \$57 million per annum and is likely to create both direct and indirect jobs, through the establishment of a sandalwood nut industry in Australia.

Make Australian Country Choice circular

Details included in case study

Food waste to pig feed – safe and bio-secure

Project partners: SARDI, University of Adelaide

In Australia, animal feed comprising of wheat and grains is approximately 60% of the cost of raising pigs on-farm. Meanwhile, in countries such as Japan and South Korea, which widely use mixed food waste, pig feed costs are reduced by 40-60%. For this to be a viable option in Australia, there are biosecurity and food safety concerns that must be first addressed. This project, which began in December 2020, explores these to further understand the opportunity on behalf of Australian pork producers. Work has commenced on identifying food waste volumes, locations and sources for animal feed in Australia, through analysis of existing data and discussions with Green Industries SA and Veolia. Outputs from the project include the analysis of the food safety and biosecurity risks and hurdles required to safely utilise food waste into pig feed, basic nutritional evaluation of waste streams, and techno-economic analysis of the feasibility of utilising food waste in regional areas.

Optimising and industrialising black soldier fly (BSF) production - redirecting food waste to livestock feed production using insects

Project partners: Goterra, University of Queensland

This project is for insect producers focused on creating livestock feed. It is designed to define quality assurance practices that align and are in accordance with existing Australian regulation and policy. Insect production can reduce the 3 million tons of otherwise difficult to process food waste from entering landfill, while profitably producing protein, oil, and carbohydrates. The three-year project began in June 2021 and is a collaboration between Goterra and the University of Queensland. The project will address the roadblocks identified by the AgriFutures Australian insect production plan by using black soldier fly larvae (BSFL) as a waste management tool and a livestock feed. The project will produce a roadmap to harmonise current BSFL production with existing standards and regulation governing livestock feed and defined research priorities. It will also develop screening methods to discover and control waste streams that are appropriate to produce animal/chicken feed and create processing methods to allow a wider range of waste streams by removing contaminants. Long term this research will improve the processing capability and accessibility to some of the hardest to manage food wastes in the supply chain.

From food waste to smart compost formulations (SCF)

Project partners: Peats Soil & Garden Supplies, AORA, University of Queensland

Compost has a long history in primary production, and smart compost formulations developed in this project will take the next step to support modern agriculture and the circular economy. Near completion, this Stage 1 project involving the University of Queensland and Peats Soils & Garden Supplies will produce a high value compost product derived from food and green waste with the overarching aim to replace a significant fraction of mineral fertilisers used on farms. The glasshouse research testing SCFs, including data analysis, has been completed and a literature review on the risk of human pathogen transfer from compost to food has been prepared. This project lays the foundation for a high value compost product that will increase the utilisation of post-consumer food waste by the industry partner by 50,000 tonnes per annum at three sites in Adelaide and surrounding regions. If this innovation is adopted by other compost manufacturers in the region, it has the potential to increase utilisation of food and organic waste in compost by more than 200,000 tonnes per annum, with a market value of \$125 million per year.

Pilot-scale production of enhanced-value anaerobic digestion waste (digestate) derived bioproducts on the Darling Downs

Project partner: University of Southern Queensland

Commencing in October 2020 and led by the University of Southern Queensland, this project includes the design and construction of a granulator that converts anaerobic digester residues from food waste and biosolids into a fertiliser containing both organic and mineral components. The project will utilise purpose-built prototype equipment in which digestate blended with urea and potash is transformed into solid granular fertiliser. The project will evaluate the proposed formulation(s) and product format, determine the fertiliser replacement value of anaerobic digestion digestate-derived products, and develop guidelines for use.

The project has the potential impact to reduce the 7.6 million tonnes of food waste generated per annum nationally by a substantial proportion through transforming the digestate into a readily usable agricultural product. Such a development will enable improved resource use efficiency and will likely deliver tangible benefits both to producers (reduced reliance on mineral fertilisers) and the wastewater industry and municipalities (reduced cost of disposal), as well as increase opportunities to meet long-term nutrient recycling targets.



Waste-to-Energy: Fuelling sustainable wastewater treatment with food waste

Project partners: Urban Utilities, University of Queensland

In early 2020, Queensland Urban Utilities and the University of Queensland began a project which uses anaerobic co-digestion as a platform technology to transform Food Organics Green Organics (FOGO) into green renewable energy, and fertiliser for land application. Anaerobic co-digestion can be applied to create value from food waste, however different operational limits, process risks and cost-benefit factors apply. Understanding these limitations is core to this project, with the principal focus being on scale-up, process integration and optimisation of retrofitted anaerobic co-digestion processes within existing infrastructure constraints. Laboratory experiments and preliminary techno-economic assessment have delivered promising results and identified optimal feedstock combinations. Installation of a pilot plant is underway that will allow these findings to be tested at scale. Adoption of co-digestion technology has the potential to divert almost 20% of Australia's total food waste from landfill.

Advancing regional agri-food waste valorisation

Project partners: Toowoomba and Surat Basin Enterprise, University of Southern Queensland

This project will map the Toowoomba region's agricultural and municipal organic waste to identify significant opportunities for industry to divert food waste from landfill and to encourage further recycling of agricultural organic waste from the region. Commencing in September 2020, this project seeks to develop solutions not only to handle commercial food waste, but household food waste as well.

The University of Southern Queensland is working with the Toowoomba and Surat Basin Enterprise to identify business opportunities for stakeholders in the intensive agriculture, food processing and municipal waste industries in the Toowoomba region.

Toowoomba City currently landfills 11,272 tonnes/pa of garden organics and 16,600 tonnes/pa of food waste and commercially collected organics. This project is developing a business case for organics which will lead into an investment decision for processing organics and food waste into higher value products such as energy and fertiliser. To date, a survey of 300 businesses has been developed and sent out, and a plan to implement a strategy to increase capture and beneficial processing of municipal organics has been presented to the Toowoomba Regional Council.

Fight Food Waste Small to Medium Enterprise Solutions Centre
Details included in case study

TRANSFORM projects focus on solutions to add value to food waste streams to create new products and outputs.

TRANSFORM Case Study

SME Solutions Centre



SME Solutions Centre

Established in August 2019 to provide support for SME organisations (matching funds up to \$50,000) to conduct research, development and innovation to design solutions that reduce or transform agri-food waste within their business.

The key objectives of the SME Solutions Centre are to:

- > test new and novel food processing, packaging and agricultural technologies to REDUCE food and agricultural waste
- > identify valuable products in food and agricultural waste streams and TRANSFORM them into new commercial opportunities
- > ENGAGE experts from across the Fight Food Waste CRC industry and research participant cohort to identify technology opportunities and processes to enhance food and agricultural waste reduction.

The SME Solutions Centre has so far funded six projects from successful applicants:

- > Livestock and Equine Scoping Study with Banana Feeds Australia and the University of Adelaide
- > Value adding underutilised/waste pumpkin (Orange Glow) produce with Daintree Fresh and Queensland Department of Agriculture and Fisheries
- > Anthocyanin retention in Queen Garnet plums during processing and bottling with Nutrafruit and the University of Southern Queensland
- > Production and characterisation of potato protein isolate powder using mild, low cost and healthy extract method with Pacific Ag and RMIT University
- > Circular fruit waste with Montague Fresh and RMIT University
- > Prioritisation of value-adding opportunities to upcycle brewing by-products with Grainstone and the Queensland University of Technology.

The SME Solutions Centre is funded and operated by FIAL in conjunction with QDAF. Its initial year proved so successful that FIAL agreed to near double its funding, taking the program through until mid-2022. The SME Solutions Centre has strived to drive collaboration between SMEs and researchers, with a view to developing a basic understanding of how each other operates as an organisation, and through this process establish how they can best work with each other to co-develop innovative solutions. Through this engagement it is hoped that a collegiate relationship of trust and confidence can be built between industry partners and researchers enabling the undertaking of future co-designed projects with greater confidence and trust. The funding available brings together researcher and business to work towards the understanding of what a successful product or process technology to mitigate or transform food waste might look like, and to what level research can assist in developing or validating the solution, process, or technology.

Two example projects are detailed below:

Livestock and equine scoping study

Project partners: Banana Feeds Australia, University of Adelaide

Banana Feeds Australia identified a potential opportunity to utilise its waste bananas as a livestock nutraceutical product to mitigate equine health issues, including equine gastric ulceration syndrome and oxidative stress, both of which can be addressed by antioxidant supplementation. Initial research indicated that using green bananas and their skins in an equine diet may help prevent equine gastric ulcer syndrome, due to the strong antioxidant content of these bananas.

This project aims to validate this link with the horse industry and to investigate additional health benefits that the banana product could provide as a dried banana crumble product equine supplement. If successful, Banana Feeds Australia will have the potential ability to convert its existing banana waste into approximately 5,000 tonnes of dry product, significantly increasing its profitability. Through this trial, researchers have been able to access clinical trials with equine stock, which would have been impossible without this partnership. The project is nearing completion, and the trials with horses are complete. The analysed results and report from the trials will be finalised by the end of August 2021.

Orange Glow – value adding underutilised/waste pumpkin produce

Project partners: DaintreeFresh, QDAF

Pumpkin is a major horticultural crop in Queensland and throughout Australia worth approximately \$80 million per annum. Daintree Fresh produces approximately 30,000 tonnes of pumpkins a year, however around 20-30% of their production is lost or wasted due to a range of reasons. This project explores ways to produce high value products including probiotic juices, powders and proteins from low-grade pumpkins. This is done by utilising both existing and new processing technologies such as membrane separation, freeze/ thermal drying and supercritical fluid extraction. Initial method development and proof of concept experiments have been conducted and product samples have been produced. Due to the smaller size and scale of the Daintree Fresh pumpkin waste, this project would not have been possible without SME Solutions Centre funding. This project provides technical-ready solutions to industry within a 12-month compressed timeframe. A yet to arrive piece of technology will enable completion of the scale-up trial in late 2021.

TRANSFORM Case Study

ACC Circular



Make Australian Country Choice Circular

Project partners: Australian Country Choice, University of Southern Queensland, Woolworths

This project involved a desktop analysis to identify and clarify economically feasible closed loop concepts for Australian Country Choice (ACC), a Queensland company supplying high-quality beef products to Woolworths supermarket and others. ACC is the largest family-owned, fully vertically integrated beef and cattle company in the world. It is a third-generation business with over 50 years of experience in beef and cattle production.

ACC manages nearly 2.4 million hectares of pastoral, grazing and farming land, with a carrying capacity of over 300,000 head on their cattle stations and strategically located feedlots. It operates a meat processing facility at Cannon Hill, Brisbane which has the capacity to process 350,000 cattle annually and manufacture 75,000 tonnes of retail-ready and value-added products annually for Woolworths and others domestically and internationally.

In 2020, ACC partnered with the University of Southern Queensland and Fight Food Waste CRC to undertake a project to identify and define prospective closed-loop concepts to pilot and adopt across their operations, and to lay the foundation for future spin-off projects within the Fight Food Waste CRC.

“The current project aligned well with our environmental values, specifically helping our company to identify on-going and emerging opportunities to extract value from our organic processing wastes to profit our business,” explained Paul Gibson, ACC Research Development Innovation Group Manager.”

Implementation of closed-loop technologies across the red meat processing sector can enable significant recycling of food waste, increasing the profitability of the sector. Such technologies can also provide benefits further up the livestock supply chain to intensive feeding and on-farm production, and have applications in other sectors including dairy. This project delivered a set of short, medium and long-term strategies specific to ACC to help the organisation progress towards circularity.

Research findings indicated that as much as 675,000 tonnes of organic waste, a significant proportion of which is food waste, is produced annually by red meat processing (RMP) across Australia. A significant amount of organic waste ends up in relatively low-value end uses; in fact, food waste is often combined with wastewater, which affects closed-loop technology options. After understanding the scale of the issue and current food waste management practices, the research team investigated the feasibility of opportunities for valorisation using closed-loop technologies. Integration of closed-loop technologies can provide multiple benefits such as reduction in waste, recovery of energy and water, reduction in energy consumption, and reduction in greenhouse gas emissions. Several closed-loop technologies showed merit for red meat processing wastes, but many of these are still under development and, because of significant anticipated benefits, justify further research. These technologies included: solar or belt drying of organic waste; screening, settling or flotation; anaerobic treatment of wastewater; and membrane filtration for potable

water recycling. Testing and development of such technologies

should continue and is a priority to ensure that a pipeline of relevant concepts is available into the future.

“The project identified multiple benefits in integrated technology solutions such as anaerobic treatment of processing waste water to recover energy, reduce organic sludge and improve water and nutrient recycling,” explained project leader, Professor Bernadette McCabe. “These concepts can be further developed and piloted to advance commercial solutions that reduce food waste and profit the red meat processing industry into the future.”

Significant data gaps identified by the project team included availability of waste data across the red meat processing sector, technology performance testing and scaling to full-scale commercial systems, business case development for circular concepts, and a need to confirm market credentials for products of closed-loop technologies.

Analysis of project outcomes also highlighted how the combined integration of various closed-loop technologies may provide greater benefits, maximising resource recovery and minimising wastage. Examples include the anaerobic treatment of red meat processing wastewater, allowing energy recovery in the form of biogas for onsite electricity or heat production and potable water recycling, which could enhance nutrient recovery opportunities for novel agronomic purposes and may make water available across a broader supply chain.





ENGAGE Program Update

The ENGAGE Program has eight active projects, two PhD and two Masters by research students.

Education and training activities are embedded within the ENGAGE program rather than being a separate activity. Outputs in this program relate to:

Output 1 – Educating future industry professionals

Output 2 – Industry dissemination and skills training

Output 3 – Household and business behaviour change

In relation to Output 1, the Future Leaders Program is the key deliverable. Our Research Higher Degree program continued to grow in 2020/2021 onboarding five PhD and two Masters by research students. There are now 14 students involved in the Future Leaders Program. Outputs 2 and 3 aim to assist businesses and individuals to embed daily habits that aim to eliminate food waste. Research from the social science disciplines will identify changes in behaviour and supporting infrastructure to help stop food waste entering landfill. In relation to Output 2, a comprehensive report *Australian Industry Food Waste Training Needs Analysis* was completed in 2020/2021. This report provides valuable evidence-based insights into the education and training needs of industry in recognising and minimising food waste. A case study on the work is presented later.

Another industry training highlight for the year was the Sustainable Save Food Packaging course developed and run by the Australian Institute of Packaging, Food South Australia and Food Innovation Australia Ltd. This project is an excellent example of what can be achieved through a CRC when participants collaborate.

The advancement of knowledge and approaches for embedding food waste reduction activities in households and businesses throughout Australia that are being developed within the Fight Food Waste CRC relate to Output 3. While the ultimate end users are individuals in their personal or professional lives, much of the research effort is directed at and undertaken in partnership with organisations which have direct contact with these individuals.

In 2020/2021 ground-breaking Australian research was delivered in the Designing interventions to reduce household food waste project (Household Project), with the production of reports on *Global best practice for designing interventions to reduce household food waste* and *Australian household food waste* (which includes a summary report and five individual data reports). This important information forms a strong foundation of research to support future national food waste consumer behaviour change programs led by government and industry. A case study on the research is presented later.

Substantial progress was also made in the last year to the important area of adding to our understanding of how to use social media to connect with audiences around food waste reductions with the commencement of two new projects: Fight Food Waste 'It's Easy As' social media campaign; and Social media: the real impact on food waste reduction beyond the swipe or the click.

Research outputs from the overall ENGAGE Program are expanding the options for organisations to ensure all food produced for human consumption is eaten through:

- > providing future industry leaders who have the passion, skills and networks to commit their professional life to reducing food waste.
- > facilitating the provision of training opportunities to ensure employees have knowledge on how to reduce food waste, and
- > providing evidence-based insights on how to help those responsible for food provisioning in households ensure all food bought is eaten.

Identifying solutions to change deeply engrained human behaviours in directions that support reducing food waste in organisations and households, and providing skilled professionals who are able to contribute to a food waste free future, will remain the ongoing priorities for the ENGAGE team.

Finally, a big thank you to our Fight Food Waste CRC community for your support of the ENGAGE program these past 12 months. Central Queensland University (CQU) continues to provide strong support for the program, particularly Vice President - Research (Grant Stanley), Director of Research (Leslie Walker), Dean College Business and Law (Lee Di Milia) and the Office of Research. Our sincere thanks for your support and encouragement!



Program Leader:
David Pearson

Program Team:
Alexandra Guest



Project achievement/impact summaries

OUTPUT 1 - Educating future industry professionals

Future Leaders Program

Project partners: Central Queensland University, KPMG

The Future Leaders Program will produce a capable, confident and savvy food waste transformation workforce which will contribute to the development of the Australian economy and enhance social impact.







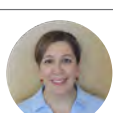
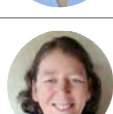
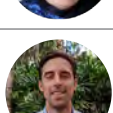

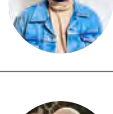
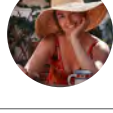

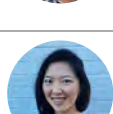
Professional mentoring managed by KPMG sees students build connections with industry, gain skills in being an enterprising professional and develop research translation expertise. When travel restrictions allow, students will meet in person as part of the Fight Food Waste CRC Annual Conference and at student retreats. In addition, regular gatherings are held throughout the year via electronic means where themed meetings are chaired on a rotational basis by students.

As of June 30, 2021, the Future Leaders Program contained 14 students, 10 PhD and 4 Masters, against a whole of life target of 30 PhD and 12 Masters students. Details of current students are listed on the adjacent page, and in Appendix A.

The Future Leaders Program had its first face-to-face student retreat in April 2021, organised by CQU's Associate Professor Olav Muurlink and KPMG's Associate Professor Tangerine Holt, with assistance from Georgina Cohen. The retreat included site visits, meeting Fight Food Waste CRC Board and staff (pictured below), industry sessions with KPMG and a hands-on workshop on Adaptive Leadership with the Leaders Institute of South Australia.



Future Leaders Program Students

Name	Student Type	Research project title	Research Program	Host Research Institution	
Ruby Chan	PhD	Integrating Save Food packaging criteria into new product development processes	REDUCE	RMIT University	
Trang Nguyen	PhD	Understanding the behavioural and attitudinal determinants of household food waste in Australia	ENGAGE	University of Adelaide	
Roland Somlai	PhD	Integrating decision support tools into organisations for food waste strategies	REDUCE	RMIT University	
Khoulood Kamalmaz	PhD	Enhancing Foodbank's stakeholder engagement	REDUCE	Central Queensland University	
Roanna Jones	PhD	Opportunities for reducing horticultural food wastes using biorefining approaches	TRANSFORM	Queensland University of Technology	
Danica Jobson	Masters	Socially responsible household practices to reduce food waste	ENGAGE	Central Queensland University	
Josephine Buckman	Masters	Developing customer insights for Woolworths	ENGAGE	Central Queensland University	
Esther Landells	PhD	Local government's role in helping households reduce food waste	ENGAGE	Central Queensland University	
Michael Walsh	PhD	Smart compost formulations to benefit crops, soil, and the circular economy	TRANSFORM	University of Queensland	
Shan Alagappan	PhD	Optimising and industrialising black soldier fly (BSF) production – redirecting food waste to livestock feed production using insects	TRANSFORM	University of Queensland	
Hannah Churton	PhD	Policy, regulation and legislation barriers, opportunities, and recommendations to maximise utilisation of food waste and food by-products	TRANSFORM	University of Southern Queensland	
Lee Williams	Masters	Development of logistics and infrastructure of a regional organics waste transformation facility	TRANSFORM	University of Southern Queensland	
Lynne Loo	Masters	Supply chain and waste mapping in the Australian wild harvest abalone industry	TRANSFORM	Curtin University	
Jack Hetherington	PhD	Understanding business decision making when food loss and waste data becomes visible	REDUCE	University of Adelaide	

OUTPUT 2 - Industry dissemination and skills training

Industry Connection Hub

Project partners: Honey & Fox, AFCCC, AFGC, AIFST, AIP, AORA, APPMA, CCIC, Food South Australia, Food and Fibre Gippsland, FIAL

The Industry Connection Hub is the vehicle the Fight Food Waste CRC uses to distribute, inform, educate and communicate CRC research results to industry participants and to the wider industry in general. The project is also designed as an engaging portal for the two-way flow of information between peak industry participants and researchers. Part of this is to encourage industry representatives to pass on information that allows the implementation of new knowledge, technology, method or process in their members' place of employment.

Publication of the Australian Industry Food Waste Training Needs Analysis in August 2020 identified gaps in current food waste training options available for industry. It outlines what micro, small, medium, and large food businesses understand about industry food waste challenges and what they would need out of any food waste training. Data was collected from multiple sources: an environmental scan, desktop audit, online survey, and focus groups. Outcomes will assist Industry Connection Hub memberships.

Sustainable packaging to reduce food waste

Project partners: Food SA, AIP, FIAL

The project brought together South Australian food and beverage businesses with expertise in packaging and waste recycling. Its aim was to increase industry's understanding around the relationship between packaging and food waste. Employees participated in an introductory workshop, had a tour of a Materials Recovery Facility, individual consultation sessions, and contributed to a collaborative forum.

A total of 31 employees from different SME food and beverage companies participated and benefited from an increased understanding of how to address packaging challenges associated with reducing food waste. A staged level of involvement was encouraged, allowing businesses to engage based on their current level of understanding and availability of time.

This project was based in South Australia and is seen as a pilot for other states and territories. It was completed in December 2020.



OUTPUT 3 - Household and business behaviour change

Designing effective interventions to reduce household food waste

Project partners: ACT Govt, Green Industries SA, NSW EPA, Qld DES, Sustainability Vic, WA Waste Authority, FIAL, Foodbank Australia, OzHarvest, Woolworths, WRAP, CQU

This project is undertaking collaborative research that is helping partners to assist households to reduce food waste. These evidence-based insights around food provisioning in Australian households allow for identification of areas to target for interventions designed to make it easy for individuals to ensure they eat all the food they buy so as to prevent waste.

State and Territory governments have already used many of these insights to improve the design and deployment of behaviour change interventions.

Further, this type of information provides a solid foundation upon which to make an investment in a national consumer food waste reduction campaign. This will nudge the social norm, so that food is seen as a valuable resource and hence not wasted, through creating a common message. This will be amplified by interested parties and repeated over a substantial period of time to ensure new habits are embedded.

Food waste reduction roadmap for Woolworths

Project partners: Woolworths, Central Queensland University

This project is assisting Woolworths with the development and implementation of a Food Waste Reduction Roadmap that includes a monitoring, evaluation, reporting and improvement framework.

The overarching Food Waste Reduction Roadmap is now completed and signed-off by Woolworths. Product Category Program Plans for Fresh Produce and Bakery have been finished. Further, a Meat and a Deli Plan are in the final stages of completion.

The Roadmap has outlined the activities that Woolworths needs to take to become a leader in the food waste space. To this end, Woolworths is implementing IT upgrades that will allow them to track, measure and act with more impact across the value chain.

Social media: the real impact on food waste beyond the swipe of the click

Partners: NSW EPA, QUT

This project aims to identify viable research approaches, models, and indicators to assess the multifaceted effect of social media campaigns targeting incremental changes in behaviour that result in reductions in food waste.

It will provide best practice guidelines for future planning, design, and ongoing evaluation of social media campaigns in this area. Results from focus groups confirm a holistic communication that engages emotions and reaches values is necessary.

The systematic literature review on impact of social media on food waste behavioural intentions and subsequent behavioural changes is being supported by best practice examples collected from the global case studies.



'It's Easy As' social media campaign

Project partners: Fight Food Waste CRC

The project delivered a national digital public education campaign with creative and impactful messages showing Australians how they could save money by reducing food waste.

Saatchi and Saatchi delivered the creative campaign 'It's Easy As'. The campaign achieved a reach of 4.5 million, and had over 70,000 page views, during its three months of paid 'push' of delivery. Lessons learnt regarding delivery, target audiences and creative assets are available on the CRC's website (Final Report and Food Waste Bite summary) and will be applied to future national consumer behaviour change campaigns. This project was completed in November 2020 and delivered by the Fight Food Waste CRC as part of the Australian Government stimulus package in response to COVID-19.

WWW (What, where and why) of household food waste behaviour

Project partners: East Waste, Green Industries SA, University of Adelaide

The aim of the project is to increase our understanding of household and the broader community's in-home waste behaviours with the objective of being able to deliver targeted education, behaviour change and incentive-based food waste reduction programs. Bin audits on 214 households have been completed, over one thousand Adelaide households surveyed for their food waste behaviour, a review of the literature is continuing and modelling of waste streams of councils is ongoing.

The project team has started to share preliminary results at relevant industry conferences. These results complement, build on and extend those being gathered in the project 'Designing effective interventions to reduce household food waste'.



The Australian Household Waste study is the largest investigation ever undertaken to determine the how, why and where of food waste in Australian homes.

ENGAGE Case Study

Equipping practitioners to help households reduce food waste through collaborative research



Equipping practitioners to help households reduce food waste through collaborative research

For Australia to reach its ambitious goal of halving food waste by 2030 we must make it easy for all of us to reduce the amount of food wasted at home. The latest research findings estimate around one third of all food lost or wasted in Australia occurs in households.

The collaborative nature of the Fight Food Waste CRC provides a unique opportunity to generate Australia-wide solutions where rigorous research provides insights that improve the impact of food waste reduction efforts in all sectors of our society.

With this background, over three years ago Fight Food Waste CRC hosted two workshops where organisations shared their challenges and associated pain-points. The emerging identification of common ground led to the formation of the Designing effective interventions to reduce household food waste project (the Household Project).

This extensive collaboration brings together industry, governments and the for-purpose sector with university research expertise. United under the common vision of addressing the 'real-world' problem of ensuring 'we eat all the food we buy' the Household Project is delivering nationally important research insights.

To date these insights have covered an international best practice review of household food waste, a nationwide baseline of household food waste and behaviours causing it, and a behavioural segmentation of Australian households. Ongoing research will identify the most impactful interventions and how to evaluate their effectiveness. Outcomes from this research will inform the development of household food waste interventions for many years.

State and Territory governments are already using these insights to improve the design and deployment of behaviour change interventions. Further, this information provides a solid evidence base upon which to invest in a nationwide consumer food waste reduction campaign. This will nudge the social norm, so that food is seen as a valuable resource and not wasted. Through creating a common message, amplified by interested parties and trusted voices, and repeated over a sustained period of time, new habits will be formed and embedded.

The Household Project is a collaboration of 12 stakeholders, all represented on a project Steering Committee. This includes Australia's largest supermarket retailer Woolworths, the Food and Agribusiness growth centre (FIAL), every mainland state government and the ACT, Foodbank Australia and OzHarvest, the UK's Waste and Resources Action Program (WRAP), and Central Queensland University.

Multi-disciplinary teams from these representatives are developed to manage research across the seven structured work packages.

The Household Project has a budget of almost \$1m and is supported by two research higher degree students (one PhD and one Masters by research).

ENGAGE Case Study

Australian Industry Food Waste Training Needs Analysis



Australian Industry Food Waste Training Needs Analysis

This report reviewed and identified the gaps in food waste training for industry and consequently new areas for investment and development in food waste training. It outlines what micro, small, medium, and large food businesses understand about industry food waste challenges and outcomes they would need from any food waste training. Data was collected from multiple sources: an environmental scan, desktop audit of training programs, online search, online survey, and focus groups.

The report reveals what business-related food waste training opportunities are currently available in Australia and overseas. This includes nationally accredited units and training packages through the vocational training system, as well as other non-accredited options.

Outcomes from the report will assist the Fight Food Waste CRC's Industry Connection Hub members to support and grow their training offerings as well as increase their memberships.

The direct engagement with, and contribution from, a wide representation of organisations in industry, to provide data for the report and ensure its outcomes are relevant to their needs, was facilitated through the collaborative structure of the Fight Food Waste CRC. This strong voice from industry, through the online survey and focus groups, was vital for identifying existing and new areas to be developed in food waste training.

The report provides objective independent evidence for peak industry bodies, businesses, and training organisations along the whole food supply chain, to support and grow their training offerings. The focus groups were particularly informative, where participants agreed on the need to understand the value of food waste and what can be done to reduce it. This sentiment is captured in the following quote from a survey participant:

“...we need to understand... it isn't just our problem – it becomes their problem and then their problem becomes our problem, so we try and work together...”

Industry partner, Honey & Fox is working alongside the Fight Food Waste CRC to identify opportunities to commercialise findings from the Training Needs Analysis. The options currently being explored to ensure tangible outcomes are achieved include:

- > Work with Australian Skills Quality Authority and the Australian Industry Skills Committee to include food waste content across a number of nationally recognised industry training packages;
- > Develop a user-friendly, searchable, dynamic online database for food waste training to facilitate connections between trainers and those seeking to improve their skills; and
- > Work with other CRC participants, their food business community, local training providers (TAFE SA) and Honey & Fox (Myfoodbusiness online training platform) to develop a simple decision support tool, describe key competencies for employees, and specific food waste related training modules.

Lead by industry partner Honey & Fox, the Australian Industry Food Waste Training Needs Analysis was published in August 2020 and is available on the Fight Food Waste CRC website.

Risk and Impediments

Audit Risk Management & Compliance Committee

The Fight Food Waste CRC continued to utilise its established risk management processes with governance oversight provided by the Audit, Risk Management & Compliance (ARMC) Committee.

Key risks and impediments experienced during the reporting period along with mitigation strategies are described in the table on the adjacent page:

Risk and Impediments 2020/2021

Risk/ Impediment	Description	Mitigation
<p>COVID-19 impacts</p>	<p>COVID-19 restrictions have delayed progress of some projects and some of the Fight Food Waste CRC's strategic milestones (9 milestones delayed by approx. 1 year)</p> <p>One project that was to involve 'in-store' research has been terminated.</p> <p>Business development challenges as described below.</p> <p>Research partners have been impacted by lost revenue from overseas students leading to a reduction in staffing.</p> <p>Health and wellbeing of our people has suffered because of lockdowns.</p>	<p>Worked with project teams to re-scope projects finding alternative ways to meet objectives and achieve impact.</p> <p>Identified and recruited for postgraduate student projects to help address gaps to achieve strategic milestones.</p> <p>Adjusted our ways of working to reduce the reliance on face-to-face meetings.</p> <p>Proactive and open communication with research partners regarding challenges and strategies to drive their return on investment</p> <p>Increased focus on people and culture, flexible work practices and encouraging the use of our employee assistance program to all staff (whether employed by the Fight Food Waste CRC or not).</p>
<p>Business development challenges</p>	<p>Economic uncertainty has made companies reluctant to invest in research & development.</p> <p>University research partners have lacked resources to support new project development due to staffing cuts.</p> <p>State Government research partners have lacked dedicated personnel to support new project development within the CRC.</p> <p>The CRC has not had the right resourcing to support business development objectives particularly in the TRANSFORM Program.</p> <p>Travel restrictions have prevented in person meetings and made relationship building difficult.</p>	<p>New collateral and processes developed to support business development, including our Value Proposition, 2021-2028 Investment Framework and capability statements for each of our research partners.</p> <p>Monthly management team business development meetings instituted and sharp focus on project development pipeline.</p> <p>Key new appointments made to support State Government research partners with the Queensland Innovation Manager commencing in June 2021 and the South Australian Innovation Manager to commence in September 2021.</p> <p>Full time TRANSFORM Program Leader appointed. TRANSFORM Program Advisory Committee established.</p> <p>Organisational change implemented in July 2020 with the CFO appointed to COO role to enable the CEO to increase focus on business development.</p>

Intellectual Property Management

The treatment of Intellectual Property and the closely related issue of commercialisation have been carefully considered in the establishment phase of the Fight Food Waste CRC. In 2020/2021, no formal intellectual property (IP) was generated from research because the research activities had not progressed to an appropriate stage. We anticipate that this situation will change in future years as several of the initial projects in the portfolio are finalised and formal IP protection becomes a consideration.

Whilst not directly related to research projects, trademarks have been granted for the Fight Food Waste CRC logo (#1967475 and #1967476) and for the #Too Good to Throw logo (#2042033) which are widely used in our communication activities.

In the development of the policies and processes, it was determined that industry participants within projects will have the first right to submit utilisation plans for the IP developed. Ordinarily, project IP will be owned by the project parties in shares (based on their respective contributions to the project), and any income from the commercialisation of project IP will be split in accordance with these shares.

Utilisation plans are to be agreed by all project parties (including the Fight Food Waste CRC management team and the Research and Commercialisation Committee) prior to a project commencing and will be reviewed annually to determine ongoing appropriateness and varied if required.

Key clauses related to IP and commercialisation from the Core Participants Agreement have been incorporated into the Fight Food Waste CRC Project Guidelines developed to assist participants in developing new projects.

Utilisation outcomes from the Fight Food Waste CRC will include a mixture of public and confidential information, new tools and techniques for identifying, reducing (including innovative packaging) and transforming food and industry waste and gaining access to highly skilled postgraduates and industry professionals for building the future specialised workforce.

Identification and management of IP

Through quarterly reporting the Program and Project Leaders will identify any emerging IP and report to the Fight Food Waste CRC management team.

Protection of IP

The utilisation plan (agreed at commencement of a project) will outline which party is responsible for managing the protection of IP. Where the Fight Food Waste CRC is responsible, it will engage the services of professionals to put in place the appropriate IP protection. It should be noted that some Fight Food Waste CRC projects will have utilisation plans where IP protection is not appropriate such as those that involve the widespread public promotion of research outcomes and reports.

Ownership of IP

Ordinarily (unless otherwise agreed in the Project Agreement), upon its creation, project IP will be owned by the project parties in proportion to their respective contributions to the project and protected and used in accordance with the terms of the applicable project agreement.

Assessment of existing IP and sharing of benefits

A project participant making its pre-existing material available to the project will do so on a non-exclusive, royalty-free basis for the term of the project. The contributing party will continue to own and control its pre-existing material (including any improvements); it may also continue to use its pre-existing material freely provided the use is not inconsistent with the terms of the project agreement.

If the party utilising the project IP requires a licence to use pre-existing material, the contributing party will grant them a licence on reasonable commercial terms.

Transparency and reporting

The Fight Food Waste CRC will keep a register of project IP and pre-existing material that specifies who owns the IP and the rights and obligations attached.

Potential conflict of interest

The independent Fight Food Waste CRC Board is responsible for approving all utilisation plans. The Board has processes for dealing with any Directors' conflicts of interest, where if any real or perceived conflict exists then a Director will be excluded from the decision-making process.

Commercialisation of research findings

The utilisation of the project IP will be as agreed and set out in the utilisation plan in the applicable project agreement. Notwithstanding the grant or loss of utilisation rights to a project participant, each project party will be granted a non-exclusive, royalty-free and perpetual right to use the project IP solely for the purposes of internal research, education, awareness campaigns and teaching. The project party must maintain confidentiality and must not prejudice the protection or utilisation of the project IP.

Through the agreements and strategy outlined above, the arrangements will ensure that the IP is identified, protected and exploited to maximise the potential national benefits accruing to Australia.

Intellectual capital

While protection of IP is important, it is the development of IC (intellectual capital) that will possibly be more important in this CRC with the unimpeded sharing of new knowledge being a key factor in achieving the Fight Food Waste CRC's aspirations of reducing food waste in many outcome areas. The Industry Connection Hub is one avenue established to assist in this.

Whilst these principles guide the Fight Food Waste CRC's contracting framework, there is a recognition that these guiding principles can be amended to reflect the commercial and real-world requirements of the projects and can be adjusted through the contracting process prior to any project commencing.



CRC future plans and transition arrangements

The future plans for 2021/2022 are clear and will move from the previously discussed 2020/2021 expansion activities to delivery focusing on five key areas:

1. Significantly expand research activities that will reduce unearned revenue from the current level of ~\$8M through:
 - > the development of new projects that utilise existing untied forward participant contributions, and
 - > the recruitment of new industry participants and projects that utilise uncommitted Primary Industries and Regions South Australia and Queensland Department of Agriculture and Fisheries contributions and matching CRC Grant funding.
2. Related to the last area, grow the Fight Food Waste CRC's industry cash contributions back to that of the initial Grant Agreement (\$1M).

3. Establish a range of new high impact projects that target significant food loss and waste opportunities in Australia that involve:

- > extensive collaboration across whole sectors and/or value chains,
- > have a 3+ year duration and higher cash value than projects approved to date,
- > work across multiple Fight Food Waste CRC programs.

Examples are outlined in the 2021-2028 Investment Framework released in February 2021. Planning for many of these projects is now well advanced.

4. Secure an agreed collaboration and funding model for a national behaviour change program targeting the 2.5 million tonnes of household food waste generated each year in Australia.

It is envisaged that this program would become part of FFWL's operations, together with the Fight Food Waste CRC and Stop Food Waste Australia (SFWA).

5. Integrate Fight Food Waste CRC and SFWA to ensure we have a seamless offering for our existing and new industry and government participants.

In addition, SFWA aims to have secured at least 25 signatories for the Australian Food Pact, and have two additional Sector Action Plans underway, likely with the dairy and grains/bakery sectors.

The envisaged future transitions arrangements are that Fight Food Waste CRC funding will end in June 2028, as per the current Grant Agreement. Fight Food Waste Ltd will continue on through SFWA, by which time it will be financially self-sufficient, and a national behaviour change division will have been created.

The organisation will continue to target a halving of industry and consumer food loss and waste by 2030, as per the existing company constitution, in line with the National Food Waste Strategy and United Nations Sustainable Development Goal 12.3. As per the FIAL National Food Waste Strategy Feasibility Study, it is only through delivering these essential components that Australia can achieve its goal of halving food waste by 2030.

Governance

The adjacent organisation chart, as of June 30, 2021, details the structure of the two divisions that Fight Food Waste Ltd (ABN 90 627 226 537; a registered charity) runs in pursuit of its constitutional objectives.

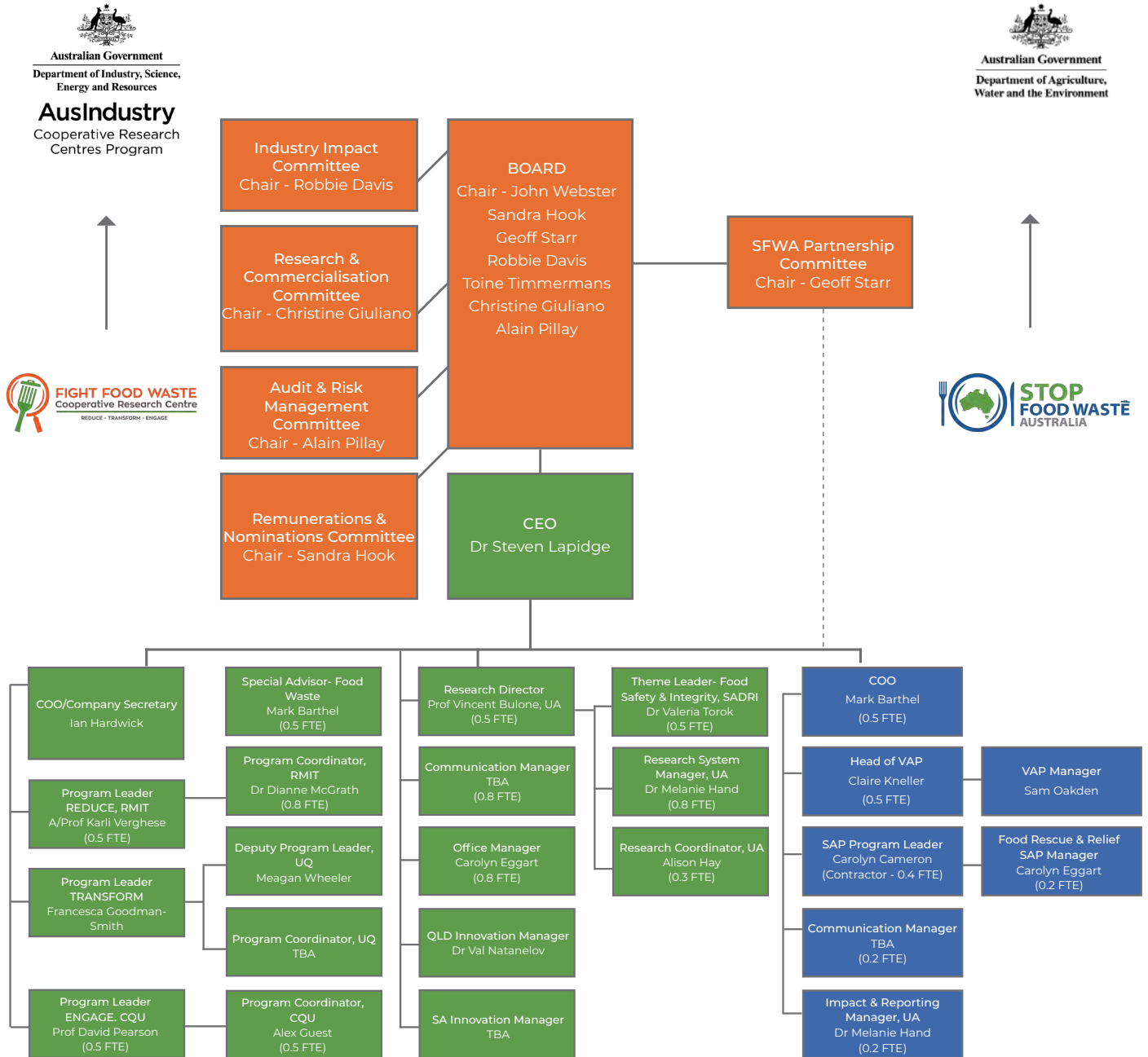
The Fight Food Waste Cooperative Research Centre commenced on July 1, 2018, for 10 years and receives its primary funding through the Australian Government Department of Industry, Science, Energy and Resources CRC Program.

Stop Food Waste Australia commenced on January 1, 2021, with 3.5 years of seed funding from the Australian Government Department of Agriculture, Water and the Environment.

The integration and expansion of the two divisions will be essential to ensure that Australia has the best possible chance of achieving United Nations Sustainable Development Goal 12.3 of halving food waste by 2030.

In 2021/2022 FFWL aims to better integrate the two divisions to ensure a seamless offering to industry, governments and society.

Fight Food Waste Ltd Organisation Chart



Appendices



Appendix A

Fight Food Waste CRC

Scholarship Students (2020-2021)

Research project title	Research Program	Host Research Institution	Student Type	Name	Commencement date	Expected Completion Date	Country of Origin
Integrating Save Food packaging criteria into new product development processes	REDUCE	RMIT University	PhD	Ruby Chan	2/09/2019	2/09/2023	Australia
Understanding the behavioural and attitudinal determinants of household food waste in Australia	ENGAGE	University of Adelaide	PhD	Trang Nguyen	1/10/2019	1/10/2023	Vietnam
Integrating decision support tools into organisations for food waste strategies	REDUCE	RMIT University	PhD	Roland Somlai	1/11/2019	31/10/2023	Hungary
Enhancing Foodbank's stakeholder engagement	REDUCE	CQ University	PhD	Khouloud Kamalmaz	9/01/2020	9/01/2024	Australia
Opportunities for reducing horticultural food wastes using biorefining approaches	TRANSFORM	Queensland University of Technology	PhD	Roanna Jones	24/02/2020	23/02/2024	Australia
Socially responsible household practices to reduce food waste	ENGAGE	CQ University	Masters by Research	Danica Jobson	1/06/2020	31/05/2024	Australia
Developing customer insights for Woolworths	ENGAGE	CQ University	Masters by Research	Josephine Buckman	1/06/2020	31/05/2024	Australia
Local government's role in helping households reduce food waste	ENGAGE	CQ University	PhD	Esther Landells	1/07/2020	30/06/2024	Australia
Smart compost formulations to benefit crops, soil, and the circular economy	TRANSFORM	University of Queensland	PhD	Michael Walsh	1/07/2020	30/06/2024	Australia
Optimising and industrialising black soldier fly (BSF) production - redirecting food waste to livestock feed production using insects	TRANSFORM	University of Queensland	PhD	Shanmugam Alagappan	6/10/2020	30/09/2024	India
Policy, regulation and legislation barriers, opportunities, and recommendations to maximise utilisation of food waste and food by-products	TRANSFORM	University of Southern Queensland	PhD	Hannah Churton	22/02/2021	21/02/2024	Australia
Development of logistics and infrastructure of a regional organics waste transformation facility	TRANSFORM	University of Southern Queensland	Masters	Lee Williams	22/02/2021	21/02/2024	Australia
Supply chain and waste mapping in the Australian wild harvest abalone industry	TRANSFORM	Curtin University	Masters	Lynne Loo	15/03/2021	15/03/2023	Australia
Understanding business decision making when food loss and waste data becomes visible	REDUCE	University of Adelaide	PhD	Jack Hetherington	28/06/2021	28/06/2014	Australia

Appendix B

Participants and third parties

Participant Name	Acronym	Type	ABN/CAN	Org Type
Abalone Association of Australasia Incorporated	AAA	Core	93 373 883 402	Industry
Abalone Council Australia Ltd	ACA	Core	14 108 092 271	Industry
Australian Council of Prawn Fisheries Ltd	ACPF	Core	31 052 207 191	Industry
Australian Country Choice Production Pty Ltd	ACC	Supporting	32 079 436 258	Industry
Australian Food and Grocery Council	ACFG	Supporting	23 068 732 883	Industry
Australian Food Cold Chain Council Ltd	AFCCC	Supporting	15 621 254 448	Industry
Australian Institute of Food Science and Technology Ltd	AIFST	Supporting	15 602 767 019	Industry
Australian Institute of Packaging Inc	AIP	Core	35 092 354 071	Industry
Australian Organics Recycling Association Ltd	AORA	Supporting	17 158 519 736	Industry
Australian Packaging and Processing Machinery Association Ltd	APPMA	Core	62 051 388 053	Industry
Bowen Gumlu Growers Association Inc	BGGA	Core	35 729 953 455	Industry
Central Coast Industry Connect Ltd	CCIC	Supporting	51 605 544 223	Industry
Central Queensland University	CQU	Core	39 181 103 288	University
Central SEQ Distributor-Retailer Authority (Queensland Urban Utilities)	QUU	Core	86 673 835 011	Industry
Chameleon Innovations Pty Ltd		Core	68 629 148 590	Industry
Chemistry Centre (WA)		Core	40 991 885 705	Government research provider
Curtin University		Core	99 143 842 569	University
Eastern Waste Management Authority		Core	18 048 361 442	Industry
Empauer Pty Ltd		Core	95 614 415 146	Industry
FADA Pty Ltd t/a Pacific Coast Produce		Core	84 269 588 959	Industry
Fisheries Research and Development Corporation	FRDC	Core	74 311 094 913	Government
Food and Fibre Gippsland Inc		Supporting	27 546 137 219	Industry
Food Innovation Australia Ltd	FIAL	Core	50 164 124 609	Government
Food South Australia Inc		Core	59 149 235 570	Industry
Foodbank Australia Ltd		Core	58 073 579 254	Industry
Goterra Pty Ltd		Core	97 612 974 688	Industry
Green Industries SA (as a body corporate pursuant to the Green Industries SA Act 2004)	GISA	Core	76 149 388 126	Government
Gretals Australia Pty Ltd		Core	54 605 253 441	Industry
Honey and Fox Pty Ltd		Supporting	85 606 554 947	Industry
KPMG		Supporting	51 194 660 183	Industry
Minister for Primary Industries and Regions South Australia (Acting through the South Australian Research and Development institute)	PIRSA SARDI	Core	53 763 159 658	Government research provider
Mitolo Developments Pty Ltd		Core	86 123 214 068	Industry
NSW Environment Protection Authority	NSW EPA	Core	43 692 285 758	Government
OzHarvest Ltd		Supporting	33 107 782 196	Industry

Participant Name	Acronym	Type	ABN/CAN	Org Type
Peats Soil & Garden Supplies Pty Ltd		Core	40 099 625 555	Industry
Planet Protector Packaging Pty Ltd		Core	65 614 861 791	Industry
Potatoes South Australia Inc		Supporting	45 568 994 361	Industry
Queensland Department of Environment and Science	QDES	Core	46 640 294 485	Government
Queensland University of Technology	QUT	Core	83 791 724 622	University
Regional Development Australia Murraylands and Riverland Inc	RDAMR	Core	32 137 252 384	Industry
RMIT University	RMIT	Core	49 781 030 034	University
SM Adams & Others (Piper Alderman)		Supporting	42 843 327 183	Industry
Sampano Pty Ltd		Supporting	56 608 519 893	Industry
Queensland Department of Agriculture & Fisheries	QDAF	Core	66 934 348 189	Government research provider
Sustainability Victoria		Core	62 019 854 067	Government
Swinburne University of Technology	SUT	Core	13 628 586 699	University
Swisse Wellness Pty Ltd		Core	62 004 926 005	Industry
The South Australian Potato Company Pty Ltd		Core	48 090 103 549	Industry
The Trustee for The Favco Trust t/a Favco Queensland Pty Ltd		Core	22 608 312 386	Industry
The University of Adelaide	UA	Core	61 249 878 937	University
The University of Queensland	UQ	Core	63 942 912 684	University
Toowoomba and Surat Basin Enterprise Pty Ltd	TSBE	Core	85 155 004 523	Industry
Transport Canberra City Services Directorate (ACT NoWaste)		Core	37 307 569 373	Government
University of Southern Queensland	USQ	Core	40 234 732 081	University
Waste & Resource Action Program (UK)	WRAP	Supporting	N/A	Industry
Western Australia Department of Water and Environmental Regulation	DWER	Core	28 428 443 065	Government
Whitsunday Regional Council		Core	63 291 580 128	Government
Woolworths Group Ltd		Core	88 000 014 675	Industry

New Participants

Participant Name	Type	ABN/CAN	Org Type
Goterra Pty Ltd	Core	97 612 974 688	Industry

Departed Participants

Participant Name	Type	ABN/CAN	Org Type
Entopia Biotechnologies Pty Ltd	Core	97 612 974 688	Industry
*Thomas Foods International Fresh Produce Pty Ltd	Core	28 164 983 591	Industry

*Company bought by The Mitolo Group

Appendix C

2020/21 Research Publications

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2. Amarakoon, U. (2021). Consequences of food insecurity on Australians posters. Fight Food Waste Cooperative Research Centre, Australia.
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4. Bessa, L., Pieterse, E., Marais, J., Dhanani, K. and Hoffman, L. (2021). Food Safety of Consuming Black Soldier Fly (*Hermetia illucens*) Larvae: Microbial, Heavy Metal and Cross-Reactive Allergen Risks. *Foods*, 10(8), p.1934. DOI: <https://www.mdpi.com/2304-8158/10/8/1934>
5. Brennan, L., Langley, S., Verghese, K., Lockrey, S., Ryder, M., Francis, C., Phan-Le, N.T., and Hill, A. (2021) The role of packaging in fighting food waste: A systematised review of consumer perceptions of packaging. *Journal of Cleaner Production* 281, 1-46. DOI: <https://doi.org/10.1016/j.jclepro.2020.125276>
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7. Fight Food Waste CRC (2020). Food Waste Australian Household Attitudes and Behaviours National Benchmarking Study Final Report. Fight Food Waste Cooperative Research Centre, Australia.
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14. Karunasena, G.G. and Pearson, D. (2021). In-home research on Australian household food waste - Kerbside bin audit findings of actual food waste. Fight Food Waste Cooperative Research Centre, Australia.
15. Karunasena, G.G. and Pearson, D. (2021). In-home research on Australian household food waste - Focus group findings of attitudes to food waste. Fight Food Waste Cooperative Research Centre, Australia.
16. Karunasena, G.G. and Pearson, D. (2021). In-home research on Australian household food waste - Survey findings of behaviours and perceived food waste. Fight Food Waste Cooperative Research Centre, Australia.
17. Langley, S., Francis, C., Ryder, M., Brennan, L., Verghese, K., and Lockrey, S. (2020). Consumer Perceptions of the Role of Packaging in Reducing Food Waste. Baseline Industry Report. Fight Food Waste Cooperative Research Centre, Australia.

18. Langley, S., Hill, A., Lodge, S., Young, G., Mulherin, P., Verghese, K., and Mulherin, P. (2020). Opportunities for packaging and processing machinery and technologies to tackle food waste. Baseline Review Insights. Fight Food Waste Cooperative Research Centre, Australia.
19. Langley, S., Parker, L., Phan-Le, N T., Brennan, L., Verghese, K., Lockrey, S., Hill, A., Francis, C., Ryder, M., Alessi, N., Jackson, M., Sherman, A., and Chorazy, E. (2021). Consumer Perceptions of the Role of Packaging in Reducing Food Waste. Pack Information Interviews. Insights Report. Fight Food Waste Cooperative Research Centre, Australia.
20. Lapidge, S. (2020) Fight Food Waste Cooperative Research Centre – A National Public-Private Partnership to Reduce Food Loss and Waste in Australia. Proceedings of the 2019 Pontifical Academy of Sciences Conference on Reduction of Food Loss and Waste, Vatican City. Pp 180-184.
21. Leenders, M., Verghese, K., Hill, A., Langley, S., Young, G. and Coy, E.J. (2021). Opportunities and Barriers for the Australian Packaging and Processing Machinery Sector to Tackle Food Waste. Sector Landscape Study. Fight Food Waste Cooperative Research Centre, Australia.
22. Lockrey, S., Hill, A., Langley, S., Ryder, M., Francis, C., Brennan, L., and Verghese, K. (2020). Role of packaging in consumer's food waste journey – summary. RMIT University and Fight Food Waste Cooperative Research Centre, Australia.
23. Lockrey, S., Hill, A., Langley, S., Ryder, M., Francis, C., Brennan, L., and Verghese, K. (2020). Consumer Perceptions and Understanding of Packaging Journey Mapping Insights Report. Fight Food Waste Cooperative Research Centre, Australia.
24. Malhi, N., Carragher, J., Saarela, M., and Pahl, S. (2021). A review of opportunities to recover value from apple and pear pomace. Fight Food Waste Cooperative Research Centre, Australia.
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26. Mereddy, R. (2020). Transformation of surplus tomatoes and capsicums- Progress update. Fight Food Waste Cooperative Research Centre, Australia.
27. Nabi, N., Karunasena, G.G. and Pearson, D. (2021). Food waste in Australian households: Role of shopping habits and personal motivations. *Journal of Consumer Behaviour*. DOI: <https://doi.org/10.1002/cb.1963>
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31. Torok, V., Luycx, K. and Lapidge, S. (2021). Human food waste to animal feed: opportunities and challenges. *Animal Production Science*. DOI: <https://doi.org/10.1071/AN20631>.
32. Wilkins, T. (2021). Fight Food Waste - It's Easy As. Fight Food Waste Cooperative Research Centre, Australia.

Appendix D

Financial Statements

Fight Food Waste Limited

ABN: 90 627 226 537

Financial Statements

For the Year Ended 30 June 2021

Fight Food Waste Limited

ABN: 90 627 226 537

Contents

For the Year Ended 30 June 2021

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Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

The Directors present their report on Fight Food Waste Limited (FFWL; ABN 90 627 226 537) for the financial year ended 30 June 2021. FFWL was established in July 2018 and is an independent organisation that manages the Fight Food Waste Cooperative Research Centre (FFW CRC)) which commenced 1 July 2018 and Stop Food Waste Australia (SFWA) which commenced 1 January 2021. FFWL is a company Limited by Guarantee with members being the FFW CRC core participants that have opted to become members.

Five Board Committees operate to assist with the effective running of FFWL:

- Audit, Risk Management and Compliance Committee (ARMC)
- Research & Commercialisation Committee (RCC)
- Industry Impact Committee (IIC)
- Remuneration and Nominations Committee (RNC)
- Stop Food Waste Australia Partnership Committee (SFWA)

Charters for the Board and each Committee set out the governance framework and role for each. Three of these committees (ARMC, RCC, RNC) are usual in any Cooperative Research Centre. The Industry Impact Committee is an innovation of this organisation to ensure that an initial focus on impact and ongoing measurement of impact is integral in every aspect of operations. As a result, all research projects are required to clearly record the baseline position regarding food waste and then measure impact delivered in terms of tonnage reduction in food waste and increase in commercial returns together with environmental benefits where applicable.

The SFWA Partnership Committee was established during the year to oversee the establishment and ongoing operation of Stop Food Waste Australia. The Committee will ensure compliance with the Commonwealth's governance and reporting requirements as specified in the Grant Agreement that provides 'seed funding' for the Stop Food Waste Australia, compliance with the governance and reporting requirements as specified in the Partnering Agreement with the Commonwealth and other consortium partners and oversight of the risk management, control and compliance framework (including regulatory requirements) as they relate to SFWA.

As part of the Company's financial performance reporting, we have adhered to the Australian Accounting Standards as set out in the notes to these accounts. The most critical policy impacting on the reported results was the matching of contributions to project obligations (see Note 3) which will result in a zero surplus until such time as any commercialisation gains are realised.

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report 30 June 2021

Key management personnel

Names	Position	Appointed/Resigned
John Webster	Non-Executive Director and Independent Chair	02/07/2018*
Toine Timmermans	Non-Executive Director	02/07/2018*
Geoff Starr	Non-Executive Director	02/07/2018
Sandra Hook	Non-Executive Director	02/07/2018
Christine Giuliano	Non-Executive Director	02/07/2018
Robbie Davis	Non-Executive Director	02/07/2018**
Alain Pillay	Non-Executive Director	02/07/2018**
Dr Steven Lapidge	CEO	02/07/2018
Ian Hardwick	COO, FFW CRC & Company Secretary	18/02/2019
Mark Barthel	COO, SFWA	01/01/2021

* Re-appointed 21/11/2019

** Re-appointed 27/11/2020

Principal activities

Fight Food Waste Limited (FFWL; ABN 90 627 226 537) is a registered charity with the Australian Charities and Notforprofits Commission. The key legal agreements establishing both FFWL, FFW CRC and SFWA are:

- FFWL Constitution
- CRC Grant Agreement between the Commonwealth of Australia and Fight Food Waste Limited
- Core Participants Agreement between all Core (cash contributing) participants and Fight Food Waste Limited
- Individual Supporting Participants Agreements between in-kind only contributing participants and Fight Food Waste Limited
- Grant Agreement between the Commonwealth of Australia and Fight Food Waste Limited establishing the National Food Waste Governance Entity (known as Stop Food Waste Australia)

FFWL aims to tackle the growing international problem of food waste, both here in Australia as well as to contribute to global knowledge and action.

The FFW CRC brings together industry, research and the community to capitalise on Australia's food waste opportunities. Winning this fight could save Australia \$20 billion per annum in food while increasing industry profitability and reducing food insecurity, as well as enhancing Australia's reputation as a sustainable producer of premium food products.

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

Principal activities (continued)

SFWA was established this year to oversee the establishment and ongoing operation of Stop Food Waste Australia that will play a key role in delivering the National Food Waste Strategy to halve food waste in Australia by 2030 through the undertaking of the following activities:

- Implementing a voluntary commitment program
- Developing new, and implementing existing, sector action plans
- Stimulating active stakeholder engagement
- Partnering with existing food waste initiatives
- Establishing a communication “home” for food waste activities
- Evaluation, monitoring and reporting

No other significant changes in the nature of these activities occurred during the year.

Objectives

The overarching strategic objectives of FFWL are to deliver:

- A transformation in the way Australian industry and consumers view food waste as well as contribute to food rescue.
- A suite of new tools and technologies for extracting the maximum value out of primary production, food manufacturing, supply chains and product sales, whether through supply chain innovation or waste transformation.
- Reduction in food waste entering landfill and associated greenhouse gas emissions.
- Future industry professionals skilled in capturing opportunities identified by industry.

Strategic plan

The FFW CRC will achieve its purpose through three main research, development and extension programs. They are:

REDUCE food waste throughout the supply chain by:

- Delivering supply chain analysis tools
- Developing a framework for optimal packaging design
- Establishing innovative supply chain and packaging solutions
- Identifying options to optimise food rescue.

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

Strategic plan (continued)

TRANSFORM unavoidable waste into innovative products by:

- Identifying and prioritising commercially valuable products from waste streams
- Developing new technologies for waste transformation
- Creating decision support tools and identifying regulatory options to promote investment in waste transformation

ENGAGE with industry and consumers to deliver behavioural change by:

- Educating future industry professionals
- Industry dissemination and skills training
- Facilitating household and business behaviour change

SFWA will achieve its purpose through:

- Implementing a voluntary commitment program
- Developing new, and implementing existing, sector action plans
- Stimulating active stakeholder engagement
- Partnering with existing food waste initiatives
- Establishing a communication "home" for food waste activities
- Evaluation, monitoring and reporting

Members' guarantee

The Company is incorporated under the *Corporations Act 2001* and is a Company limited by guarantee. If the Company is wound up, the constitution states that each member is required to contribute a maximum of \$10 each towards meeting any outstandings and obligations of the Company. At 30 June 2021 the number of members was 24 and the collective liability of members was \$240.

Operating results

The Company received total contributions from the CRC Program and Participants of \$9,399,524. Such contributions are treated as contract liabilities until matched against expenditure in the course of the Company's activities. Direct expenditure totalled \$4,669,746 and operating expenditure (net of interest earned) totalled \$1,478,527. Revenue received during the year which has been treated as a contract liability on the statement of financial position was therefore \$3,251,251, bringing the total liability to \$9,038,314.

The net surplus/deficit of the Company for the year therefore amounted to \$0.

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

Review of operations

The Company is in a sound financial situation at the end of June 2021 including a cash carry forward balance of \$10.07M. This carry forward is due to cash contributions having been received from the Commonwealth CRC Program and from many of the Participants (in accordance with the Core Participants Agreement) from July 2018, but the research activities having only more recently commenced. Unspent contributions have been recorded as a 'contract liability' in the financial statements rather than a surplus. Of this contract liability, \$0.755M relates to industry/end user participant contributions, \$1.915M to State Government research organisation contributions, \$0.644M to SFWA Grant funds and \$5.723M to CRC Grant funds. Much of this is already committed to contracted research projects and all is expected to be expended in future years.

Despite the challenges of COVID-19 the Company had a successful third year of operation, approximately 90% of the Operational Plan was delivered, 7 of 8 headline company KPIs and 2 of 8 stretch target KPIs were achieved and most projects kept on schedule.

The third year of Fight Food Waste Ltd (FFWL) has been one of expansion, despite the pandemic never being far from our minds and undoubtedly limiting our ability to network with existing and new participants. We have expanded with a new division, Stop Food Waste Australia, new partners in Goterra, Meat & Livestock Australia, Nutrafruit, Pacific Ag, Daintree Fresh and Montague Fresh, and new delivery team members across the organisation. We have developed the foundations for future financial growth in 2021/22; planned growth that unfortunately has not been achieved in the last 12 months due to the ongoing pandemic and the difficulties it creates for business development.

Events after the reporting date

No matters or circumstances have arisen since the end of the financial year which significantly affected or could significantly affect the operations of the Company, the results of those operations or the state of affairs of the Company in future financial years.

Environmental issues

The Company's operations are not regulated by any significant environmental regulations under a law of the Commonwealth or of a state or territory of Australia.

Share capital and options

The Company is limited by guarantee and has no share capital.

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

Information on directors

John Webster

Experience

Non-Executive Director and Independent Chair

John Webster is the inaugural Independent Chair of the Fight Food Waste Cooperative Research Centre and was integral to the success of the bid. He has provided leadership throughout the bidding and FFW CRC establishment process and has kept a strong focus on industry impacts and good governance. John has extensive experience in issues surrounding both food waste and management of complex industry/research collaborations. His expertise includes strategy, governance, leadership, performance measurement, R&D project management, business and commercialisation in the food, agribusiness and food waste sectors.

John is a former CEO of Foodbank Australia, MD of Horticulture Australia, and GM of Meat & Livestock Australia. He is currently a Director of AgStrat Associates, Council Member of the International Meat Research 3G Foundation and Member of the Australian Research Council Strategic Advisory Committee for Biosolids Training Centre. His qualifications include a degree in Economics and he is a Graduate Member of the Australian Institute of Company Directors.

Toine Timmermans

Experience

Non-Executive Director

Toine Timmermans is a global leader in food waste management and FFWL's key connection to international food waste initiatives. He was an integral component of the successful bid, as remarked by the CRC Advisory Committee, and has since been indispensable to the establishment of the R&D portfolio. He is active globally in creating impact on food waste prevention via research, innovation and establishing partnerships.

Toine is currently the Program Manager of Sustainable Food Chains at Wageningen University & Research in the Netherlands and the Managing Director of the Foundation United Against Food Waste. Formally the Coordinator of the European Union food waste project REFRESH where overall aim of the project was to halve food loss and food waste across the post harvest supply chain. His qualifications include a MSc in Agricultural Engineering and post graduate studies in Business Strategy.

Geoff Starr

Experience

Non-Executive Director

Geoff Starr has a wealth of experience in international branded foods. Geoff has worked for Unilever, been CEO for Mars Inc. companies internationally and George Weston foods. He has run very large businesses and also enjoyed the involvement in smaller enterprises. Geoff was chair of the Australian Food and Grocery Council, Australia's first industry advocate to government, former director of Foodbank Australia and current director of Australian Pork Ltd, Food Innovation Australia Ltd, Birch & Waite foods and chair of Cannpal Therapeutics.

Geoff's qualifications include a Bachelor of Arts with Honours and he is a Graduate Member of the Australian Institute of Company Directors (AICD).

Fight Food Waste Limited

ABN: 90 627 226 537

Directors' Report

30 June 2021

Information on directors (continued)

Sandra Hook
Experience

Non-Executive Director

Sandra brings deep Board experience across diverse sectors including Communications, Food industries, Research organisations, Technology services, Digital governance & policy, Marketing services, MedTech and Education.

Her professional career spanned over 25 years working as a senior executive for some of Australia's largest media companies including News Limited, Foxtel, Murdoch Magazines and Fairfax. As a former MD, CEO, COO and Group Marketing Director, Sandra has run some of Australia's biggest food media franchises including Delicious, Masterchef and WW Fresh Magazines, Taste.com.au and Lifestyle Food channel.

Sandra is currently a non-executive director of public, private and government boards including MedAdvisor Limited (ASX:MDR), IVE Group Limited (ASX:IGL), Redhill Education (ASX: RDH), Sydney Fish Markets, and Sydney Harbour Federation Trust. She is a graduate member of the Australian Institute of Company Directors (AICD).

Christine Giuliano
Experience

Non-Executive Director

Christine has over 25 years' experience in Australia's food and nutrition manufacturing sectors with a demonstrated history of transforming businesses by driving profitable sales, directing sector leading innovation, and demonstrating a commitment to delivering for customers. Christine is the ANZ General Manager and Commercial Lead for The Kerry Group. Headquartered in Ireland (KYGA LON) Kerry is the global leader in the development of taste and nutrition solutions for the food, beverage and pharmaceutical markets. Prior positions have included Chief Operating Officer at Nature's Care (Australia's third largest vitamins company), Managing Director at Naturex Australia, a significant processor of functional food ingredients and botanical extracts, and Managing Director of KF Specialty Ingredients (previously known as Kingfood Australia).

Christine maintains strong technical, commercial and senior management competencies across the Food and Beverage, Health and Wellness, Complementary Medicines (inc TGA) and Personal Care markets, as well as having extensive commodity and industrial expertise in the various Manufacturing sectors and Sustainable ingredient sourcing supply.

Christine holds a Bachelor of Applied Science in Food and Nutrition and is a Graduate Member of the Australian Institute of Company Directors (AICD). She is a Fellow of the Australian Institute of Food Science and Technology (AIFST), and an active member of Complementary Medicines Australia (CMA).

Fight Food Waste Limited

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Directors' Report

30 June 2021

Information on directors (continued)

Robbie Davis

Non-Executive Director

Experience

Robbie Davis has business experience in both the private and public sectors domestically and internationally. As a former CEO of Potatoes South Australia Inc, she has a strong understanding of whole of industry value chains and the critical need to reduce and transform food waste to enable productivity gains, increase sustainability and enhance the reputation of Australian agriculture. She also believes that R&D programs across agricultural sectors and value chains are vital to Australia attaining its \$100b production target by 2030. Following ten years living and working in SE Asia, she was self-employed as an agribusiness consultant and continues to consult privately. She was a member of the CRC Bid Advisory Committee and also operates a grazing property in the upper SE of South Australia.

Robbie's qualifications include a Bachelor of Agricultural Science and a Master of Business Administration from the University of Adelaide, and she is a Graduate Member of the Australian Institute of Company Directors.

She was profiled under PIRSA's Women Influencing Agriculture and Regions in 2015, is the AgriFutures 2016 SA Rural Woman of the Year and is a graduate of the NFF's Diversity in Agriculture Leadership Program 2019.

Currently, she is a Director of Invasive Animals Ltd, a member of Rural Bank's Agribusiness Advisory Board and a member of the Limestone Coast Landscape Board.

Alain Pillay

Non-Executive Director

Experience

Alain Pillay has a strong investment network both domestically and internationally and has experience in corporate governance as a company secretary of a listed company. Alain is the principal for economics, finance and strategy for the AEC Group, a specialist economics consulting organisation, prior to joining AEC, Alain was the Queensland state lead partner for Deloitte's economics and strategy unit. Alain has worked extensively across Asia, Middle East and North America and brings professional and tertiary qualifications in economics, finance and accounting (CPA).

Alan holds a number of other board positions in the technology, investment and wealth management sectors.

Fight Food Waste Limited

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Directors' Report

30 June 2021

Information on directors (continued)

Dr Steven Lapidge
Experience

Chief Executive Officer

Steven Lapidge is the inaugural CEO of the Fight Food Waste CRC. He has spent much of his 20 year career working for or with agribusiness CRC's, with a strong focus on New Product Development and commercialisation. Steven led the development of the Fight Food Waste CRC bid and in recent years has represented Australia at G20, OECD and national food waste forums. He is a member of the Project Advisory Group for the National Food Waste Strategy Feasibility Study.

Steven's qualifications include a BSc(Hons), PhD and an MBA. He is a Graduate of the Australian Institute of Company Directors (AICD) and a Professional Member of AIFST. Steven's previous research saw him awarded the Fulbright Professional Business/Industry (Coral Sea) Scholarship in 2010.

Ian Hardwick
Experience

Chief Operating Officer, FFW CRC & Company Secretary

Ian joined Fight Food Waste CRC in February 2019 after having spent nearly eight years as CFO of Deep Exploration Technologies CRC, which was wound up in late 2018 at the end of its funding life, having successfully licensed a number of new technologies to the mineral exploration services sector. Prior to that role, Ian worked within an accounting firm providing business advisory and compliance services across a range of industries. Ian is a Commerce graduate, Chartered Accountant and Graduate of the Australian Institute of Company Directors (AICD).

Mark Barthel
Experience

Chief Operating Officer, SFWA

Mark is the inaugural Chief Operating Officer at Stop Food Waste Australia. He has a successful 25-year track record of driving sustainable innovation and circular thinking in food and agribusinesses, and has worked with the senior teams of some of the largest food and grocery businesses in the world, including Tesco, Sainsbury's, M&S, Cooperative Food, Walmart, Woolworths, Goodman Fielder, Lion, Nestle and Danone.

Mark has been directly involved in developing the international evidence base for food loss and waste, with over 17 years' experience of quantifying and preventing food loss and waste in the UK, Europe, North and South America, Africa and Australia (including the recently published National Food Waste Strategy Feasibility Study). He has also helped establish world-leading voluntary agreements and campaigns to reduce food waste and food insecurity, drive product and packaging innovation, and improve food system resilience and sustainability. This includes the world renowned UK Courtauld Commitment, and the award-winning Love Food Hate Waste campaign, which is being used in a growing number of countries, including four Australian States. His qualifications include a BSc (Hons) in Environmental Science, an MSc (Dist) in Environmental Management and a post-graduate diploma in Marketing Communications.

Fight Food Waste Limited

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Directors' Report 30 June 2021

Meetings of directors

	Board	ARMC	RCC*	IIC	RNC	SFWA
Number of meetings held	6	4	2	2	5	2
Number of meetings attended						
John Webster	6/6	-	2/2	2/2	5/5*	-
Toine Timmermans	6/6	-	1/2	1/2	-	-
Geoff Starr	6/6	3/4	-	1/2	3/3**	2/2
Sandra Hook	6/6	4/4	-	-	5/5	-
Christine Giuliano	6/6	3/4	2/2	-	4/5	-
Robbie Davis	6/6	-	2/2	2/2	-	-
Alain Pillay	6/6	4/4	-/2	-	-	-

The five committees listed above are; Audit, Risk Management and Compliance Committee (ARMC), Research & Commercialisation Committee (RCC), Industry Impact Committee (IIC), Remuneration and Nominations Committee (RNC) and Stop Food Waste Australia Partnership Committee (SFWA).

*The RCC conducted 2 out of session resolutions during the year for the approval of new projects.

** Geoff Starr joined the RNC in September 2020.

Directors fees

The aggregate maximum amount available to be paid to all Directors was determined by a Circular Resolution of Members in October 2018 as the sum of average payments to Chair/directors in the latest CRC Association benchmarking report (at that time).

The amount paid to all Directors for the reporting year was \$204,000.

In June 2020, acting on the recommendation of the RNC, the Board decided that the Director remuneration review which was to be conducted in July 2020 be deferred until a later stage in recognition of the challenges facing participants due to the COVID-19 pandemic.

Employee performance based remuneration

The Board approves annual company KPI's and approves potential bonus pool as part of annual budget. At years end the Board approves performance against these KPI's and approves the portion of bonus pool available to be distributed. The Board apportions CEO bonus (based on advice from the Remuneration & Nominations Committee) and the CEO apportions the remainder to employees (based on outcomes achieved against CEO approved individual KPI's).

The amount paid to employees by way of performance bonuses for the reporting year was \$60,712 (2020: \$60,843).

Fight Food Waste Limited

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Directors' Report

30 June 2021

Indemnification and insurance of officers and auditors


During the reporting year, the Company paid a premium in respect of a contract insuring the Directors of the Company, the Company Secretary, and all executive officers of the Company against a liability incurred by such a Director, secretary or executive officer to the extent permitted by the Corporations Act 2001. The contract of insurance prohibits disclosure of the nature of the liability and the amount of the premium. The Company has not otherwise, during or since the financial year, except to the extent permitted by law, indemnified or agreed to indemnify an officer of the Company or of any related body corporate against a liability incurred by such an officer.

To the extent permitted by law, the Company has agreed to indemnify its auditors, BDO, as part of the terms of its audit engagement agreement against claims by third parties arising from the audit (for an unspecified amount). No payment has been made to indemnify BDO during or since the financial year.

Sign off details

This report is made in accordance with a resolution of directors, pursuant to section 60.15(2) of the Australian Charities and not-for-profit commission regulation 2013.

Signed on behalf of the board

Director: 
John Webster - Chair of the board

Dated this 25th day of October 2021

**DECLARATION OF INDEPENDENCE
BY PAUL GOSNOLD
TO THE DIRECTORS OF FIGHT FOOD WASTE LIMITED**

As lead auditor of Fight Food Waste Limited for the year ended 30 June 2021, I declare that, to the best of my knowledge and belief, there have been:

1. No contraventions of the auditor independence requirements of section 60-40 of the *Australian Charities and Not-for-profit Commission Act 2012* in relation to the audit; and
2. No contraventions of any applicable code of professional conduct in relation to the audit.



Paul Gosnold
Director

BDO Audit (SA) Pty Ltd

Adelaide, 25 October 2021

Fight Food Waste Limited

ABN: 90 627 226 537

Statement of Profit or Loss and Other Comprehensive Income For the Year Ended 30 June 2021

	Note	2021 \$	2020 \$
Funding and program revenue	5	6,119,760	4,496,452
Project expenditure		(3,334,090)	(2,225,035)
Program coordination support		(804,829)	(724,373)
Postgraduate program		(438,114)	(208,986)
Interest expense - lease liability		(34,662)	(37,989)
Depreciation of right of use asset	3(e)	(58,051)	(58,051)
Gross surplus		1,450,014	1,242,018
Interest income		28,513	21,198
Director fees		(204,000)	(204,000)
Communication expenses		(50,762)	(62,780)
Employment expenses		(945,304)	(763,634)
Office expenses		(25,244)	(23,095)
Professional services and licenses		(225,184)	(129,283)
Travel expenses		(28,033)	(80,424)
Total expenditure		(1,478,527)	(1,263,216)
Net surplus / (deficit) for the year		-	-
Other comprehensive income		-	-
Total comprehensive income		-	-

The accompanying notes form part of these financial statements.

Fight Food Waste Limited

ABN: 90 627 226 537

Statement of Financial Position

As At 30 June 2021

	Note	2021 \$	2020 \$
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	6	10,068,483	5,851,667
Trade and other receivables	7	567,968	832,578
Contract assets	8	689,407	992,500
Other assets	9	24,768	54,693
TOTAL CURRENT ASSETS		<u>11,350,626</u>	<u>7,731,438</u>
NON-CURRENT ASSETS			
Right-of-use assets	10(a)	406,358	464,409
Property, plant and equipment	11	24,399	18,169
TOTAL NON-CURRENT ASSETS		<u>430,757</u>	<u>482,578</u>
TOTAL ASSETS		<u>11,781,383</u>	<u>8,214,016</u>
LIABILITIES			
CURRENT LIABILITIES			
Trade and other payables	12	1,667,640	1,682,755
Borrowings	13	830	-
Lease liabilities	10(b)	50,917	47,338
Current tax liabilities	14	390,192	148,570
Contract liabilities	8	9,038,314	5,758,550
Employee benefits	15	223,134	120,401
TOTAL CURRENT LIABILITIES		<u>11,371,027</u>	<u>7,757,614</u>
NON-CURRENT LIABILITIES			
Lease liabilities	10(b)	397,327	448,244
Employee benefits	15	13,029	8,158
TOTAL NON-CURRENT LIABILITIES		<u>410,356</u>	<u>456,402</u>
TOTAL LIABILITIES		<u>11,781,383</u>	<u>8,214,016</u>
NET ASSETS		<u>-</u>	<u>-</u>
EQUITY			
TOTAL EQUITY		<u>-</u>	<u>-</u>

The accompanying notes form part of these financial statements.

Fight Food Waste Limited

ABN: 90 627 226 537

Statement of Changes in Equity For the Year Ended 30 June 2021

2021

	Retained Earnings	Total
	\$	\$
Balance at 1 July 2020	-	-
Net surplus / (deficit) for the year	-	-
Balance at 30 June 2021	-	-

2020

Balance at 1 July 2019	-	-
Net surplus / (deficit) for the year	-	-
Balance at 30 June 2020	-	-

The accompanying notes form part of these financial statements.

Fight Food Waste Limited

ABN: 90 627 226 537

Statement of Cash Flows For the Year Ended 30 June 2021

	2021	2020
Note	\$	\$
CASH FLOWS FROM OPERATING ACTIVITIES:		
CRC program funds	6,299,150	3,533,750
SFWA funds	957,000	-
Participant contributions	3,616,684	3,173,058
Grant funding: SA Government	110,000	110,000
Other receipts	50,000	248,000
Interest received	46,848	2,861
Payments to suppliers and employees	(6,770,946)	(3,549,713)
Interest repayment of lease liability	(34,662)	(28,492)
Net cash provided by/(used in) operating activities	<u>4,274,074</u>	<u>3,489,464</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of property, plant and equipment	(11,436)	(4,027)
Net cash provided by/(used in) investing activities	<u>(11,436)</u>	<u>(4,027)</u>
CASH FLOWS FROM FINANCING ACTIVITIES:		
Repayment of lease liabilities	(47,338)	(33,008)
Net cash provided by/(used in) financing activities	<u>(47,338)</u>	<u>(33,008)</u>
Net increase/(decrease) in cash and cash equivalents held	4,215,300	3,452,429
Cash and cash equivalents at beginning of year	5,852,353	2,399,924
Cash and cash equivalents at end of financial year	6 <u>10,067,653</u>	<u>5,852,353</u>

The accompanying notes form part of these financial statements.

Fight Food Waste Limited

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Notes to the Financial Statements For the Year Ended 30 June 2021

1 Introduction

The financial report for the year ending 30 June 2021 covers Fight Food Waste Limited as an individual entity. Fight Food Waste Limited is a not-for-profit unlisted public Company limited by guarantee, registered and domiciled in Australia. Fight Food Waste Limited is registered with the Australian Charities and Not-for-profits Commission.

The functional and presentation currency of Fight Food Waste Limited is Australian dollars.

2 Basis of Preparation

The financial statements are general purpose financial statements that have been prepared in accordance with the Australian Accounting Standards - Reduced Disclosure Requirements and the *Australian Charities and Not-for-profits Commission Act 2012*.

Historical cost convention

The financial statements have been prepared under the historical cost convention.

3 Summary of Significant Accounting Policies

(a) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable. Amounts disclosed as revenue are net of goods and services tax (GST), returns, trade allowances, rebates and amounts collected on behalf of third parties. The Company recognises revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the entity and specific criteria have been met for each of the Company's activities as described below. The Company bases its estimates on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

To the extent that revenue is unearned it is carried as a liability at reporting date.

Grant Funding

Recognised at fair value where there is a reasonable assurance that the grant will be received and the Company will comply with all attached conditions. Grants relating to costs which have not yet been incurred are included in unearned income in current liabilities and are credited to the statement of comprehensive income in the period necessary to match them with the costs that they are intended to compensate.

Participants' contributions

Contributions received from the Participants during the financial year are applied to expenditure incurred in carrying out the affairs of the Company under the terms of the Participants Agreement between the Company and the entities who have undertaken to provide contributions to the Company.

Contract liabilities arising from obligations to make contributions to the Company and not allocated to program expenses at reporting date has been included as a current liability as it is anticipated that the relevant sum will be matched against expenditure during subsequent financial years.

In Kind Contributions

In-kind staff and non-staff contributions and the corresponding expense from the participants are not included in the statement of profit or loss and other comprehensive income. They are recorded in the Commonwealth Tables which are subject to separate reporting requirements. The impact on the financial statements is nil.

Interest

Interest revenue is recognised as interest accrues.

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements For the Year Ended 30 June 2021

3 Summary of Significant Accounting Policies (continued)

(a) Revenue recognition (continued)

Other revenue

Other revenue is recognised when it is received or when the right to receive payment is established. Revenue is recognised when the amount of the revenue can be measured reliably, it is probable that economic benefits associated with the transaction will flow to the Company and specific criteria relating to the type of revenue as noted above, has been satisfied.

(b) Income tax

The Company is exempt from income tax under Division 50 of the Income Tax Assessment Act 1997.

(c) Goods and services tax (GST)

Revenue, expenses and assets are recognised net of the amount of goods and services tax (GST), except where the amount of GST incurred is not recoverable from the Australian Taxation Office (ATO).

Receivables and payable are stated inclusive of GST.

Cash flows in the statement of cash flows are included on a gross basis and the GST component of cash flows arising from investing and financing activities which is recoverable from, or payable to, the taxation authority is classified as operating cash flows.

(d) Cash and cash equivalents

Cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

(e) Leases

Right-of-use asset

This balance represents the company's right to lease its current premises. Per AASB 16, this amount is calculated using the present value of all future lease payments, assuming a remaining lease period of 8 years, discounted using the company's incremental borrowing rate.

Lease liability

The lease liability is initially measured at the present value of the remaining lease payments at the commencement of the lease. The discount rate is the rate implicit in the lease, however where this cannot be readily determined then the Company's incremental borrowing rate is used.

Subsequent to initial recognition, the lease liability is measured at amortised cost using the effective interest rate method. The lease liability is remeasured whether there is a lease modification, change in estimate of the lease term or index upon which the lease payments are based (e.g. CPI) or a change in the Company's assessment of lease term.

Where the lease liability is remeasured, the right-of-use asset is adjusted to reflect the remeasurement or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

(f) Trade and other receivables

Trade and other receivables arise principally through the provision of goods and services to customers. The carrying value is considered a reasonable approximation of fair value due to the short-term nature of the balances.

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements

For the Year Ended 30 June 2021

3 Summary of Significant Accounting Policies (continued)

(g) Property, plant and equipment

Plant and equipment is stated at historical cost less accumulated depreciation and impairment. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation is calculated on a straight-line basis to write off the net cost of each item of property, plant and equipment (excluding land) over their expected useful lives as follows:

Leasehold improvements	10 years
Right of use asset	10 years
Office equipment	3-5 years

The residual values, useful lives and depreciation methods are reviewed, and adjusted if appropriate, at each reporting date.

An item of property, plant and equipment is derecognised upon disposal or when there is no future economic benefit to the company. Gains and losses between the carrying amount and the disposal proceeds are taken to profit or loss.

(h) Financial instruments

Financial assets

The financial assets of the Company comprise trade and other receivables.

Impairment of Financial Assets

At the end of the reporting period the Company recognises an allowance for expected credit losses for financial assets measured at amortised cost.

Receivables

As there has been no significant increase in credit risk the loss allowance is equal to the 12 month expected credit losses.

Financial liabilities

The Company measures all financial liabilities initially at fair value less transaction costs, subsequently financial liabilities are measured at amortised cost.

The financial liabilities of the Company comprise trade payables.

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements For the Year Ended 30 June 2021

3 Summary of Significant Accounting Policies (continued)

(i) Employee benefits

Short-term employee benefits

Liabilities for wages and salaries, including non-monetary benefits, annual leave and long service leave expected to be settled wholly within 12 months of the reporting date are measured at the amounts expected to be paid when the liabilities are settled.

Other long-term employee benefits

The liability for annual leave and long service leave not expected to be settled within 12 months of the reporting date are measured at the present value of expected future payments to be made in respect of services provided by employees up to the reporting date using the projected unit credit method. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the reporting date on corporate bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows

Defined contribution superannuation expense

Contributions to defined contribution superannuation plans are expensed in the period in which they are incurred.

(j) Trade and other payables

These amounts represent liabilities for goods and services provided to the company prior to the end of the financial year and which are unpaid. Due to their short-term nature they are measured at amortised cost and are not discounted. The amounts are unsecured and are usually paid within 30 days of recognition.

(k) Adoption of new and revised accounting standards

The company has adopted all of the new or amended Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ('AASB') that are mandatory for the current reporting period. Any new or amended Accounting Standards or Interpretations that are not yet mandatory have not been early adopted.

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements

For the Year Ended 30 June 2021

4 Critical Accounting Estimates and Judgements

Those charged with governance make estimates and judgements during the preparation of these financial statements regarding assumptions about current and future events affecting transactions and balances.

These estimates and judgements are based on the best information available at the time of preparing the financial statements, however as additional information is known then the actual results may differ from the estimates.

The significant estimates and judgements made have been described below.

Key estimates

Employee benefits provision

As discussed in note 3, the liability for employee benefits is expected to be settled more than 12 months from the reporting date and are recognised and measured at the present value of the estimated future cash flows to be made in respect of all employees at the reporting date. In determining the present value of the liability, estimates of attrition rates and pay increases through promotion and inflation have been taken into account.

Estimation of useful lives of assets

The company determines the estimated useful lives and related depreciation and amortisation charges for its property, plant and equipment and finite life intangible assets. The useful lives could change significantly as a result of technical innovations or some other event. The depreciation and amortisation charge will increase where the useful lives are less than previously estimated lives, or technically obsolete or non-strategic assets that have been abandoned or sold will be written off or written down.

Fight Food Waste Limited

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Notes to the Financial Statements For the Year Ended 30 June 2021

5 Revenue breakdown

	2021	2020
Note	\$	\$
CRC Program	5,417,500	3,970,000
Participant contributions	3,006,116	3,404,246
SFWA Grant	870,000	-
Consultancy fees	5,908	180,000
Grant funds: SA Government	100,000	200,000
	<u>9,399,524</u>	<u>7,754,246</u>
less: Revenue received with outstanding performance obligations	<u>(3,279,764)</u>	<u>(3,257,794)</u>
	<u>6,119,760</u>	<u>4,496,452</u>

6 Cash and Cash Equivalents

FFW - operational account	35,807	233,346
FFW - centre account	4,145,045	2,868,321
SFWA account	880,579	-
Cash at bank and in hand	5,061,431	3,101,667
Short-term deposits	5,007,052	2,750,000
	<u>10,068,483</u>	<u>5,851,667</u>

Reconciliation of cash

Cash and Cash equivalents reported in the statement of cash flows are reconciled to the equivalent items in the statement of financial position as follows:

Cash and cash equivalents	10,068,483	5,851,667
Bank credit cards	13 (830)	-
Balance as per statement of cash flows	<u>10,067,653</u>	<u>5,851,667</u>

7 Trade and Other Receivables

CURRENT		
Trade receivables	659,520	969,477
Allowance for expected credit losses	(96,113)	(155,863)
	<u>563,407</u>	<u>813,614</u>
Other receivables	4,561	18,964
Total current trade and other receivables	<u>567,968</u>	<u>832,578</u>

Fight Food Waste Limited

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Notes to the Financial Statements For the Year Ended 30 June 2021

7 Trade and Other Receivables (continued)

Aged Receivables Summary

Current	Overdue < 30 days	Overdue 30 - 60 days	Overdue 60 - 90 days	Overdue 90+ days	Total
212,942	27,500	179,562	16,500	223,016	659,520

The invoicing of participants for their committed contributions is based on a schedule agreed within the CRC Grant Agreement (to which participants are tied via the Participants Agreement) unless otherwise agreed.

The timing of participant contributions is not ordinarily directly tied to individual project timings, notwithstanding the Company has experienced delays collecting some participant's contributions due to the desire of those participants to see that project proposals, to which their contributions will be tied, are well evolved prior to making payment.

The allowance for expected credit losses relates to invoices issued to Participant FAVCO Queensland Pty Ltd whose ongoing participation in the Fight Food Waste CRC is uncertain. To date no projects or other contracts have been entered into with this Participant.

It is anticipated that all other outstanding receivables at reporting date will be collected.

8 Contract Balances

The Company has recognised the following contract assets and liabilities from contracts with customers:

(a) Contract assets

	2021	2020
	\$	\$
CURRENT		
Accrued revenue from CRC program	689,407	992,500

(b) Contract liabilities

CURRENT		
Revenue received with outstanding performance obligations	9,038,314	5,758,550
Opening balance 1 July	5,758,550	2,500,756
Current year allocation	9,399,524	7,754,246
Current year draw-down	(6,119,760)	(4,496,452)
Closing balance 30 June	9,038,314	5,758,550

Per the revenue policy in note 3(a), contributions from the Commonwealth of Australia and Participants are treated as contract liabilities until matched against expenditure in the course of the Company's activities.

At the end of the grant period, any outstanding CRC Grant revenue not matched against expenditure is required to be returned to the Commonwealth of Australia.

Fight Food Waste Limited

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Notes to the Financial Statements For the Year Ended 30 June 2021

8 Contract Balances (continued)

Components of contract liabilities

	2021	2020
	\$	\$
CRC program funds	5,723,121	2,629,498
SFWA Grant	644,404	-
Participant contributions: Industry/End User	755,347	1,430,151
Participant contributions: State Government Research Organisations	1,915,442	1,698,901
Total	9,038,314	5,758,550

9 Other Assets

CURRENT

Prepayments	24,768	4,693
Receivable from cash flow boost	-	50,000
Total	24,768	54,693

10 Leases

(a) Right-of-use assets

Office lease

Net present value at date of recognition	580,511	580,511
Accumulated depreciation	(174,153)	(116,102)
Total	406,358	464,409

(b) Lease liabilities

CURRENT

Minimum lease payments	82,000	82,000
less: Finance charges	(31,083)	(34,662)
	50,917	47,338

NON-CURRENT

Minimum lease payments	492,000	574,000
less: Finance charges	(94,673)	(125,756)
	397,327	448,244

Fight Food Waste Limited

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Notes to the Financial Statements For the Year Ended 30 June 2021

11 Property, plant and equipment

	2021	2020
	\$	\$
Furniture, fixtures and fittings		
At cost	5,462	5,462
Accumulated depreciation	(1,694)	(895)
Total furniture, fixtures and fittings	<u>3,768</u>	<u>4,567</u>
Office equipment		
At cost	11,925	6,532
Accumulated depreciation	(2,710)	(1,440)
Total office equipment	<u>9,215</u>	<u>5,092</u>
Computer equipment		
At cost	27,794	18,993
Accumulated depreciation	(17,221)	(11,349)
Total computer equipment	<u>10,573</u>	<u>7,644</u>
Leasehold improvements		
At cost	910	910
Accumulated depreciation	(67)	(44)
Total leasehold improvements	<u>843</u>	<u>866</u>
Total property, plant and equipment	<u>24,399</u>	<u>18,169</u>

12 Trade and Other Payables

CURRENT		
Trade payables	253,079	407,468
Project expenditure	1,072,145	902,154
Program coordination support	189,366	207,544
Director fees	51,000	57,250
Office lease for June quarter	-	20,500
Postgraduate scholarship commencement	87,500	75,000
Other	14,550	12,839
	<u>1,667,640</u>	<u>1,682,755</u>

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements For the Year Ended 30 June 2021

13 Borrowings

	2021	2020
	\$	\$
CURRENT		
Bank credit cards	830	-

14 Current Tax Liabilities

GST	351,579	98,425
PAYG Withholding	22,776	15,152
FBT	15,837	34,993
	<u>390,192</u>	<u>148,570</u>

15 Employee Benefits

CURRENT		
Provision for annual leave	48,740	29,532
Wages and bonus payable	148,980	72,482
Superannuation payable	25,403	18,376
Workcover	11	11
	<u>223,134</u>	<u>120,401</u>
NON-CURRENT		
Long service leave	<u>13,029</u>	<u>8,158</u>

16 Key Management Personnel Remuneration

The total remuneration paid to key management personnel of the Company and the Company is \$ 906,526 (2020: \$ 716,082).

The COO, Stop Food Waste Australia has been added to Key Management Personnel this year.

Fight Food Waste Limited

ABN: 90 627 226 537

Notes to the Financial Statements For the Year Ended 30 June 2021

17 Operating Segments

Segment performance

	FFW 2021 \$	SFWA 2021 \$	Total 2021 \$
REVENUE			
Funding and program revenue	5,841,149	278,611	6,119,760
Project expenditure	(3,334,090)	-	(3,334,090)
Program coordination support	(804,829)	-	(804,829)
Postgraduate program	(438,114)	-	(438,114)
Interest expense - lease liability	(34,662)	-	(34,662)
Depreciation of right of use asset	(58,051)	-	(58,051)
Gross surplus	1,171,403	278,611	1,450,014
Interest income	28,513	-	28,513
Director fees	(204,000)	-	(204,000)
Communication expenses	(39,059)	(11,703)	(50,762)
Employment expenses	(814,399)	(130,905)	(945,304)
Office expenses	(22,997)	(2,247)	(25,244)
Professional services and licenses	(97,124)	(128,060)	(225,184)
Travel expenses	(22,337)	(5,696)	(28,033)
Total expenditure	(1,199,916)	(278,611)	(1,478,527)
Net surplus / (deficit)	-	-	-

18 Contingencies

In the opinion of the Directors, the Company did not have any contingencies at 30 June 2021 (30 June 2020: None).

19 Statutory Information

The registered office and principal place of business of the company is:
L1, Wine Innovation Central Building, Cnr Hartley Rd & Paratoo Rd Urrbrae
SA 5064

Fight Food Waste Limited


ABN: 90 627 226 537


Responsible Persons' Declaration

The responsible persons declare that in the responsible persons' opinion:

- there are reasonable grounds to believe that the registered entity is able to pay all of its debts, as and when they become due and payable; and
- the financial statements and notes satisfy the requirements of the *Australian Charities and Not-for-profits Commission Act 2012*.

Signed in accordance with subsection 60.15(2) of the *Australian Charities and Not-for-profit Commission Regulation 2013*.

Responsible person 
John Webster

Responsible person 
Alain Pillay

Dated 25th of October 2021

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF FIGHT FOOD WASTE LIMITED

Report on the Audit of the Financial Report

Opinion

We have audited the financial report of Fight Food Waste Limited (the registered entity), which comprises the statement of financial position as at 30 June 2021, the statement of profit or loss and other comprehensive income, the statement of changes in equity and the statement of cash flows for the year then ended, and notes to the financial report, including a summary of significant accounting policies, and the responsible entities' declaration.

In our opinion the accompanying financial report of Fight Food Waste Limited, is in accordance with Division 60 of the *Australian Charities and Not-for-profits Commission Act 2012*, including:

- (i) Giving a true and fair view of the registered entity's financial position as at 30 June 2021 and of its financial performance for the year ended on that date; and
- (ii) Complying with Australian Accounting Standards - Reduced Disclosure Requirements Division 60 of the *Australian Charities and Not-for-profits Commission Regulation 2013*.

Basis for opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the Financial Report* section of our report. We are independent of the registered entity in accordance with the auditor independence requirements of the *Australian Charities and Not-for-profits Commission Act 2012* (ACNC Act) and the ethical requirements of the Accounting Professional and Ethical Standards Board's *APES 110 Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

Those charged with governance are responsible for the other information. The other information obtained at the date of this auditor's report is information included in the directors' report, but does not include the financial report and our auditor's report thereon.

Our opinion on the financial report does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of responsible entities for the Financial Report

The responsible entities of the registered entity are responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards and the ACNC Act, and for such internal control as the responsible entities determine is necessary to enable the preparation of the financial report that is free from material misstatement, whether due to fraud or error.

In preparing the financial report, responsible entities are responsible for assessing the registered entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the responsible entities either intends to liquidate the registered entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the registered entity's financial reporting process.

Auditor's responsibilities for the audit of the Financial Report


Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website (<http://www.auasb.gov.au/Home.aspx>) at: http://www.auasb.gov.au/auditors_responsibilities/ar4.pdf

This description forms part of our auditor's report.



BDO Audit (SA) Pty Ltd



Paul Gosnold
Director

Adelaide, 26 October 2021

Fight Food Waste CRC

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