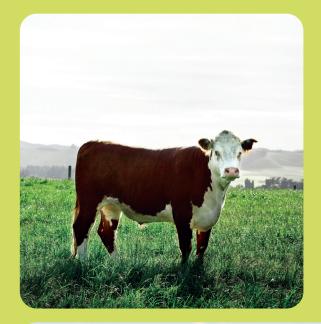
Year in Review

Annual Report 2024











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This report provides an overview of AgriZero^{NZ'}s key operating activities from 1 July 2023 to 30 June 2024. This report is not mandatory and is not completed in accordance with any applicable accounting or disclosure standards. The AgriZero^{NZ} Board of Directors approved this report. All data is in New Zealand dollars unless otherwise stated.



Foreword

from Board Chair and Chief Executive



Board Chair Sir Brian Roche KNZM



Chief Executive Wayne McNee

Guiding whakataukī

Fhara tāku toa i te toa takitahi, engari he toa takitini.

My strength is not as an individual, but as a collective. It is our pleasure to present this report which reflects the key activities from AgriZero^{NZ}'s first full financial year (1 July 2023 - 30 June 2024).

While not mandatory, our Annual Report is part of our commitment to transparency and accountability to help stakeholders and the public keep track of our progress.

Since AgriZero^{NZ} began operations in February 2023, we have learnt a lot about the landscape we're operating in, which has reaffirmed the need for our unique partnership to accelerate practical emissions reduction solutions through the pipeline to commercialisation so they can be made available to New Zealand's farmers.

Some of our key outtakes include:

The technology pipeline for tools to reduce agricultural emissions in pasture-based systems is relatively immature.

Across the globe, there are well over 150 potential technology solutions in the R&D pipeline that may help reduce methane and nitrous oxide produced

on-farm. However, many of these are early-stage and / or not practical for New Zealand's pasture-based farmers as they're primarily being developed for intensive farming systems with animals being fed a mixed ration.

Farmers in key trade competitor countries already have access to, and are starting to use, tools to help them cut greenhouse gases.

Because of this, some farmers and processors in California, Ireland, Denmark and the Netherlands argue they're already more emissions efficient than us. For example, Bovaer®, a feed additive that reduces enteric methane emissions, has been authorised and is available for sale in over 67 countries, including some of New Zealand's key trade competitors such as the EU, but is currently not available in New Zealand.

The future success of New Zealand's trade and exports requires proof and progress of emissions reductions.

Products from New Zealand farms are exported with the benefit of hard-won free trade agreements to many

Foreword

countries. Demonstrating reliable progress against environmental measures in these agreements is increasingly critical to supporting and improving market access. Ensuring mitigation tools are available and adopted by farmers, and engaging with government agencies and the international community on these issues are essential to success.

Global customer pressure is increasing, driving the pace and expectation of emissions reduction progress by 2030.

Global customers, that pay a premium for our highquality grass-fed milk and meat products, are all pushing deep into their supply chains to get emissions reductions, with ambitious, global, science-based scope 3 targets. Emissions reduction is increasingly becoming their predominant concern when they meet with their suppliers, including our NZ processors. They want proof and progress of emissions reductions in the products within their supply chain.

There is room to safely streamline New Zealand's regulations to allow NZ farmers access to methane inhibitors.

AgriZero^{NZ} fully understands and appreciates the need to regulate agricultural and horticultural products to ensure the production of food is safe; however current regulations are hindering development and access to inhibitors in New Zealand.

The need for AgriZero^{NZ} to accelerate the development of tools that work in New Zealand's farming system and work closely with the Ministry for Primary Industries to support the clarification and streamlining of regulations to ensure they can be used here, has never been clearer.

We're scanning the world for solutions, and are investing in companies, local and offshore, which are developing tools that will work in a pastoral farming system and making commitments to bring their products to New Zealand.

Our power is in our collective, with widespread industry support including a growing list of investors (from dairy companies and fertiliser companies to meat processors and banks), the New Zealand Government, our strategic partner the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC) as well as other primary sector players.

It's been a busy and exciting year, with new investors joining our partnership, significant new investments made and tangible progress towards our ambition.

We commenced recruitment for our Farmer Focus Group, a group of farmers who will help us ensure the emissions mitigation tools we're investing in are fit-for-purpose.

We have also been engaging with Toihau, NZAGRC's Māori Advisory Group, to help us ensure a Te Ao Māori (world) view is considered when forming engagement strategies for truly equitable results.

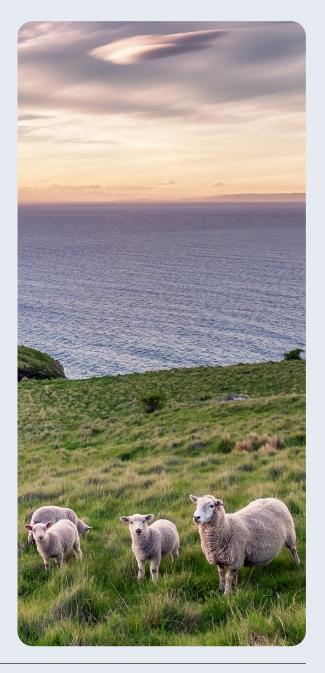
We do not underestimate the challenge ahead of us, but we are focused on delivering for New Zealand farmers and are optimistic about the opportunity we have to stay among the most emissions efficient dairy and meat producers in the world if we can get the right tools to them.

Thank you for coming along for the journey and thank you to our investors for your support.

Sir Brian Roche KNZM **Board Chair**

Brai Rocke

Wayne McNee Chief Executive



About us

We're a world-first public-private partnership focused on helping farmers reduce emissions while maintaining profitability and productivity. Through targeted investment and actions, we are deploying venture capital and unblocking constraints to get emissions reduction tools into the hands of New Zealand farmers sooner.

We work closely with the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), our strategic partner. Through research and commercial ventures, individually or collectively, the NZAGRC and AgriZero^{NZ} aim to provide solutions to farmers to reduce greenhouse gas emissions.

Ambition

To ensure all farmers in Aotearoa have equitable access to affordable, effective solutions to reduce biogenic methane and nitrous oxide emissions. with a goal of supporting a 30% reduction by 2030 and enabling development and adoption of solutions to drive towards 'near zero' by 2040.

Purpose

To undertake targeted investments and actions to accelerate development, commercialisation and / or deployment of effective and affordable solutions that will be used by New Zealand farmers and others to significantly reduce emissions.

Unique partnership

Our partners have deep experience across the sector and supply chain, providing a close relationship with regulators and access to most New Zealand farms.

Funding

Industry funding is matched by Government, dollar-for-dollar, with a total of \$191 million committed over our first four years.





About Us

Why we exist

New Zealand farmers are the backbone of our economy. Our dairy, meat and wool sectors generated \$34.5 billion in export trade revenue for the year ended 30 June 2024. As an export-reliant country, global market access is crucial to our sector's profitability.

Despite New Zealand farmers being among the most emissions efficient producers of milk and meat in the world, our global customers and trade partners are expecting more from us. Farmers need access to tools that are fit for our pasture-based farms and grass-fed animals so they can reduce emissions and maintain their competitive edge. But the reality is, there are currently no high-impact emissions reduction tools available in New Zealand.

AgriZero^{NZ} was formed in February 2023 to deliver a step-change in investment that will get these tools into farmers' hands sooner. Our success will help secure the future profitability and competitiveness of our exports, protect trade agreements and support the ongoing prosperity of the agricultural sector for New Zealand.

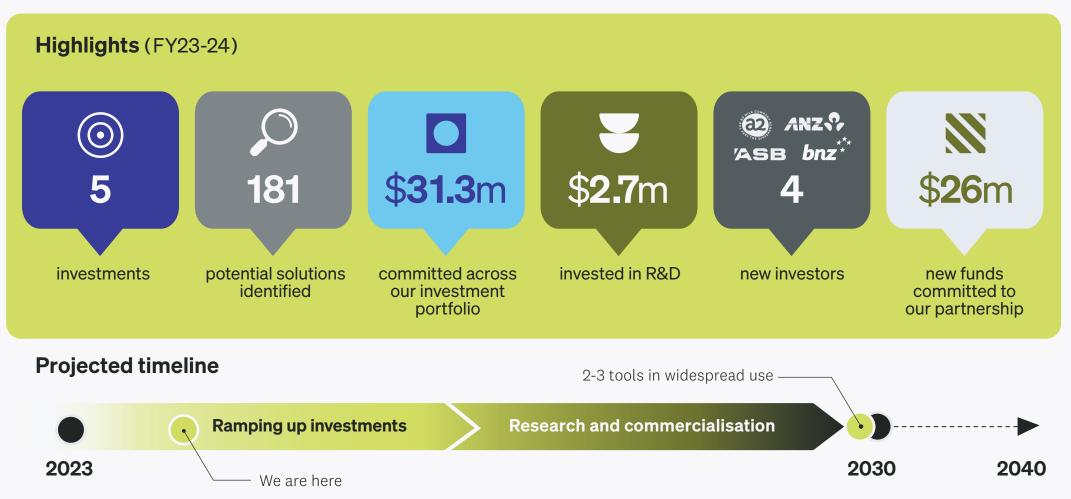


Global science-based emissions reduction targets for some of New Zealand's major export customers:

	By 2030	2050
Nestlé	4 50 %	
Danone	scope 1 & 3 forest, land and agriculture (FLAG) emissions. 4 30% in methane emissions from fresh milk for dairy products (absolute).	Net Zero
McDonald's	↓ 16% scope 3 from FLAG emissions	Zero
Sainsbury's	↓ 36.4% scope 3 from FLAG emissions	
Tesco	\$\square\$ \frac{1}{39\%}\$ scope 3 by 2032 from FLAG emissions	
Mars	4 50 %	

Numbers at a glance

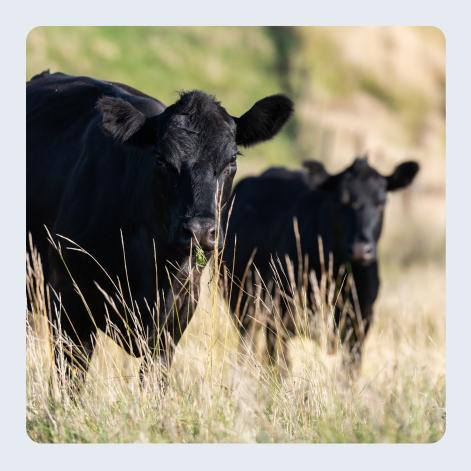
We are focused on ramping up investments and actions to provide New Zealand farmers with access to effective and affordable solutions to significantly reduce emissions.



Farmers will need at least two to three tools in widespread use to achieve our ambition of a 30% reduction in biogenic methane and nitrous oxide emissions by 2030.

Our investment approach

We're scanning the world for solutions and building a portfolio of high-impact opportunities to bring emissions reduction technologies to Kiwi farmers.



There is unlikely to be a single solution that achieves our emissions reduction ambition, and we want to offer farmers choice. Therefore, we take a portfolio approach to investing in a range of potential mitigation solutions to give us the best chance of providing farmers with access to a range of affordable, effective solutions.

As part of our investment review process, we work with trusted scientific advisors, including the NZAGRC, to review the science underpinning a company's claims.

Our investment considerations

These are our key considerations when we're reviewing an investment opportunity.

- High reach across a range of New Zealand ruminant animals and farming systems.
- Efficacy levels significant enough to support our methane and nitrous oxide ambition, and investor targets.
- Productivity advantages that will be helpful for farmer adoption.
- Cost-effective technology scaling.
- Ease of fit into New Zealand farming systems, predominantly suitable for pasture-based farming.
- Commercialisation has potential to deliver financial return.

Investments (FY23 – 24)

In the 2023/24 year, we committed funds to five companies.

ArkeaBio - US startup developing a methane vaccine, with an innovative approach and an initial focus on cattle. ArkeaBio has achieved proof of concept, after its vaccine showed a reduction in methane in cattle.

Agroceutical Products NZ - NZ-based joint venture developing a methane inhibitor for cattle from a daffodil extract. Lab trials showed a naturally occurring compound from daffodils, haemanthamine, may be effective in reducing methane production when consumed as a feed additive. The solution could also provide a potential revenue stream for NZ sheep farmers by growing the daffodils required to supply the compound. AgriZero^{NZ} is a founding partner in the joint venture alongside UK company, Agroceutical Products UK.

BioLumic - Agri-biotech company founded in New Zealand harnessing UV light to develop a low-emissions farm pasture with increased productivity gains. AgriZero^{NZ} funding enables BioLumic to apply its technology to ryegrass, the most common pasture on New Zealand farms, with a goal to increase lipid content by 6% and subsequently reduce methane emissions from animals that consume it.

Hoofprint Biome Inc - US startup developing probiotics and natural enzymes to reduce methane emissions and improve cow health. Ingested as a supplement in a small dose, the probiotic aims to reduce enteric methane emissions by over 80 per cent while simultaneously increasing milk and meat yield by over 5 per cent.

NZ methane vaccine venture - Investment to establish a new venture to spearhead the next phase in New Zealand's pioneering **methane vaccine** research. Read more about this on page 11.









System-wide funding and unblocking constraints

We're also focused on unblocking constraints and driving outcomes across the emissions reduction lifecycle to accelerate development and commercialisation of tools and technology, and support deployment and adoption.

Our catalyst function brings a wider lens to identify opportunities for collaboration and system-wide funding for broader impact and benefit.

As a 'market shaper' we help ensure there's an adequate pipeline of R&D to achieve our ambition and take specific actions to enhance the likelihood of mitigations being available for New Zealand farmers sooner, and to support on-farm adoption.

This includes:

- Working with the sector to understand any issues or limitations, from a practical and commercial perspective, to accelerate progress.
- Undertaking joint investments and attracting external funding and expertise from international and philanthropic organisations.
- Developing new entities and commercial frameworks to address gaps and accelerate progress.

Progress (FY23 - 24)

- Established a new venture (now named Lucidome Bio) to spearhead the next phase of New Zealand's methane vaccine research.
- Established a shared Science Advisory Panel with the NZAGRC.
- Accelerating progress of the small molecule methane inhibitor discovery programme for pastoral farming systems.
- Founding partner of new joint venture, Agroceutical Products NZ, to bring UK research into a botanical-based methane inhibitor to New Zealand.
- Development of a philanthropic engagement strategy to support our progress.



Case study: Accelerating New Zealand's methane vaccine research

A methane vaccine for ruminant animals is widely considered to be the 'holy grail' to reduce agricultural emissions, as a low-cost and high-impact solution which could be used by farmers worldwide.

It is particularly appealing for New Zealand's pastoral farms for its low dose requirements, likely lack of residues, and as vaccination is already a common practice to support animal health.

A successful vaccine would trigger an animal's immune system to generate antibodies in saliva that suppress the growth and function of methane-producing microbes (methanogens) in the rumen, significantly reducing the quantity of the potent greenhouse gas burped out.

Kiwi scientists from AgResearch have been pioneering research to develop a methane vaccine for more than 15 years, with funding from the Pastoral Greenhouse Gas Research Consortium (PGGRC) and the New Zealand government through the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC).

To help inform the best way forward to accelerate this work, AgriZero^{NZ} attended a major vaccine forum convened by The Global Methane Hub, a non-governmental organisation dedicated to reducing methane emissions globally and significantly boosting resources.

The agenda focused on the latest methane vaccine research, advances in bovine immunology and rumen microbiome and the gaps and opportunities to fast-track development.

It was acknowledged that the development of a methane vaccine has been globally underfunded to date, and there was a strong commitment from funders to accelerate the pace of research.

Discussions ranged from supporting an open-source approach to research that could unblock barriers through to investing in vaccine ventures, and that these approaches could be mutually reinforcing.

AgriZero^{NZ} also worked closely with key stakeholders of the research programme to understand its limitations and opportunities.

AgriZero^{NZ} found that although the programme is worldleading, its structure was not conducive to accelerating progress, nor commercialising and delivering an effective vaccine. There was also strong consensus that the project required significant additional funding and the current model (with annual government/ industry grants) was not fit for purpose.

Given the unique expertise of the scientists working on this programme and the importance of the vaccine solution to New Zealand farmers, it was also agreed that capability must be retained, and capacity strengthened.

In April 2024, AgriZero^{NZ} announced a \$1 million investment to establish a new entity for the vaccine research. In June 2024, AgriZero^{NZ} established a standalone and commercially focused entity to spearhead the next phase of New Zealand's methane vaccine research. The entity, now known as Lucidome Bio, rolls up the technology, intellectual property, team and funding that was previously spread across multiple organisations. It will build on success to date and, importantly, attract funding from major international philanthropic and venture capital investors to drive a focus on bringing this solution to market.





Clarifying and streamlining regulatory pathways

It's critical that New Zealand has an efficient and fit-for-purpose regulatory framework to enable access to new technologies whilst ensuring the ongoing safety and quality of our agricultural exports.

We work closely with the Ministry for Primary Industries and the Environmental Protection Authority – the regulators – to clarify and streamline regulatory pathways. We engage directly with officials, host workshops, provide commercial advice, and feed into the development of policy and legislative changes.

There is a risk that, without streamlining the regulatory framework, more tools will be made available to farmers in other countries before they are available in New Zealand.

Progress (FY23 - 24)

- Influenced inhibitor legislation through direct engagements with regulators and a submission to regulatory changes.
- Hosted two industry workshops with experts from across the sector with a focus on clarifying and streamlining regulatory requirements for emissions reduction tools.
- Contributed to strategic approach for market acceptance of inhibitor use.



Engaging with the sector

To achieve our ambition, sector co-operation is increasingly necessary within New Zealand and globally.

Given our critical role, and the need for fast action, we've made a significant effort to foster relationships domestically and across and globe in an effort to get emissions reduction tools into New Zealand farmers' hands sooner.

We've attended and presented at numerous events and generated significant media coverage to build awareness of our work and why we exist. From a global perspective, we've focused on assessing the emissions reduction landscape and emerging trends, seeking out the latest tools and tech for potential investment opportunities and exploring potential co-funding and other partnerships.

Taking farmers on the journey

We are strengthening our engagement with New Zealand farmers as we get closer to the availability of emissions reduction tools.

One of the key ways we're going to help ensure emissions mitigation tools are fit-for-purpose to support on-farm adoption, is through our Farmer Focus Group. This group will provide us with their views and feedback regarding the practical implementation of emissions mitigation tools across the different ruminant livestock systems in New Zealand.







Engagement highlights (FY23 – 24)

- **Commenced recruitment for Farmer Focus Group**
- Quarterly updates to help the public keep track of our progress via our Scorecard which gets published on our website, social media and sent to a vast contact list of stakeholders.
- Attendance and involvement in a significant number of industry and farmer events in **New Zealand including:**
 - Milk Quality Conference / Hamilton
 - Red Meat Sector Conference / Auckland
 - NZ Institute of Primary Industry Management National Conference / Christchurch

- Climate Change and Business Conference / Auckland
- Thriving Southland Field Days / Waimumu
- MyConnect Farmer conference / Hamilton
- Mooving on Methane / New Plymouth
- E Tipu: The New Zealand Future Food and Fibre Summit / Palmerston North
- National Fieldays / Hamilton
- "Future Farm Systems" Field Day / Dargaville
- Attendance at international events and conferences including:
 - Global Methane Hub Vaccine Forum / Dubai

- World Agri-Tech Innovation Summit / London
- Asia-Pacific Agri-Food Innovation Summit / Singapore
- COP28 United Nations Climate Change Conference / Dubai
- AgriFutures evokeAG event / Perth
- Animal AgTech Innovation Summit / San Francisco
- State of the Science Summit: Reducing Methane from Animal Agriculture, University of California, Davis / USA
- National Ploughing Championships / Ireland
- Beef Week, Rockhampton / Queensland

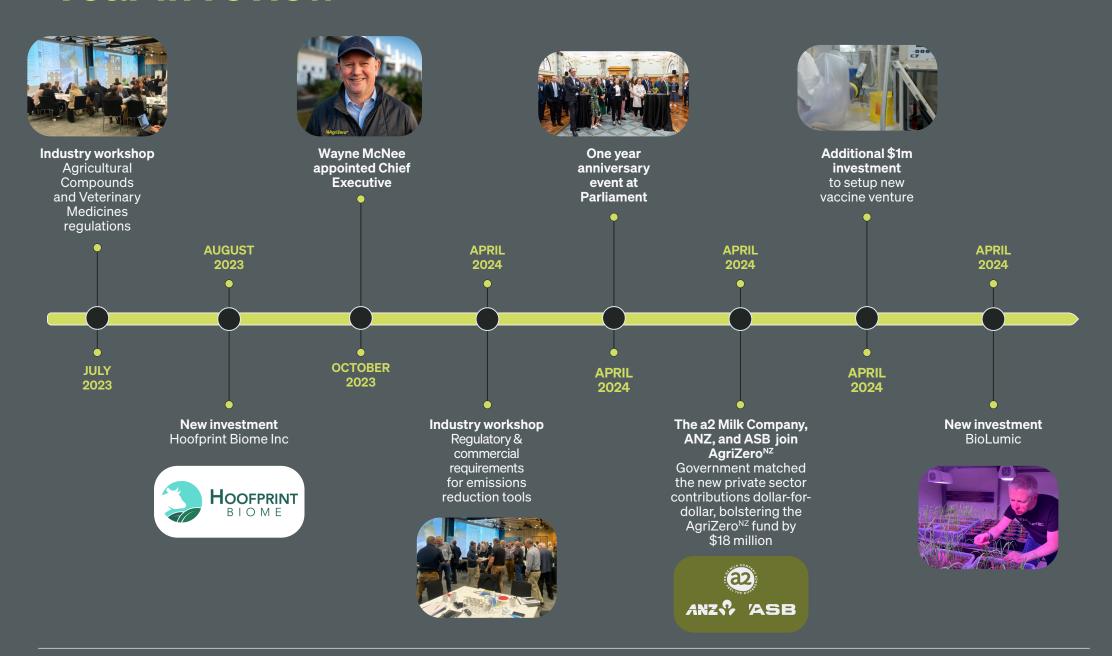






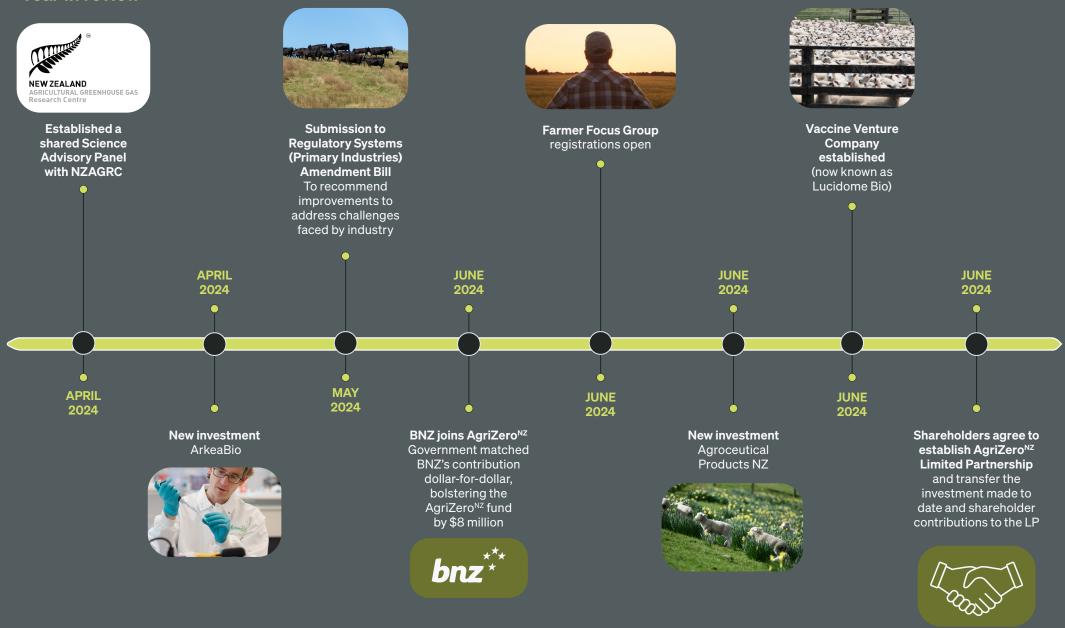


Year in review





Year in review



Financial summary

1 July 2023 - 30 June 2024

Investor contributions	\$M
Private sector Public sector	\$47.75 \$26.06*
Total	\$73.81

Investments**		Committed
ArkeaBio	\$9.8	-
Agroceutical Products NZ	-	\$0.4
BioLumic	\$2.3	\$2.5
Hoofprint Biome Inc	\$2.5	\$2.5
Ruminant BioTech	\$1.8	-
Vaccine Venture Company	\$1.0	\$8.5
Total	\$17.4	\$13.9
Total	\$17.4	\$13.9

Revenue & Expenses	
Interest & other income	\$1.72
Operating expenses	\$6.69
Research & Development	\$2.73
Foreign Exchange losses	\$0.15
Net Profit (Loss) Cash or equivalent at 30 June 2024	(\$7.85) \$47.13



^{*} Funds from private sector investors are matched by the Government, dollar for dollar. The Government matches the private sector contributions in July each year, therefore this isn't included in the reporting period, ending 30 June 2024.

Please note, this financial summary has not been audited.

^{**} Investment figures listed are valued as at 30 June 2024.

