



**Opening statement – Dr Larry Marshall, CSIRO
Senate Estimates, March 2021**

Thank you Chair.

I'd like to take a brief moment to share some endeavours of the scientists at CSIRO when we needed not only research, but research translation to solve some of our greatest challenges.

12 months ago, 33 people had just lost their lives, 17 million hectares of land and countless species had burned, and more than 3,000 homes had been lost to bushfires during the Black Summer.

CSIRO's scientists were there on the ground – as they have been for every major fire event since 1983's Ash Wednesday – working on how we better prepare for and manage bushfire seasons that are getting hotter, drier and longer.

We delivered the Report on Climate and Disaster Resilience to show how research, science and technology can help us adapt to a changing climate. Drawing on 70 plus years of bushfire research we provided trusted advice to state and federal enquiries. Applying research to solutions, we released new technology including Artificial Intelligence to outthink fires and used satellite data to monitor spread and conditions.

COVID-19 brought a new threat, but one where again, research applied, has led to the rollout of vaccines in a timeframe nothing short of amazing. But we were ready. Through research and modelling we had anticipated a zoonotic pandemic. Our Australian Centre for Disease Preparedness in Geelong was ready with the infrastructure and people to play a pivotal role in understanding the virus, establishing the first animal model and completing pre-clinical testing which accelerated the Oxford University-AstraZeneca vaccine.

Applying research to solution, we also worked with the University of Queensland, deploying a biomanufacturing facility to solve the problem of rapidly scaling up the protein used in their vaccine, so there was enough quantity for it to be tested.

CSIRO scientists have now joined those at CSL to support the manufacture of the Oxford University-AstraZeneca vaccine.

But while we worked on the virus and vaccine, we also used science to help Australia adapt to life with COVID-19, applying research to deliver solutions to keep Australians safe at a great time of need

We established Australia's first testing and verification capability for PPE equipment, so we were free of international supply chains. We used wastewater testing to pinpoint hotspots and reduce the impact of lockdowns to specific pockets of our cities. And we applied big data predictive analytics to help inform the public health response from state and federal governments.

There are more ways we are applying research to the challenges we face. We are looking at how we safely return to flight, how we build resilience to future shocks from infectious disease, and how we rebuild our economy to be stronger than before.

We are investing \$125 million over four years to deliver collaborative missions that will drive recovery and resilience, with coalitions across industry and research mobilising around new wealth generation opportunities for Australia. Opportunities like a new clean hydrogen industry worth \$11 billion per year in GDP and 8,000 jobs, or growing the export earnings of Australian food to \$10 billion *in this decade*.

We are also making investments on behalf of Australia in the future technologies that will transform our industries and differentiate us from the world. We are investing \$82 million over four years to accelerate growth opportunities in commercialisation and new markets, \$60 million in innovation to support the Government's Modern Manufacturing Strategy, we are bringing our investment in Future Science Platforms up to \$168 million in total to make sure we remain at the cutting edge of scientific breakthroughs.

As I look back over the last 12 months and reflect on CSIRO's purpose, I feel supremely proud of what our people have delivered for 25 million Australians, and I am confident we will continue to deliver solutions to our greatest challenges from science.

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