



A CUTTING-EDGE ECONOMY BOOSTING RESEARCH & DEVELOPMENT

The Greens' plan to secure our future prosperity

Our economy is facing serious challenges as the world moves beyond simply consuming our resources. Trailblazing innovation will be critical to our future prosperity. Caring for workers requires government to invest in the jobs of the future today.

Labor has been stealing from our future by cutting funding from research & development programs and our universities. Meanwhile Tony Abbott doesn't want anything to change. He sees coal and mining as the future, regardless of the fact that our trading partners are moving in the other direction.

The Greens refuse to risk our country's future. We recognise that a diverse, creative and resilient economy is the guarantee we need for a prosperous society beyond the resources boom.

The Greens will secure this future by:

- **Lifting investment, public and private, in Research and Development to 3% of GDP by 2020;**
- **Encouraging greater uptake of private investment in R&D; and**
- **Restoring funding to the Sustainable Research Excellence program.**

The Greens have a track record defending research and development. In this Parliament, we successfully campaigned to lift the government's freeze on the National Health and Medical Research Council's funding and our motion in the Parliament to stop any more cuts to science and research funding passed with the support of independents and the Coalition. The Greens also negotiated changes to the R&D tax system to assist small research businesses with their cash-flow problems.

> A PATH FOR A CLEVER COUNTRY

Australians are famous for being early adopters - we love technology and innovation. Not only does it bring us personal benefits but research and development is critical to sustaining our economy, health and environment. Whether it is in the way we grow our food, how we travel, what medicines we rely on or the way we use energy for our homes and businesses, we need innovation. If we are standing still, we are going backwards.

Innovation also holds the key to generating new jobs; it is responsible for leaps and bounds in productivity. Technological breakthroughs in the way that we do things are essential to lifting our shared standards of living and ensuring our economy is sustainable for future generations to enjoy.

As governor of the Reserve Bank, Glenn Stevens recently remarked, "most of the time the answer to the question 'where will the growth come from' is that only part of it will come from the old traditional areas, and a fair bit of it will come from new things, often things of which we are only dimly aware."¹

If we are not busily working away to crack open every opportunity, the increasingly integrated and competitive global economy will leave us behind. We need to support those creative minds who challenge the standard way of doing things and discover new ways to do things better.

> RESEARCH & DEVELOPMENT TARGET

The government is responsible for our nation's research and development levels, either through funding or through creating the incentives for private investment. At the moment Australia is below the OECD average for research and development investment at 2.2% of GDP. We are well behind nations such as Japan, Korea, Sweden, Israel and Finland who all invest more than 3% of GDP.

To ensure we are not left behind, the Greens are committed to a Research and Development target of 3% of GDP by 2020. This target is backed by the Australian Academy of Science and Universities Australia and will enable us to lead the world in discovering transformational breakthroughs.

To reach that goal, and lift us into the top of the OECD, the Parliamentary Budget Office has estimated the federal government's contribution to R&D will need to increase by an additional \$2.55 billion over the forward estimates.



In 2009 President Obama recognised the importance of research and development investment, pledging the United States will devote more than 3% of GDP to research and development. He noted that while there were "those who say we cannot afford to invest in science. The support for research is somehow a luxury at moments that are defined by necessities. I fundamentally disagree. Science is more essential for our prosperity, our security, our health, our environment and our quality of life than it has ever been before."ⁱⁱ

We must reverse the trend of the previous decade which saw government research funding decline while the economy grew. The proportion of the government's direct contribution to our country's research effort has fallen dramatically from 23% of the total in 2000 to 9% in 2010.

Establishing a national target for 2020 and committing funding to meet that objective will ensure we stay on track to realise our aspirations as a clever and diverse economy in the 21st century.

> RESPECTING UNIVERSITY RESEARCH

Funding research in universities makes good business sense. As the Productivity Commission observed, the return on government investment in R&D conducted by universities is high – 'due to their orientation to public benefit research and their role in the development of high quality human capital for the Australian economy.'ⁱⁱⁱ

International students are also attracted to high-ranking universities. Rankings are largely derived from the amount of quality research they produce. Investment in university research will also increase our potential educational export earnings.

In spite of the evidence, research work in universities has been under constant assault from the Labor government. First, instead of fostering the next generation of scientists and mathematicians, the government increased their HECS fees by close to double. Then they took \$30 million from the Cooperative Research Program which will make universities even more dependent on corporate priorities.

Then they cut the Sustainable Research Excellence program which helps get research grant applications off the ground. We want to reverse this trend so that our research institutions are back to where they should be.

To build on that, the Greens will provide greater opportunities for medical researchers by implementing key recommendations from the McKeon Review in to Health and Medical research.

Finally, to ensure the foundations of learning and research, we will increase base funding by 2.5% a year until it reaches 10% in 2017, as recommended by the Bradley Review commissioned by the Rudd government, but not acted upon. Only the Greens are prepared to invest the \$1.47 billion necessary to reap the future benefits that the researchers in our universities will provide.

> RECENT SUCCESS STORIES

Studies into R&D have consistently found the rate of return on public investment is extremely high - in the range of 20 to 50 per cent.^{iv} Our agriculture industry alone pulls an average 43% return from its innovation.^v

Alongside the industry-wide successes are individual Australian stories that have changed our lives, from the bionic ear and Gardasil to solar panels than can be made on an A3 printer.

Similarly, CSIRO scientist John O'Sullivan experimenting in radioastronomy led to the invention of WiFi. This is a perfect example of how blue sky research can lead to commercial breakthroughs. The patent is expected to bring in upwards of \$1 billion into the CSIRO who will feed these profits back into further research and development.

Then there are the amazing international collaborations to advance our scientific understanding. Australian scientists with public funding worked with global colleagues to discover Higgs Boson. Then there was the giant radio telescope project, the *Square Kilometre Array* sited in Australia, South Africa and New Zealand. In this increasingly interconnected world, global collaboration is the future to scientific success stories.

> OTHER PARTIES

Research and development, whether publicly or privately funded, has been one of the major areas the Labor government has exploited in its quest to make up for its mining tax giveaways. Billions of dollars have been removed, blunting the potential of our smart economy

Tony Abbott is yet to outline any vision for how he would assist the future workforce of Australia. To prop-up the miners, bankers and big polluters of Australia, he will have to find lots of money in savings.

Unfortunately, both parties see research and development as an easy target. But the Greens will stand up against them and their vested interests to fight for the innovators who are the key to our prosperous future.

ⁱ Address to the Economic Society Business Luncheon 3 July 2013.

ⁱⁱ Address to National Academy of Sciences, 27 April 2009.

ⁱⁱⁱ Productivity Commission *Public Support for Science and Innovation* 9 March 2007 at 103

^{iv} Universities Australia *Pre-Budget Submission 2013-14*.

^v Productivity Commission Inquiry Report no. 52 *Rural Research and Development Corporations February 2011* at xvi.