

Policy | 2014

# Science and Innovation

## HIGHLIGHTS

### Labour will:

- Introduce a Research & Development (R&D) tax credit at the rate of 12.5%.
- Prioritise an increase in our public science spend to link New Zealand to the OECD average over time.
- Reinstate post-doctoral fellowships for recent PhD graduates, so they are supported into research careers in New Zealand instead of overseas

## Introduction

Labour believes that good science lies at the heart of a modern society and a modern economy. Good science and innovative technology contribute to increased economic productivity, better health, a greater understanding of our environment and society and the advancement of scholarship and human knowledge.

The role of government is to lay the foundations to establish the environment in which science, innovation and great design will flourish. It means acting quickly and collaboratively as a country, across our businesses and public institutions, to seize opportunities and eliminate obstacles to innovation and growth.

## Creating a culture of science and innovation

If we are to develop a vibrant science sector to power our productive, innovative industries we need them to attract our best minds. Unfortunately, there is limited public awareness of the value of science and the opportunities it offers.

Creating a culture of science and innovation has to start young – the next generation of Kiwis will have to be smarter and more innovative to compete in a fast-changing and technologically driven global economy. Our schools need the resources and support to teach science in a way which excites and engages students. Clear pathways for young people interested in a career in science need to be further developed.

### Labour will:

**build on existing programmes to create a long running and comprehensive awareness campaign to promote science in schools.**

**increase the availability of bonded scholarships in areas of identified teaching shortages, including science and maths**

**support science teachers in making science learning exciting and making practical links through the science curriculum with science institutions and R&D companies that undertake scientific research such as the Liggins Institute.**

## **R & D tax credits**

Our research and development spend is too low. Overall we spend about 1.3% of GDP on R&D – half of what Singapore and Denmark invest.

Labour recognises that funding for science needs to grow and particularly within the private sector. R&D in the business sector is particularly low – just 0.51% of GDP or one-third of the OECD average. Although Kiwis are an inventive people, our low level of business expenditure is a drag on New Zealand's ability to innovate and grow.

Countries similar in size to New Zealand like Finland, Singapore, Denmark and Israel put substantial emphasis on increasing R&D done by businesses. They receive significant government support.

The last Labour Government introduced an R&D tax credit to make investing in innovation more affordable and less risky for businesses. It was intended to address New Zealand's acute R&D expenditure disparity by encouraging greater business investment in R&D.

One of National's first acts in government was to axe the R&D Tax Credit to help pay for their first round of personal income tax cuts. It went against Treasury advice that an R&D tax credit would produce net benefits to the economy through innovation and higher productivity over the medium term. Treasury had also argued that the tax credit was a more effective means of incentivising business R&D than discretionary grants, as they are more driven by business and reach many more firms.

### **Labour will:**

**introduce a Research & Development (R&D) tax credit at the rate of 12.5 % from April 2016, to lift New Zealand's lagging R&D expenditure by encouraging businesses to research and innovate.**

This policy is estimated to stimulate approximately \$1.5 billion p.a. of additional research and development spending by industry. This will assist the growth of our export sector and bring new jobs and export earnings for New Zealand.

Just as importantly, a tax credit policy, unlike a government handout, will promote a shift in business culture to think and plan strategically to the R&D spend.

New Zealand firms that conduct eligible R&D activities in New Zealand will qualify for a tax credit on all eligible R&D expenditure. To qualify for the R&D tax credit, a firm will need to control the R&D project, bear the financial risk of it, and have effective ownership over the project results.

The R & D tax credit will be partly funded by scaling back by 50 percent two of National's 'replacement' grants programmes: Research and Development Growth Grants and Targeted Business R&D Funding.

This policy will cost \$42 million in 2015/16, rising to \$382 million in 2020/21, net of savings from cutting back the grant-based initiatives.

## **The public science system**

A healthy science sector relies on a solid foundation of primary research. Labour recognises that fundamental science and public good science are essential to New Zealand's well-being and an underlying driver of innovation.

**Labour will**

**prioritise an increase in our public science spend to link New Zealand to the OECD average, over time as fiscal conditions permit**

**maintain a robust science sector through universities and CRIs that lead our fundamental science effort**

**ensure the sustainability of the Marsden Fund and other research funds.**

The current government's National Science Challenges have become a resounding failure. Scientists are overwhelmingly dissatisfied with the whole process, have little confidence in the Challenges' ability to deliver and feel that that this investment is not even aligned to science objectives.

There is no option for New Zealand to get this wrong. These challenges are set to consume \$1.3 billion of science funding over ten years. Money has been recycled from all over the science system into them.

**Labour will:**

**review and reform the National Science Challenges, on the basis of advice from the science community and building on the success of respected funding bodies such as the Marsden Fund.**

A sensible approach may be to use challenge funds to establish a companion contestable fund for applied research that could also be administered by the Royal Society.

**Labour will:**

**ensure that funding drives collaboration between institutions rather than competition.**

Too often our Crown Research Institutes, universities and businesses are disconnected from each other, despite there being clear national advantage from collaboration. Some public institutions hold on to intellectual property developed with taxpayer money with the result that good ideas are not commercialised as successfully as they would be in the private sector.

Businesses are often reluctant or face obstacles to access and use research expertise in CRIs and universities, which inhibits high quality R&D that might have been undertaken.

There are a number of areas where closer collaboration – or clustering – may generate benefits. New Zealand companies are highly specialised in some areas of health technology as are leading universities.

**Labour will:**

**provide integrated support for innovation across the Crown Research Institutes and tertiary institutions, and through private-sector research activities, and sectoral and regional initiatives**

**continue to implement the findings of the CRI Taskforce to ensure that they have the ability to work strategically for the interests of New Zealand**

Each of our universities already plays a key role in driving innovation. Labour will support the integration of the skills and knowledge within our universities into our business, government and community sectors at the regional, national and international level.

**Labour will:**

**review the criteria of the Performance Based Research Fund to ensure that a broad range of research success is recognised**

**support research in universities, including through a continued commitment to Centres of Research Excellence**

**encourage closer association between business and university commercialisation centres to ensure 'discoveries' within the universities are most effectively brought to market and have the best chance for success**

**support and foster a collaborative university system, where each of our universities is enabled to focus on its areas of research and teaching strength.**

## **Science careers**

Science will be repositioned as an excellent career choice. Supporting our world beating scientists and providing them with the resources to blossom in their field will attract other top talent to New Zealand, building areas of research excellence for which New Zealand will become world renowned.

**Labour will:**

**put an end to the rounds of continuous restructuring in government science, which is driving students away from choosing science as a career and remaining scientists away from New Zealand**

**support the career pathways of graduates, to encourage our researchers to develop their careers and contribute to New Zealand.**

The years immediately following graduation are critical to consolidate the careers of scientists. With the removal of post-doctoral scholarships in 2010, New Zealand has lost hundreds of our best scientific minds overseas.

**Labour will:**

**reinstate post-doctoral fellowships for recent PhD graduates, scaling up to a cost of \$6 million a year, so they are supported into research careers in New Zealand instead of overseas.**

## **Boosting innovation**

If we are serious about growing export businesses in New Zealand over the next ten years, then we need to think and act boldly. While the primary sector is the cornerstone of our economy, our technology companies, both within and outside the primary sector are becoming increasingly significant.

The hallmark of technology companies is their high productivity and export-focus – two elements crucial to lifting New Zealand’s overall economic performance. We need to unlock the constraints that obstruct the growth of more innovative companies. And we need to do all we can to help them remain in New Zealand, so New Zealand can share the benefits of their success.

## **Venture capital**

Capital is the lifeblood of young companies. There is a relatively vibrant ‘angel’ or early investor sector in New Zealand willing to put in the region of \$250,000 – \$2 million into businesses with exciting ideas. The Venture Investment Fund (VIF) has been an instrumental player in assisting with funding for these new companies.

The government should continue to support the NZVIF programme through further underwriting. This will enable NZVIF to reinvest returns as the funds it has invested exit their investment companies and distribute returns to investors.

But business growth beyond this early stage is often constrained by a lack of capital in the \$2 to \$10 million range. Opportunities are often lost through the sale of ideas to foreign investors that recognise their value if later stage capital is not available to our new companies.

At the same time, New Zealand households are limited in the range of investments open to them – particularly those that will drive the productive parts of our economy. Encouraging saving is an essential part of Labour’s plan to stimulate our economic recovery.

**Labour will:**

**continue to support NZVIF with a view to providing additional underwriting as the pool of ventures expands.**

**explore ideas for leveraging future capital as part of its economic development strategy, including requiring support from an international venture capital as part of eligibility for NZVIF.**

**investigate the potential costs of these options and any difficulties that might result as part of the requirement for an overseas investor to access VIF funding, and report back by the end of 2015.**

Growing our domestic savings pool will help to make more capital available for investment. That’s one of the reasons that Labour is committed to universal KiwiSaver. See our *KiwiSaver* policy for further details.

## **Garage Grants**

Many of the most successful companies in the world, including Apple, Microsoft and Facebook, were born in garages, basements and student dormitories.

The variety of grants available from MBIE and NZTE as well as Labour’s R&D tax credits are generally not accessible to those with a creative idea who are just starting out.

**Labour will;**

**introduce ‘Garage Grants’ to enable and support entrepreneurs in transforming their clever idea into something big.**

Successful applicants will receive individual training, mentoring and support from successful entrepreneurs, with up to \$10,000 to build the first product and start the business.

This contestable fund of \$3.2 million over four years will be administered through the Ministry of Business, Innovation and Employment and via existing accelerator programmes.

## **Information and Communications Technology**

New Zealand's information technology infrastructure is important in Labour's vision for the economy. Information and Communications Technology (ICT) will drive economic development in New Zealand for decades to come. Labour will ensure that New Zealand takes the opportunity for economic development from ICT as a sector itself and uses it to enhance performance and innovation across the economy.

**Labour will:**

**undertake a thorough review of UFB and the RBI to ensure that it is delivering value-for-money while providing the transformational promise of high-speed internet access for all New Zealanders**

**take an active interest in improving and enhancing New Zealand's international connectivity**

**establish the position of Chief Technology Officer in Government, reporting directly to the Prime Minister and Cabinet.**

See Labour's *Digital Upgrade* and *Connectivity Upgrade* for further information and other initiatives.

## **Technology 'X Prizes'**

**Labour will:**

**establish the equivalent of 'X prizes' for New Zealand, developed & run by the Chief Science Advisor and the new role of Chief Technology Officer.**

X Prizes are public competitions intended to encourage "radical breakthroughs" in technology that could benefit humankind. They are designed and managed by the X Prize Foundation, a US non-profit organisation.