

# The Treasury

## Budget 2014 Information Release

### Release Document

#### July 2014

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- [2] 6(c) - to prevent prejudice to the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial
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- [14] 6(e)(iv) - to damage seriously the economy of New Zealand by disclosing prematurely decisions to change or continue government economic or financial policies relating to the entering into of overseas trade agreements.

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In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) of the Official Information Act.

## **Budget 2014: Four-year Plan**

**Vote Tertiary Education  
Student Support appropriated to**

- **Vote Revenue**
- **Vote Social Development**

**Four-year Plan**

20 February 2014

# **PART ONE: Strategic Direction, Organisational Capability and Workforce**

## **1.0 Strategic direction**

### **1.1 New Zealand's tertiary education system performs well...**

The New Zealand tertiary education and research system is performing well. Since 2009, we have seen some strong results from its focus on system performance, value for money and the relevance of provision. Alongside a rise in full-time equivalent student numbers from 236,000 in 2008 to 247,000 in 2012, we are seeing:

- more graduates than ever before, and at higher levels – in 2012 a total of 162,000 qualifications were completed, and the number of students completing a bachelors degree was the highest ever at 25,400 (up 4,790 (23%) since 2010)
- more young people moving from school to degree level study (up from 13,600 in 2007 to 16,500 in 2012) and more people overall are studying at higher levels (the share of total EFTS at bachelors level and above rose from 50% in 2007 to 56% in 2012)
- more Māori and Pasifika are participating and achieving in higher level study. Participation by 18-19 year-olds in bachelors degree study for Māori went from 11% in 2009 to 13% in 2012, and from 13% in 2009 to 16% in 2012 for Pasifika
- more new apprentices entering industry training, with some 10,000 signing up between March and December 2013 (where the usual annual new intake is 7,000), of which 67% are in priority trades.

These gains have been made whilst maintaining control over the Government's tertiary education spending.

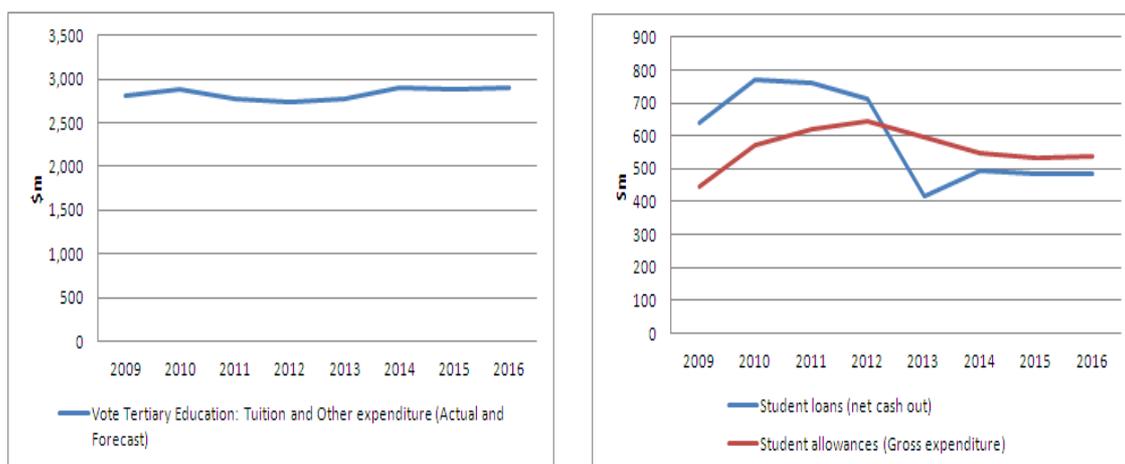
#### *Re-prioritising tertiary education expenditure*

In a tight fiscal environment, Government has reduced spending in low-value areas and improved the way the system targets need. This has created savings which have been reinvested in higher value tertiary expenditure and in policies that improve the performance of the system. The tertiary education portfolio has also returned operating savings to the centre of over \$1 billion over Budgets 2009 to 2013<sup>1</sup>.

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<sup>1</sup> Approximately \$240 million of these savings is a one-off adjustment that applies to 2011/12.

Figure 1: Vote Tertiary Education (tuition and other expenditure), and student loans and allowances changes in expenditure 2009-2016



Note: 2014-2016 are forecasts. Tuition and other expenditure combines the lines in the core Crown expenses tables for tertiary education for tuition and other tertiary funding. The student loans figure is the net cash out, as this is indicative of changes in lending. The net cash out is lending offset by repayments but independent of revaluations of the student loans scheme.

Over the last four Budgets, significant improvements have been made to the student support system allowing the Government to sustain the high level of financial support provided to students over the long term, particularly in the context of our commitment to interest-free student loans.

The Government has achieved these gains by:

- introducing student loan performance criteria (removing loan eligibility for students who do not pass at least half their course load over two full-time years of study)
- encouraging individual responsibility for loan repayment particularly of overseas-based borrowers
- restricting eligibility and entitlements for high risk borrowing groups
- increasing loan repayment rates for domestic borrowers and freezing repayment thresholds
- focussing student allowances more tightly to need, including by personal income, initial qualifications, years of study, or age.

As part of this reprioritisation, the average student contribution to tertiary education costs has increased from 27% in 2008 to 29% in 2012, and is projected to reach 31% by 2016. This increase has been targeted towards students at higher levels who will benefit most from tertiary education, while more free tertiary education is now available at lower levels of the system where students need foundation skills before gaining returns from study.

### *Better investment*

Government funding to universities has increased by 16.5% from 2008 to 2012, targeted towards priority provision and research, and the efficiency of the sector has improved. The number of degree and postgraduate degree places has increased, and funding for economically important study, such as science and engineering, has been increased. The

Government has also increased investment in the major tertiary research funds, the Performance-Based Research Fund (PBRF) and Centres of Research Excellence (CoREs).

Government has improved the value of expenditure on vocational education and training through reviewing the industry training fund, tightening the funding rules and removing significant levels of very low-performing funding, using this to put greater resources into apprenticeships. It has also progressed the targeted review of qualifications and introduced Māori and Pasifika Trades Training to improve value for money and results from the vocational education system. The Government has also strongly supported trades skills for the Christchurch rebuild.

In foundation education, the Government has increased the contestability and quality of the system. The introduction of the Youth Guarantee and vocational pathways means from 2014, all people aged under 25 who have not yet achieved Level 2 qualifications will have access to fees-free places at Levels 1 and 2. We have already seen results from these interventions, with the numbers of young people not in education, employment or training (NEET) recently dropping to the lowest level since the Global Financial Crisis began. Blockages have also been removed at the welfare / tertiary education interface so the system better helps people into education, and then into sustainable employment.

The Government has invested in the renewal of tertiary education in Canterbury by providing capital contributions to the University of Canterbury and the Christchurch Polytechnic Institute of Technology (CPIT) to assist with re-building. Cabinet has also agreed in principle to provide support to Lincoln University for its rebuild and Lincoln is now working on a business case that can be presented to Cabinet [11]

The Government's capital contribution will be sourced from the Future Investment Fund.

#### *Improving the system's contribution to growth*

The Government created the Ministry of Business, Innovation and Employment (MBIE) to bring together the key areas of economic development, the labour market and research and development and make connections to the skills and knowledge development systems.

The TEC and MBIE have a role to play in ensuring a more effective role for industry in skills leadership. For the TEC, this means actively seeking to purchase a mix of qualifications that better reflects emerging areas of skills shortage. For MBIE, it means continued engagement with firms and industry bodies on the overall quality and mix of skills, developing ways to better identify skills shortages and future skills demand, and working with the TEC on how it responds to them.

Officials are also looking at how to better utilise provider-level outcomes information and how to assist students and their families to make more informed choices about what to study and where that study leads. This work will consider how we can consolidate the multiple sources of information, so that is more accessible to students and families.

In late 2013, Ministers announced the Science and Society Project as a complement to the National Science Challenges. The project will lift science, technology, engineering and mathematics (STEM) literacy in society and position New Zealand to better supply STEM skills into our economy in the years to come. We are also continuing to increase the number of engineering graduates and are undertaking work to address known skill shortages in areas such as Information and Communications Technology (ICT). Initiatives such as these focus on growing the contribution of the skills and innovation system to economic development.

## 1.2 But we need the tertiary education sector to do more...

The international expansion of tertiary education, meeting the needs of a growing economy, and new technologies will require the future tertiary education system to be more outward-facing and engaged. This means having strong links to industry, community and the global economy.

The tertiary education and research systems play important roles in the Business Growth Agenda. To grow our economy, we need our tertiary education system at all levels to develop human capital in the right areas and to transfer skills, knowledge and technology more effectively to our firms. To boost innovation, we also need further increases in the quantity and quality of the research our system produces. We also want to grow international education and linkages in support of our economic development goals. The contribution of international education to New Zealand's gross domestic product in 2012/13 was around \$2.5 billion and it accounts directly for 13,600 full-time equivalent jobs (and up to 28,000 jobs when indirectly supported jobs are included).

To achieve the Government's goals, the system needs to be:

- upskilling those already in the workforce including those with literacy and numeracy needs
- producing high-quality qualifications and work-ready graduates so that graduates deliver skills to industry
- investing in the right areas that will deliver value to New Zealand, such as STEM subjects and areas of highest importance to New Zealand industry and businesses
- increasing the contribution of research institutions to a growing research base and focussing on the depth and concentration of research investment, in areas of strength and alignment with investments elsewhere in the system
- supporting innovation by connecting research and expertise within the system with businesses and communities
- producing skills and resources to make research and development investment more attractive to firms.

The new Tertiary Education Strategy will provide the blueprint for the direction the Government wants to take in the tertiary sector. It details how the tertiary sector will contribute to the Government's key priorities and includes six priorities to drive tertiary education sector performance over the next five years:

1. delivering skills for industry
2. getting at-risk young people into a career
3. boosting achievement of Māori and Pasifika
4. improving adult literacy and numeracy
5. strengthening research-based institutions
6. growing international linkages

The leadership statement for international education sets out Government's goals for export education, including:

- increasing revenue from providing education services offshore, including the sale of education expertise and intellectual property
- increasing the number of international students, including doubling the number of international postgraduate students and increasing the number of international students enrolled with New Zealand providers offshore
- retaining more skilled international students in New Zealand after study.

These goals are designed to support the sector to double the economic value of international education to \$5 billion by 2025, as set out in the Export Markets work stream of the Government's Business Growth Agenda.

#### *Strengthening provision for priority groups*

Over the last four years we have seen significant improvements in achievement and participation at higher levels for Māori and Pasifika learners, with an additional 4,400 Māori and Pasifika learners studying at Bachelors level in 2012, when compared to 2007 levels. However, young Māori and Pasifika learners are less likely than the total population to:

- gain school qualifications that enable entry to higher level study
- choose higher level study even when they get the necessary prior qualifications
- complete higher level tertiary qualifications (even after controlling for prior attainment).

Changing demographics mean that we will rely on increasingly improved education outcomes for Māori and Pasifika learners to meet our future skill and labour-force needs. Approximately 60% of the Māori population and 63% of the Pasifika population are aged 29 years old and under, compared to 42% in this age group in the total population. By 2030, 30% of the New Zealand population will identify as Māori or Pasifika.

Improving the responsiveness of tertiary education organisations to the needs of Māori and Pasifika learners will be important to improve existing levels of access and achievement and improve the way that tertiary education supports young Māori and Pasifika into the workforce.

#### *Better Public Services Result Area 6: increasing qualifications at Level 4 and above*

Better Public Services result area six is a workforce target aiming for 55% of 25–34 year olds having a Level 4 qualification, or higher, by 2017. Qualifications at Level 4 and above have been shown to increase productivity, and result in better outcomes for the individual. Currently progress is on track, as in 2012 50% of those aged 19 years had enrolled in a Level 4 or higher course, and 34% of those aged 22 years had completed a Level 4 or higher qualification.<sup>2</sup>

The increased focus on apprenticeships in the industry training system, which are now focussed at NZQF level 4, is one key initiative to achieve this target.

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<sup>2</sup> This target is subject to review at the time of drafting

### 1.3 Investing to improve the quality of tertiary education and its contribution to economic growth

Over the next four years, the tertiary education and research systems need to contribute more at each major level of the system. Each level is discussed in the following sections.

#### *Increasing the contribution of research-led institutions*

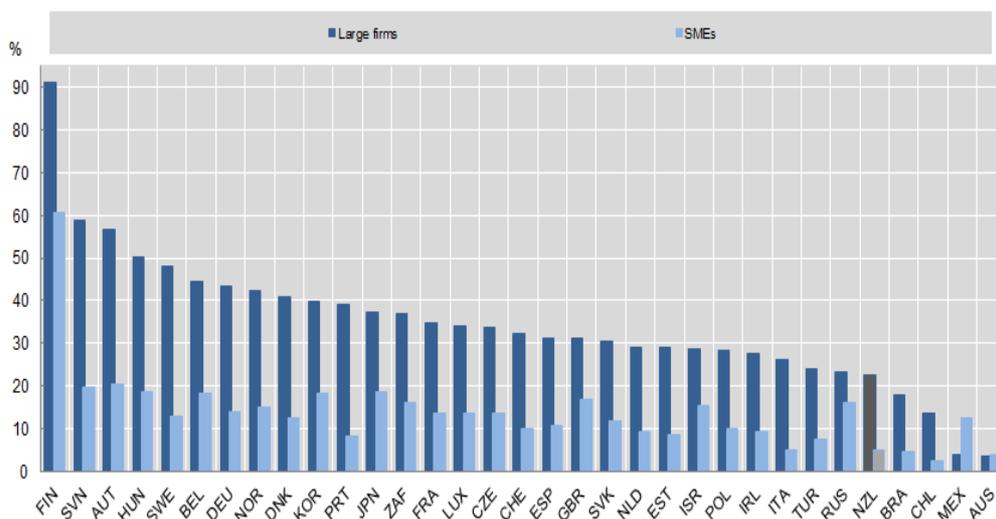
Research-led tertiary education supports innovation in firms by connecting skilled graduates, research and expertise with businesses and communities.

To support research-led tertiary education, the Government invests in:

- teaching and learning through research-led providers
- research excellence and quality (e.g. the PBRF and science and innovation funding) and collaboration (e.g. CoREs and National Science Challenges)
- a range of funds for firms seeking to improve their business capability and capacity for innovation (e.g. Callaghan Innovation, Regional Business Partners and science investments) via the Ministry of Business, Innovation and Employment.

There remains a low level of collaboration between firms and research institutions (see Figure 2). We need to focus on seeking better alignment of these to leverage greater returns on the Government’s investments.

*Figure 2: Firms collaborating on innovation with higher education or public research institutions, by firm size, 2008-10*



Top universities in large economies will receive a large concentration of income from private sector research contracts, as well as endowments. The number and character of large firms in New Zealand means that the New Zealand system struggles to match the levels of private investment in higher education institutions in other countries. We also have one of the lowest levels of business investment in research and development in the OECD.

The New Zealand university system is one of the most efficient in the world. Relative to national income or population, we rate very highly in the major international university ranking systems. New Zealand’s entire university system is ranked in the top 500 in the

influential QS ranking system, which is highly unusual for any country. We also rank highly on key OECD measures, such as the proportion of the population with a tertiary education qualification. However, our universities are operating in an increasingly competitive international environment, as the balance of economic power shifts from Europe and North America to the fast-growing Asian economies who are investing heavily in their university sectors.

The problem of the relative international competitiveness of New Zealand universities is evidenced by recent changes in international university rankings. International university rankings are a public measure of the reputation and quality of universities. New Zealand universities are generally improving their scores in the research citation components of the main rankings. However, the improvement in this area has not been enough to keep up with improvements by universities in other countries, or to address the decline in other areas such as in academic reputation and international outlook.

Many New Zealand universities therefore dropped in rank across a number of the rankings. Improving rankings is not an important goal in itself. However, high quality universities are more likely to be able to compete for high-quality researchers, and make linkages with leading overseas research systems, which assists our institutions to increase research depth, intensity and quality generally. For example, research by the Higher Education Funding Council of England (HEFCE) from 2008 suggests that international-quality researchers are unlikely to come to low-ranked institutions, although this research is sceptical about the value of rankings as measures of quality overall. But New Zealand can leverage off improved quality and depth of our higher education system as we seek to improve business performance and innovation and advance the Business Growth Agenda.

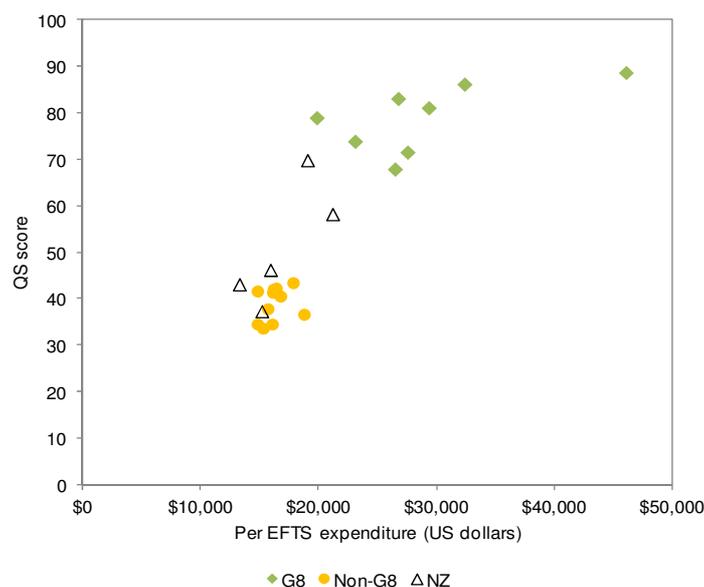
New Zealand has relatively high levels of government expenditure against OECD averages, but relatively low levels of expenditure by institutions per EFTS because of a relatively low private contribution, particularly from low levels of investment in research by firms.

Our relatively high public investment goes some way to compensating for the comparatively low private investment in research. But it is important that public investment incentivises technology and research transfer so that firms utilise the knowledge and innovations that research institutions produce. However, firms in turn need to actively participate in knowledge and technology transfer and invest in it more. Callaghan Innovation, for example, was introduced to provide a way to make the connection between the research system and firms. We need to focus funding increases into the areas that will have the greatest benefit for our wider business growth goals.

Achieving higher value from the research system will require an increase in the depth and concentration of research resources in New Zealand, particularly in already high-performing areas. To do this, the system needs researchers with high-level skills and needs to produce research that is relevant to firms alongside the more general research that underpins our long term human capital development.

Analysis of the correlation between per EFTS expenditure and the component scores for university rankings of Australasian universities shows that there is a correlation between per EFTS expenditure (both public and private) and the rankings score. Higher per EFTS funding means a lower faculty-member-to-student ratio (used in the rankings as a proxy for teaching quality). There is also a high correlation between per EFTS expenditure and the research quality scores, largely because higher teaching loads displace research activity.

Figure 3: EFTS expenditure vs QS overall score for Australasian universities 2013



Models of delivery and new technology also present new challenges and opportunities to the sector. For example, New Zealand providers face competition from overseas providers offering massive open online courses (MOOCs) and other online provision which, if appropriately harnessed, might also provide an opportunity for New Zealand learners and employers.

To contribute more, and compete internationally, more funding is needed for research-led institutions, allowing them to invest more in quality, research intensity and connectivity. The description in the paragraphs that follow is of a package of proposals that, taken together, will boost funding, and incentivise research intensity and connectivity, and links with firms, to more effectively commercialise research and innovation.

#### *Boosting funding for teaching and learning*

There is a choice between two broad options for boosting funding for teaching and learning.

One approach is an across-the-board increase to funding rates at degree level and above. An increase of 2% would require approximately \$27 million per year. Increasing funding at degree-level and above would focus the investment better on higher-end skills and on the institutions facing the greatest pressure internationally. A broad funding rate increase provides more funding into the system and therefore a greater increase in funding per EFTS, but does not directly target improved research intensity, international linkages or better linkages with key industries. Doing so, therefore, is unlikely to change the incentives on providers to contribute more to economic growth.

Our preferred option, therefore, is to in target any increase in tuition subsidies more narrowly to areas of high priority for economic growth, such as STEM subjects, and/or where evidence indicates institutions are relatively under-funded such as science, degree-level agriculture and some areas of health sciences. It would be possible to make a much more significant increase to funding in particular areas for a similar total level of investment to an across-the-board increase. For example, a 7.5% increase to science, degree-level agriculture and selected health sciences would cost approximately \$22.5 million per annum.

Alongside this, as part of the normal investment plan processes, the Tertiary Education Commission (TEC), in collaboration with MBIE, will continue to identify areas of skill shortages, and reprioritise funding towards specific areas if required to address mismatches.

#### *Increases in research funding*

Our preferred approach is to boost additional research funding via CoREs, and through Vote Science and Innovation contestable funding. This will:

- increase resources and encourage specialisation in the areas of greatest industry investment, to incentivise higher rates of investment
- encourage connectivity and partnership between the research system and firms. In the shorter term, both greater co-investment in research and more sharing of staff or staff transfers should result. In the longer term, we would also expect to see innovative developments such as research-degrees earned within industry settings, or increased internships
- drive the recruitment of more highly-performing international researchers, in order to create visibility for the New Zealand system and thereby positively affect its international reputation to capture the positive spinoffs of a good reputation.

CoREs provide research intensity and critical mass by consolidating high-performing researchers across different institutions. They have been successful in generating excellent research and also in transferring the knowledge they have created, and they have proven to be attractive to international quality researchers. Some CoREs, for example the Riddet Institute, have been able to increase their non-TEC income. Riddet significantly increased its funding from industry between 2008 and 2011. The TEC is currently operating a funding round for CoREs, and it appears likely that there will be high-quality proposals. Two additional CoREs are likely to require just under an additional \$10 million per year (taking into account additional funding provided to CoREs in Budget 2013) plus startup costs of around \$4 million each.

We also propose to change the relative weighting of the PBRF components to place greater emphasis on the external research income (ERI) component as part of the PBRF review. This will better incentivise relevant research and place additional incentives on providers to generate funding from non-government sources, without requiring additional funding. The Government is currently consulting the sector over the proposed change to relative weightings.

In Budget 2012, the Government invested an additional \$100 million spread over four years to increase the Performance-Based Research Fund (PBRF) from \$250 million per annum to \$300 million per annum in 2016. Given this investment, and the change to the relative weightings within the PBRF pool, it is not proposed to make additional investment in the PBRF at this time.

Proposed increases to Vote Science and Innovation contestable funding will be considered as part of the Vote Science and Innovation package. An increase to one or more of the contestable science or innovation funds (eg. Marsden Fund, Callaghan Innovation, Primary Growth Partnerships, contestable science investment rounds or National Science Challenges) would allow us to target research activity to particular areas or, for particular outcomes, link any increase to national priorities. It can also attract international researchers and increase funding to the tertiary institutions which are successful in the contestable

process. Universities currently win just over a quarter of the funding from MBIE contestable funding pools.

Any funding increase to the contestable science or innovation funds would be through Vote Science and Innovation, but all the above initiatives would complement work in Vote Science and Innovation to better link the supply and demand sides of the research system. New Zealand suffers from lack of connections between research and business. This is a problem because ensuring innovation is turned into new products or services, and ensuring firms have access to the research capacity they need to grow their businesses, are key contributors to growth.

However, across a range of measures, we see low levels of private investment in research and poor connections between researchers and business. Callaghan Innovation was established to address many of these problems, and is making good progress, but further opportunities are available.

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#### *A more direct approach to purchase*

In addition to the need to boost quality and international competitiveness, higher education contributes to the Business Growth Agenda by meeting the skill needs of key industries. To do so, it is an option to purchase teaching and research that directly address specific skills issues, for example, those facing ICT firms. Firms report difficulties in finding the ICT graduates with the skills they need and this is hindering firm growth, productivity and the ability to innovate. Firms are driving innovation and technological change in information technology sectors and it is therefore important that ICT students and academics are closely connected with these firms to ensure:

- graduates have work-relevant, enterprise and business-focussed skills
- there are more direct pathways from education into employment, lowering search costs for graduates and employers
- education and research is industry-focused.

We propose to set up tertiary education programmes (for example at post-graduate level) with a specific industry focus to address ICT skills issues and encourage better human capital and knowledge flows between the tertiary sector and industry. These programmes would be delivered by tertiary institutions in partnership with innovative firms including in the ICT innovation precincts developing around the country and/or purchased from wider Student Achievement Component funded providers that meet other specific skills issues identified by

the ICT industry. Addressing these skill issues is likely to cost between \$5 million - \$10 million per annum.

Establishing tertiary provision within an ICT precinct will also test whether a more direct-purchasing approach that focuses on building work integrated learning opportunities, will be effective within the tertiary education system for responding to skill shortages in high-priority areas and improving linkages between industry and the tertiary system.

### ***Strengthening the investment in foundation and vocational education***

#### *Foundation education*

The global financial crisis has had a strong impact on young people's prospects. Reduced employment opportunities and lower wages could have a lifelong impact on the outcomes for some of this generation of young New Zealanders. This risk is particularly severe for those without qualifications or work experience. In 2012, 17% of people aged 18-24 (i.e. 76,000 people) were not in employment, education or training. For Māori the figure was 30% and for Pasifika it was 25%.

We therefore want to ensure that people are supported in gaining an education that allows them to maximise their contribution to the economy. We have clear evidence that foundation level literacy and numeracy is important to individuals to better support them in employment and to provide the opportunity for further higher education. Significant gains have been made in this area. However, there remain over 300,000 people in the workforce without formal qualifications.

We have moved towards progressively towards offering free education at foundation levels (NZQF levels 1 and 2). This began with the Youth Guarantee in 2010, which made foundation level tertiary study free for 16 and 17 year olds. It was extended in 2013 through tendering 30% of level 1 and 2 provision to be fee-free for all students who have not previously achieved a qualification at this level. Most recently, we extended Youth Guarantee to age 19 and made fee-free learning available for all students under 25 from 2014. We need to continue to support people to achieve these level 2 qualifications, because attainment of skills at this level means people are more likely to gain meaningful employment or to progress to study that provides them with higher lifetime returns.

#### *Vocational education*

Vocational education provides key skills directly to the labour market and/or the workplace via providers or through apprenticeships or other education that occurs in workplaces. We know from our consultation on the Tertiary Education Strategy that employers and industries argue that there is an imperfect match between the skills being produced through mid-level vocational qualifications and the skills and attributes they require. Improving this match will be challenging. The responsibility lies with business and Government. Nevertheless, there is a need to improve the efficiency of the education and training system so that we produce the right skills, allowing people to move more effectively into the workplace.

In order to gain efficiencies in the vocational education system we want to ensure that individuals are undertaking learning that is relevant to workplace skills needs, and does not duplicate pre-existing education and skills attainment.

Government currently invests \$680 million annually in funding TEOs for vocational provision (Levels 3-6), including industry training. Progress towards lifting New Zealand's skilled workforce is on the right track, with increased participation in, and attainment of, tertiary

qualifications. However our workforce capability needs to continue to improve. We need to ensure that programmes and qualifications are developing skills for growth areas and meeting industry needs.

There has been no adjustment to the funding rates for ITPs and wānanga since Budget 2009. Maintaining EFTS without an adjustment to recognise cost increases is placing pressure on the provider-based vocational sector. We have a choice as to whether to increase funding rates (for example, for priority trades, which analysis of polytechnic data shows is relatively underfunded, meaning that polytechnics have a disincentive to invest in them if their budgets are tight) or to look for efficiency gains.

[7]

Better performance in vocational education can be achieved through further consolidation of recent investments and mechanisms to allow the Tertiary Education Commission to shift funding to follow demand (e.g. between providers and industry-based training) as the economy improves and as demand for industry training increases. As part of this, officials are looking at the relative cost per completion for vocational education across ITOs and providers, so that investment can be directed where best value can be generated.

[7]

[7]

### ***Conclusion***

Taking a more targeted approach to increasing tuition subsidy funding, through a more significant increase to science, agriculture and some health science funding at degree level or above would more effectively target the funding to the university sector to help address the relatively low investment they make per EFTS. Our analysis of university costs indicates that science, agriculture and some fields of health sciences are relatively under-funded, and universities have substantial provision in these areas.

This proposed targeted funding increase for teaching and learning combines with a targeted increase in research funding (e.g. funding to establish two new CoREs) and a direct purchase of programmes to address ICT skills issues. This package of initiatives will therefore be strongly linked to priority areas for economic growth and used to incentivise innovation.

There is a less identifiable need to significantly increase total funding to foundation or vocational education and training at this point in time. However, it is important that financial barriers to gaining foundation education are as low as possible, as qualifications at level 2 position learners to gain sustainable employment or further qualifications which have a return to them over their lifetime. Any increase in funding to vocational provision in Budget 2014 should focus on trades training, which is relatively under-funded.

#### **1.4 Options for savings**

Officials have examined whether there is room within the current tertiary education funding baselines to further reprioritise funding to meet the needs of the investments outlined above. Forecasts suggest that demand for tertiary places over the next four years will be lower than it has been in the past. We reported to the Cabinet State Sector Reform and Expenditure Control Committee in September 2012 that forecast demand was easing off, and that there was some room below the 5% level of tolerance to achieve additional enrolments, if required, to achieve the Better Public Services targets. The latest forecast reduces to very slightly below the funded baseline at a system level. The TEC has reallocated funding going to relatively low-priority provision into higher priority areas such as STEM and providers that perform well in Māori and Pasifika tertiary education. The forecast does not provide sufficient scope to reallocate funding from the Student Achievement Component baseline to fund additional investment.

Policy and funding changes from the industry training review will significantly reduce underspends from the industry training fund. Demand is expected to increase in support of the Christchurch rebuild, which is reflected in the TEC's funding allocations for 2014. As a result, there is little scope to generate further savings from the industry training fund.

##### *Embedding previous student loan and allowance changes*

We do not propose significant changes to student support over the next four years. The ability to make further changes to student support in order to achieve savings is now limited because:

- additional targeting of student support expenditure risks harming access to tertiary education, particularly for our priority groups
- recent changes need time to embed (most will not be fully phased in until 2015) so that we can better identify gaps and improve the targeting of future initiatives.

Inland Revenue and StudyLink have limited capacity to undertake major new change in the short to medium term. They will focus their efforts on implementing the recent policy changes that this Government has announced and to consolidate the gains they are designed to produce<sup>3</sup>.

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<sup>3</sup> Inland Revenue is focussing on implementing the OBBCI and StudyLink is focussing on implementing the recent decisions to expand the fees-free levels one and two provision and Youth Guarantee policies as well as working on proposals to provide more accommodation support for sole parents in the student allowances system from 1 July next year.

We considered six small-scale options to further improve the performance of the student support system. We recommend the following four small-scale options:

[7]

- freeze the student loan repayment threshold for an extra year (i.e. at \$19,084 until 31 March 2016).

[7]

#### *Overseas-Based Borrower Collection Initiative*

The key priority in the Student Loan Scheme is to ensure that the momentum of the Overseas-Based Borrower Collection Initiative (OBBCI) is maintained and that Inland Revenue has the room to focus on implementing and monitoring these measures. In February 2014, \$100 million is likely to have been collected through OBBCI.

The major forthcoming OBBCI initiatives that address overseas-based borrower default include activities to recover overdue amounts, tougher measures to deal with persistent defaulters, and ongoing communications to promote loan responsibility. Throughout the year, there are many operational communications to remind borrowers about, for example, key repayment dates.

The proposed amendments in the Student Loan Scheme Amendment Bill (No 3) come into effect on 1 April 2014. The proposals in the bill are to:

- enable Inland Revenue to request an arrest warrant for borrowers who persistently default on their student loan obligations and attempt to leave the country
- speed up repayments from compliant overseas-based borrowers - this is achieved through fixed repayment obligations for overseas-based borrowers and by adding two new thresholds to the overseas-based borrower repayment rules.

These changes will be publicised to borrowers, nominated persons and the general public through a planned set of communications activities after the Bill is enacted.

An amendment in the Student Loan Scheme Amendment Bill (No 3) enables Inland Revenue to obtain the contact details of borrowers not in default from other agencies. An amendment to the Order in Council approving the information sharing agreement with Internal Affairs to include contact details can then be made once the Student Loan Scheme Amendment bill (No 3) has been enacted in April 2014.

Inland Revenue will be looking to carry out small scale tracing pilots in the United States of America and Canada with a potential view to scaling up this activity and actual debt collection. This will take place in the first half of 2014.

[7]

[7]

#### *Further ongoing work*

Over the next four years, officials will be able to evaluate the effectiveness of recent policy changes in terms of how they are improving the performance of the student support system. This evaluation will also indicate where further improvements could be made and the best way to achieve them.

Officials will also take the opportunity over the next few years to look at ways that we can:

- build on the changes we have made to the information provided to prospective students to encourage better decision-making

[7]

## 1.5 Risks to implementation

### ***Managing risks to providers' ability to deliver on priorities***

New Zealand's tertiary education sector encompasses all post-school education, from adult and community education to industry training (including New Zealand Apprenticeships), certificates and diplomas, bachelor degrees and postgraduate qualifications.

The wide range of tertiary education opportunities are delivered by a mix of publicly- and privately-owned organisations. Within this mix there are 29 publicly-owned tertiary education institutions (TEIs), comprising:

- eight universities
- eighteen institutes of technology and polytechnics (ITPs)
- three wānanga.

There are also more than 600 private training establishments (PTEs).

The TEIs are self-managing and have institutional autonomy under the Education Act 1989. The Government therefore has no direct levers to influence their governance and management. The indirect levers the Government has include:

- a limited number of Government appointments to the councils of TEIs
- quality assurance requirements
- funding and conditions, including the investment plan funding process operated by the TEC and guided by the Tertiary Education Strategy
- information provision and monitoring by the TEC, including the ability to intervene via provisions in the Education Act 1989 where TEIs meet publically-notified risk criteria.

The Government has made changes to the governance arrangements to ITPs and now proposes to also make changes to governance for universities and wānanga, in order to better position the sector for the challenges it faces. The TEC receives forecast financial information from TEIs and reports this to Ministers. The Secretary for Education must give consent for TEIs to borrow and dispose of assets above a threshold level set by the Minister. The Government is looking to provide reasonable flexibility for TEIs to borrow and dispose of assets, and be accountable for financial decisions, while protecting the Crown's interest in institutions.

#### *Overview*

We are encouraging providers to adopt good governance and to consider greater efficiencies and collaboration, particularly in the industry training and vocational sectors. The Government is proposing to make changes to the Governance of universities and wānanga to move to more skills-based councils, positioning these sub-sectors more strongly to meet the challenges facing them.

[4]

[4]

The previous provider financial forecast for universities, wānanga and ITPs (May 2013) showed an overall net surplus ratio of 2% of operating revenue. The TEC operates a benchmark of 3%. However, in the ITP sector, the net surplus has reduced by \$16.1 million since 2011, largely due to an increase in unusual items. Universities also had a reduction in the sector average net surplus, but this was driven by the position of Canterbury-based universities following the earthquake of 2011.

### *Universities*

Universities have been able to increase their income to cover increased costs over the last four years, particularly through increasing income from domestic and international fees, and government contract income provided through agencies other than the TEC (e.g. research contract income through MBIE or the Health Research Council). Average income from all sources per EFTS increased in the university sector by 10% between 2008 and 2012, while average government funding per EFTS increased by 7% (both in nominal terms).

International student fees and external government contracts are likely to be less certain income streams than domestic tuition funding or fees. On the other hand, such non-Government income is a proxy for institutional strength (e.g. the ability to win contracts and attract international students in significant numbers), and universities that have a low percentage of their total income derived from non-Government sources and a high proportion from government subsidies and domestic tuition fees have historically reported the poorest financial results.

The greater risk to the Government's strategic goals is that standing still in terms of the financial position of the university sector means a reduction in international competitiveness as key economies invest more heavily in their higher education system. Over time this is likely to mean that top academic and research talent will go elsewhere, and New Zealand will play less of a role in key research networks.

### *Institutes of Technology and Polytechnics (ITPs)*

ITPs had a small increase in government funding on average per EFTS between 2008 and 2012 (3%) while average per-EFTS income from all sources increased by 6% in the period. Most additional funding in the sector has come via volume increases rather than price increases per EFTS.

ITPs have had to find efficiencies and increase income from domestic and international student fees. Student fee income has increased from 24% of total income in 2008 to 31% in 2012. The amount of other income (e.g. non-TEC government contracts) in the ITP sector is low. There is no evidence yet that the sector cannot maintain a positive financial position in the next few years. However, if baselines come under pressure, ITPs may invest less in key programmes that contribute relatively less to overheads, such as trades, as ITPs now have relatively low scope to operate programmes with high economies of scale to contribute to their running costs.

### *Wānanga*

Wānanga are a key sector to deliver the Government's priorities for achievement by Māori learners. Wānanga have had little additional Government funding over the last few years (average government funding per EFTS increased by 2%) and total income increased by 5%

driven by increased domestic fee income and other non-Government income (although increases in fee income come off a low base, i.e. 11% of total income). However, wānanga continue to report strong net operating surpluses (7.7% in 2012).

## 2.0 Tertiary education sector workforce

### Overview

A short description of the tertiary education sector is provided in Section 1.5 above. The vast bulk of the tertiary education sector's educational services are delivered by the 29 publicly-owned TEIs, however the many (smaller) PTEs also provide tertiary education services, with approximately half of those receiving some form of government funding during 2013.

In addition there are currently 16 industry training organisations (ITOs) that set national skill standards for their industries and arrange for the delivery, assessment and monitoring of on-job and off-job training, and around 50 community organisations that provide adult and community education services.

### The provider workforce

Staff within the sector workforce are traditionally categorised as one of two groups: "academic staff" – people who teach or undertake academic research, and "non-academic staff" – people who provide advice, support and management services.

The approximate distribution and size of the current tertiary education sector workforce is shown in Table 1.

Table 1: Classifications and levels of staffing of tertiary education organisations.

Sub-sector providers	Number of organisations	FTEs in 2013	Headcount of academic staff in 2013	Headcount of non-academic staff in 2013	Total headcount
Universities	8	19,559	11,296	12,494	23,790
ITPs	18	8,349	5,749	4,975	10,724
Wānanga	3	1,507	1,043	768	1,811
Publicly funded PTEs <sup>1</sup>	323 <sup>2</sup>	5,671 <sup>3</sup>	4,040 <sup>3</sup>	2,965 <sup>3</sup>	7,057 <sup>3</sup>
Community organisations	50 <sup>4</sup>	Unknown <sup>5</sup>	-	-	-

<sup>1</sup> This number only includes PTEs that were registered with the New Zealand Qualifications Authority in 2012.

<sup>2</sup> As at 2012, 323 of the 626 registered PTEs received some form of government funding.

<sup>3</sup> This figure is based on data provided to the Ministry of Education by 261 of the 323 PTEs that received some public funding in 2013. The actual numbers of FTEs and staff head-counts are therefore expected to be slightly higher.

<sup>4</sup> This number only represents providers that received ACE funding in 2011.

<sup>5</sup> Very little reliable information about FTEs within these organisations is currently available.

Staffing is one of the most important inputs into tertiary education. It represents the single largest category of expenditure by tertiary education organisations (at approximately 60 % of total expenditure) and is a key determinant of the quality of teaching and research.

TEIs are required to operate with autonomy in accordance with the Education Act 1989. Part 13 of the Education Act 1989 sets out the general objectives of tertiary education in New Zealand, and Part 14 establishes and sets out the specific objectives of TEIs.

Importantly, section 161(1) in Part 14 of the Education Act 1989 states that “...academic freedom and the autonomy of institutions are to be preserved and enhanced.”

In section 162(2), academic freedom, in relation to an institution, is given to mean –

- (a) the freedom of academic staff and students, within the law, to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions:*
- (b) The freedom of academic staff and students to engage in research:*
- (c) the freedom of academic staff and students to regulate the subject matter of courses taught at the institution:*
- (d) the freedom of the institution and its staff to teach and assess students in the manner they consider best promotes learning:*
- (e) the freedom of the institution through its chief executive to appoint its own staff.*

Section 180(1)(d) requires councils to “...determine, subject to the State Sector Act 1988, the policies of the institution in relation to the management of its affairs”. More specifically, section 180(1)(e) requires councils to undertake planning in relation to the institution’s long-term strategic direction - a requirement that encompasses workforce planning matters.

The TEC, through investment plans, steers the sector to give effect to the Government’s Tertiary Education Strategy. The incentives set through the different funding mechanisms that apply to investment plans (e.g. the relative funding for teaching and research) will have an effect on the workforce planning of providers.

Secondary to the TES and any relevant government-wide policies that provide financial incentives on universities to meet Government priorities, there are a number of processes and sources of information that influence and support provider workforce strategic planning.

For example, the TEC considers issues, such as whether providers will have the capability to deliver on commitments regarding the investment plans, as part of its discussions with providers of the investment plan commitments, and both the TEC and the Ministry publish a range of tertiary education statistics of relevance to the development of these investment plans.

Likewise, registration requirements of the New Zealand Qualifications Framework (administered by NZQA) provide a measure of influence over the ongoing capabilities of NZQA-registered providers that extends to privately-owned and operated providers (PTEs).

#### *Age structure of the sector workforce*

In 2013, the age structure of the academic staff at universities and polytechnics was substantially older than at wānanga:

- 47% of the university academic staff employed in 2013 was aged 50 years and over (compared to 49% in 2012)
- 50% of the polytechnic academic staff employed in 2013 was aged 50 years and over (compared to 49% in 2012)
- 38% of the wānanga academic staff employed in 2013 was aged 50 years and over (compared to 38% in 2012)

In response to the greater focus on research performance, universities now have a smaller pool of lecturers from which rejuvenation of the senior academic workforce can occur, potentially encouraging institutions to do more recruitment overseas<sup>4</sup>. However, universities now have a larger pool of 'other' academic staff from which rejuvenation of the senior academic workforce could occur – this group covers other teaching or combined teaching/research staff such as assistant lecturers, visiting academics and teaching fellows.

Polytechnics now employ a higher proportion of principal lecturers due to the 'drag effect' of an ageing workforce, but the structure of their academic staff by designation has not changed significantly overall. This means that rejuvenation of the senior academic workforce can occur from a large pool of tutors.

Wānanga have a younger age structure than universities and polytechnics and they have a large pool of tutors from which rejuvenation of the senior academic workforce can occur.

#### *Trends in full- and part-time workforce*

The number of part-time academic staff<sup>5</sup> at public TEIs has tended to rise in response to higher student numbers. The proportion of the academic staff working part-time has increased from about one-third in the 1990s to around 40% in the last 10 years.

This increase in part-time academic staff has been most noticeable at universities. In the early 1990s, one-quarter of university academic staff worked part-time and over the last 10 years it has averaged around 38%.

The number of other teaching and/or combined teaching/research staff working part-time has also increased since the 1990s and, in 2013, 75% of those staff worked part-time. Also, other teaching and/or combined teaching/research staff represented around 30% of the total academic staff at universities, up from around 15% in the 1990s. A similar trend has been seen in Australia – the number of casual academic staff has increased more substantially in recent years than the contracted teaching staff, while the proportion in permanent positions has remained at around 60% over the last decade.<sup>6</sup>

At polytechnics, part-time staff have consistently comprised over 40% of the total academic staff.

Since 2007, when the student enrolment pattern at wānanga has become more stable, academic staff who worked part-time comprised around 30% of the total academic staff.

#### *Academic and non-academic staff*

Student enrolment trends between 2003 and 2013 and the phasing in of the Performance-Based Research Fund over the period 2004 to 2007 have affected the academic and non-academic staff differently. In the public sector overall, numbers of academic FTE staff increased only slightly in number over the last 10 years, but there have been substantial compositional changes at universities. In contrast, there has been little change in the composition of the non-academic staff and they have increased substantially in number over the last 10 years.

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<sup>4</sup> Changes being made as a result of the PBRF review will improve incentives to attract less experienced staff.

<sup>5</sup> Academic staff in this context includes research-only staff.

<sup>6</sup> Coates, H. et al, 2009

Three substantial compositional changes have taken place in the academic workforce at New Zealand's universities from 2003 to 2013:

- 40% decrease in the number of lecturers
- 50% increase in the number of professors
- 30% increase in the number of research-only staff.

These changes reflect both the 'drag' effect of an ageing workforce and a strategic decision by universities to employ academic staff with a greater research profile.

At polytechnics, the composition of academic staff has not changed significantly, however there has been a small shift from tutors to principal/senior lecturers due to the 'drag' effect of the ageing academic staff.

At wānanga, there have been considerable changes over the last decade while these institutions developed a stable pattern of tertiary education provision.

Advisory and other support staff comprise over 80% of the non-academic workforce and have increased substantially at universities and polytechnics. The trends towards more enrolments in engineering and science qualifications and an increased emphasis on research have required an increase in technicians and related support staff. Similarly, the increased focus on student services has led to increases in the number of support staff. Other changes in the non-academic staff include a substantial increase in the executive staff and a decrease in the general services staff, such as trades staff.

### *Key challenges*

The tight fiscal environment for the Government's funding of the tertiary education sector in recent years has seen a reduction in spending in low-value areas and an improvement in the way that the system targets need.

Trends in tertiary demand, as well as other changes such as in its mode of delivery (e.g. with an increasing emphasis on e-learning)<sup>7</sup> can all be expected to impact on government spending and lead to changes in the make-up of the tertiary sector provider workforce.

Likewise, given the very long lead-times required for a person to acquire the qualifications necessary to become an academic or credible researcher, replenishment of the currently ageing academic workforce will be an important goal that will require a measure of planning by the sector.<sup>8</sup> Because auxiliary staff may be limited pools from which to attract high-quality future academic staff, this replenishment will require the institutions and organisations to be able to continue to attract academic staff from overseas as well, in what is an increasingly competitive international labour market for these skills.

The Ministry and the TEC will play an important role in informing decisions by TEIs and facilitating the alignment between them and the desired educational outcomes that they are directed towards.

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<sup>7</sup> This would be expected to influence provider workforce composition and funding requirements.

<sup>8</sup> This is an issue that the sector is alert to and is one that, in the university sub-sector at least, has been highlighted as an issue for consideration with regards to workforce planning.

### 3.0 Financial summary

#### Operating – Departmental

	2013/14 \$0.000m	2014/15 \$0.000m	2015/16 \$0.000m	2016/17 \$0.000m	2017/18 \$0.000m
Current operating expenditure baseline	14.357	14.204	11.960	11.960	11.960
<b>Add</b> any indicative allocation advised of	-	-	-	-	-
<b>Equals</b> Total funding level for planning	14.357	14.204	11.960	11.960	11.960

*Note: no financial movements are planned*

#### Operating – Non Departmental

	2013/14 \$0.000m	2014/15 \$0.000m	2015/16 \$0.000m	2016/17 \$0.000m	2017/18 \$0.000m
Current operating expenditure baseline	2,879.272	2,875.076	2,890.179	2,898.246	2,897.394
<b>Add</b> any indicative allocation advised of	-	-	-	-	-
<b>Equals</b> total funding level for planning	2,879.272	2,875.076	2,890.179	2,898.246	2,897.394

*Note: there are no cost pressures requiring additional funding and no proposals to generate savings from this baseline.*

#### Capital - Departmental

For the Ministry of Education's Departmental Capital table refer to Section 5 of the Vote Education Four-Year Plan.

#### Capital – Non Departmental

	Increase (Decrease)				
	2013/14 \$0.000m	2014/15 \$0.000m	2015/16 \$0.000m	2016/17 \$0.000m	2017/18 \$0.000m
Baseline funding available for the purchase or development of Crown capital assets	-	-	-	-	-
<b>Add</b> capital investments in organisations other than departments	135.000	100.000			
<b>Equals</b> total	135.000	100.000			

*Note: Cabinet has provided Capital funding for the University of Canterbury and Christchurch Polytechnic Institute of Technology for recovery from the Canterbury Earthquake of 2011. These funding allocations are included in the above table.*

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## Annex 2. Supporting Financial Information

The Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, we have reduced spending on low-value student loans and allowances, and re-invested the savings into higher value tertiary expenditure such as research, science and engineering. We are starting to see promising results with more students in the system, studying at higher levels, and the system is delivering more graduates than ever before, without any new investment from the centre. New Zealand is currently ranked highly amongst OECD countries in terms of proportion of the population with a tertiary education qualification.

Overall, savings initiatives in the tertiary and student support systems have returned over \$1 billion to the Crown since Budget 2009, while quality has improved.

We have examined whether there is room within the current tertiary education funding baselines to further reprioritise funding to meet the needs of the investments outlined above. Forecasts suggest demand for tertiary places over the next four years will be lower than it has been in the past. We reported to the Cabinet State Sector Reform and Expenditure Control Committee in September 2012 that forecast demand was easing off, and there was some room below the 5% level of tolerance to achieve additional enrolments if required to meet the Better Public Services targets. The latest forecast is for a reduction that would see enrolments at or very slightly below the funded baseline.

While demographic factors and expected economic recovery take pressure off forecast demand, the forecast also takes account of the improvements in school achievement, as reflected in increasing achievement of NCEA level 2, and the improved performance of the tertiary education system. This means that more students are studying at higher levels and for longer. The result is that demand is forecast to be steady, but also to track very closely to the level of funding available.

Policy and funding changes from the industry training review will significantly reduce underspends from the industry training fund. Demand is expected to increase in support of the Christchurch rebuild, which is reflected in the TEC's funding allocations for 2014. As a result, there is little scope to generate savings from tuition subsidy funding to tertiary providers or the industry training fund.

Over the last four Budgets, we have made significant improvements to the student support system so that we can sustain the level of financial support over the long term, particularly in the context of our commitment to interest-free student loans.

The ability to make further changes to student support in order to achieve savings is now limited because:

- additional targeting of student support expenditure risks harming access to tertiary education, particularly for priority groups
- recent changes need time to embed (most will not be fully implemented until 2015) so that we can better identify gaps and improve the targeting of future initiatives.

We can therefore no longer fund additional activity within existing tuition, research or student support baselines.

### **Annex 3. Budget initiatives**

We propose initiatives costing \$50 million per annum (to be offset with savings of up to \$10m) to:

- boost the international competitiveness of New Zealand's higher education system

[7]

To grow the economy requires the tertiary education system at all levels to develop human capital in the right areas and to transfer skills, knowledge and technology more effectively to our firms. Tertiary education supports commercial innovation by connecting the research, expertise of the sector and skilled graduates with businesses and communities. These connections play an important part in a wide range of innovation systems underpinning a dynamic growing economy. To boost innovation also requires further increases in the quantity and quality of the research the tertiary education system produces. Building innovation is a key part of the Government's Business Growth Agenda.

#### *Background*

The Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, we have reduced spending on low-value student loans and allowances, and re-invested the savings into higher value tertiary expenditure such as research, science and engineering. We are starting to see promising results with more students in the system, studying at higher levels, and the system is delivering more graduates than ever before, without any new investment from the centre. New Zealand is currently ranked highly amongst OECD countries in terms of proportion of the population with a tertiary education qualification.

We are making strong progress toward achieving the Better Public Services goals of

- in 2017, 85% of 18 year olds will have achieved NCEA Level 2 or equivalent
- in 2017, 55% of 25-34 year-olds will have a tertiary qualification at Level 4 or above.

Universities now have strong incentives to improve the performance of their provision and research due to the introduction of performance-linked funding, the publication of performance information of providers, and increases in the size of the Performance-Based Research Fund. Cabinet will consider a proposal to change the weightings of the Performance-Based Research Fund to increase the incentives within the fund to achieve external research income, which is a proxy for relevant research.

It is also a Government priority to grow international education and linkages in support of New Zealand's economic development goals. The contribution of international education to New Zealand's gross domestic product in 2012/13 was around \$2.5 billion and it accounts directly for 13,600 full-time equivalent jobs (and up to 28,000 jobs when indirectly supported jobs are included). Higher levels of international students provide income to New Zealand providers and the New Zealand economy and linkages with students' countries of origin. Perceptions about the quality of the New Zealand system are important for our ability to compete for these students.

A number of key changes have been made to vocational and foundation education since 2009, in particular through revitalising the industry training system, which will have an increasingly strong contribution to meeting Better Public Services goals as the economy recovers and more employment-based training takes place, and through the targeted review of sub-degree qualifications. However, we need to continue to improve our workforce capability and ensure that programmes and qualifications develop skills for growth areas and meet industry needs.

Foundation education (NZQF levels 1 and 2) has been a key focus area for the Government. We have introduced the Youth Guarantee scheme, recently announced an extension of age eligibility to the scheme and also recently agreed to the provision of NZQF levels 1 and 2 foundation education courses as fees-free for people under the age of 25. We have already seen results from these interventions, with the numbers of young people not in education, employment or training (NEET) dropping to the lowest level last quarter since the global financial crisis began.

#### *New Zealand's relative international competitiveness is being challenged*

Our universities are operating in an increasingly competitive international environment, as the balance of economic power shifts from Europe and North America to the fast-growing Asian economies who are investing heavily in their university sectors.

The problem of declining relative international competitiveness of New Zealand universities is evidenced by recent changes in international university rankings. International university rankings are a public measure of the reputation and quality of universities. New Zealand universities are generally improving their scores in the research citation components of the main rankings. However, the improvement in this area has not been enough to keep up with improvements by universities in other countries, or to address the decline in other areas such as in academic reputation and international outlook.

Improving rankings is not an important goal in itself. However, high quality universities are more likely to be able to compete for high-quality researchers, to make linkages with leading overseas research systems, and attract greater numbers of international students. This assists our research institutions to increase research depth, intensity and quality generally. New Zealand can leverage off improved quality and depth of our higher education system as we seek to improve business performance and innovation.

Beyond the fees paid by international and domestic students, we have relatively low levels of private investment in higher education institutions compared with other countries. This is partly due to our size and geographic location, which affects the number and character of large private enterprises in New Zealand. The size of the larger economies means that their top universities will receive a large concentration of income from private sector research contracts, as well as endowments. This can be seen from the relatively high levels of government expenditure against OECD averages in New Zealand, but relatively low levels of expenditure by institutions per equivalent full-time students (EFTS). As a proportion of gross domestic product (GDP), New Zealand has one of the lowest levels of business investment in research and development in the OECD. Our relatively high level of public investment goes some way to compensating for the comparatively low private investment in research, but New Zealand institutions are at a relative disadvantage internationally.

International competitiveness can be boosted by way of funding increases in teaching and learning, which can be either generally applied or more specifically targeted, or through research funding streams such as the Performance-Based Research Fund (PBRF), Centres of Research Excellence and contestable research funds. We do not recommend increasing

the PBRF because this fund will increase to \$300m per year in 2016 as a result of additional funding in Budget 2012.

A more targeted funding rate increase toward under-funded priority provision, combined with funding in the highest value research areas, e.g. Centres of Research Excellence and contestable funds, provides a significant funding boost but targeted towards the highest value areas.

New Zealand also has skill shortages in key Information and Communications Technology (ICT) skills. ICT is a key contributor to the New Zealand economy. Developing ICT precincts can be leveraged to address these skill shortages.

### Budget 2014

<b>Funding Sought at Budget 2014</b>	<b>2014/15 \$0.000m</b>	<b>2015/16 \$0.000m</b>	<b>2016/17 \$0.000m</b>	<b>2017/18 \$0.000m</b>
<b>Operating</b>	[7]			
Targeted increases to tertiary education tuition subsidy funding for sciences and agriculture	11.250	22.500	22.500	22.500
Funding to establish additional Centres of Research Excellence	5.000	10.000	10.000	10.000
Establishment of ICT Graduate Programme in ICT precincts	5.000	10.000	10.000	10.000
[7]				
<b>Capital</b>				
Capital funding sought - CoREs	8.000			

*Note: We are considering some minor savings initiatives in the student support area, of \$5-10 million per year, which will off-set a portion of the cost of the above bids.*

Initiative Name	Vote	Department	Contact Person
Targeted increases to tertiary education tuition subsidy funding for sciences and agriculture	Tertiary Education	Ministry of Education	John Brooker

*Describe what this funding request is for and what the expected results from this spending are.*

This initiative proposes to increase Student Achievement Component funding rates, by 7.5%, for priority fields of study, primarily delivered by universities that are relatively under-funded based on analysis of university cost data. Specifically, it is proposed that funding increases are provided for science, agriculture and some health science fields. This is a way to boost funding for higher education in New Zealand, which has spinoff benefits for its contribution to business growth, while incentivising more institutional investment into high priority areas.

Analysis of data from the university sector in early 2014 showed relative under-funding of agriculture, environmental and related studies, health sciences and natural and physical sciences. These three priority fields of study contribute less on average to university overheads than some lower-priority fields, so that, for example, science is being subsidised by disciplines such as Management and Commerce. This means that institutions have relatively lower incentives to invest in science, particularly if their overall baselines are under pressure.

A targeted funding rate rise would better meet costs of such capital-intensive provision, increasing quality, and increasing incentives for future growth in provision.

The proposed increase would improve the international competitiveness of New Zealand higher education institutions by investing in the quality of tertiary education at higher levels. This would provide greater scope for universities to invest in teaching and learning, research intensity and creating international linkages.

The initiative would also provide incentives to universities to invest in research intensive and high-citation areas or areas that are important for the New Zealand economy such as science and agriculture. It does this by addressing relative under-funding for priority provision in these areas, where priority provision is relatively less profitable to institutions to offer.

Targeting these fields and levels of study would concentrate most of the funding increase towards universities.

This will mean that fewer institutions receive a significant funding boost.

This initiative is an alternative to, rather than additional to, the general funding increase for degree level and above set out in the previous template.

*Describe how the expected results will be measured.*

Higher expenditure per EFTS by institutions

Further improvements in performance against the tertiary education performance indicators (EPs) measured annually by the TEC, namely:

- course completion
- qualification completion
- student retention
- student progression

Measures of contribution of research outputs through the PBRF reporting and average citations per faculty member through international university rankings systems

<b>Funding Sought at Budget 2014</b>	<b>2014/15 \$0.000m</b>	<b>2015/16 \$0.000m</b>	<b>2016/17 \$0.000m</b>	<b>2017/18 \$0.000m</b>
<b>Operating</b>				
Operating funding sought (total): – 7.5% increase to science, agriculture and selected health science fields	11.250	22.500	22.500	22.500
<b>Capital</b>	-	-	-	-
Capital funding sought	-	-	-	-

*Describe how, if the funding sought represents the total amount required for the initiative – and if not what the total is and where the additional funds are coming from:*

The funding sought represents the total amount required for the initiative.

*Describe if this initiative might require additional funding in future years:*

This initiative will require no additional funding in future years.

Each year at its discretion the Government might increase Student Achievement Component funding rates in order to protect or improve quality or improve international competitiveness. In such cases, the Government would consider a further increase as a part of a future Budget process.

*Describe how this new funding request supports the Government's priorities*

The draft Tertiary Education Strategy (TES) approved by Cabinet places a high priority on STEM (Science, Technology, Engineering and Mathematics) fields of study due to their link to economic growth and innovation. The draft TES also has supporting research-based institutions as a key priority.

The international competitiveness of New Zealand's universities is important to increase the contribution of the higher education system to the Business Growth Agenda.

There is significant competition for high-quality academic researchers among the world's elite universities, and for students within the international student market. The international student market is a major export market for New Zealand.

High quality, high research intensity and research productivity allow universities to access international networks that lower-quality universities do not access. International networks are important to participation in significant innovation projects, and for universities' capability to develop and retain capability which can in turn contribute to New Zealand's leading firms.

*Describe how this new funding requests aligns with your Strategic Direction and delivery thereof, as described in your 4YP*

The strategic direction of the Vote Tertiary Education 4-Year Plan reflects the Government's priorities described above.

*Describe why this new initiative cannot be funded from within baselines:*

The Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, the Government has reduced spending on low-value student loans and allowances, and re-invested the

savings into higher value tertiary expenditure such as research, science and engineering. We are starting to see promising results with more students in the system, studying at higher levels, and the system is delivering more graduates than ever before, without any new investment from the centre.

Opportunities for further significant savings in student support (in the context of retaining interest-free student loans) are now limited without risking access goals for tertiary education. Although the tertiary system has no current fiscal pressures on the centre because the funding system is capped, forecast demand for tertiary study remains steady over the next four years, meaning it will also be difficult to gain significant savings from funding to providers.

*Describe what other activities are already being undertaken, with within your agency or across the State Sector, to address the issue this new funding will look to address*

Tertiary education funding generally aims to enable the contribution of the higher education system to the New Zealand economy. Key initiatives include the Performance-Linked Research Fund (\$300 million per year from 2016), the Student Achievement Component (\$2,040 million per year) and Centres of Research Excellence (\$35 million per year).

As part of the investment plan processes, TEC identifies, in collaboration with MBIE, areas of skill shortages, and reprioritise funding towards specific areas if required to address mismatches.

*Describe the implication if this funding is not approved*

If funding is not approved it is likely that New Zealand's universities will be less internationally competitive if major overseas jurisdictions continue to increase investment in higher education. Over time, this is likely to impact on our ability to access leading edge innovation capability and also the New Zealand export education industry.

*If partial funding is an option, please describe how partial funding might work:*

This initiative is scalable. It is costed on the basis of a 7.5% funding increase to targeted fields of study. Lower percentage increase would also provide a boost to higher education, but it is less likely to create significant additional institutional investment.

Initiative Name	Vote	Department	Contact Person
Funding to establish additional Centres of Research Excellence	Tertiary Education	Ministry of Education	John Brooker

*Describe what this funding request is for and what the expected results from this spending are.*

This proposal is to fund two additional Centres of Research Excellence (CoREs). There are currently 7 CoREs, which are collaborative organisations bringing together specialist areas of research across organisations where there is high capability in New Zealand.

CoREs have proven very successful at establishing strong research linkages domestically and internationally and collaboration across research institutions. In doing so CoREs achieve a critical mass of research intensity that improves the international competitiveness of New Zealand's higher education system.

CoREs are a way to improve international linkages and they also improve New Zealand's ability to attract international students, particularly PhD students who may be attracted to particular research expertise developed in CoREs.

The CoREs policy was designed to address fragmentation across the tertiary education, research, and science and innovation systems, which is a barrier to concentrated research effort in academic disciplines.

CoREs were reviewed in 2013 and as a result of the findings of the review Cabinet boosted CoRE funding by 10% following Budget 2013.

Performance analysis of the CoREs, noted by Cabinet in July 2013, has found that their work has had wide-ranging impacts on New Zealand's society and economy, with increased quantity and quality of research, greater collaboration and increased public outreach and impacts for industry, public services and the environment.

Two additional CoREs will boost collaboration, international linkages and research intensity in New Zealand. This in turn will boost the contribution of the higher education system to innovation in New Zealand and to business growth.

*Describe how the expected results will be measured.*

The impact of new CoREs will be measured using the CoREs performance monitoring framework.

The framework includes metric-based reporting and qualitative assessment and will focus on the following areas:

- CoREs research outputs, including publications and reports by CoREs researchers
- results for graduates who train in CoREs, such as completion of qualifications and longer term outcomes for post-graduates, such as measures of earnings and employment (when outcomes data is available).
- development of research capability, including post-doctoral employment
- demand for CoREs research, including external research income attracted to the CoREs and income generated by CoREs research, development and innovation
- the extent of collaboration by CoREs researchers in investigations, contracts and projects
- the unique strategic contribution of each individual CoRE

- knowledge transfer and outreach activities.

<b>Funding Sought at Budget 2014</b>	<b>2014/15 \$0.000m</b>	<b>2015/16 \$0.000m</b>	<b>2016/17 \$0.000m</b>	<b>2017/18 \$0.000m</b>
<b><i>Operating</i></b>				
Operating funding sought	5.000	10.000	10.000	10.000
<b><i>Capital</i></b>				
Capital funding sought	8.000		-	-

*Describe how, if the funding sought represents the total amount required for the initiative – and if not what the total is and where the additional funds are coming from:*

The CoREs fund was increased by \$3.169 million per year at Budget 2013. The funding sought tops up the Budget 2013 initiative.

*Describe if this initiative might require additional funding in future years:*

Any increase in CoREs funding to reflect increased costs over time would be considered as a part of future Budgets.

*Describe how this new funding request supports the Government's priorities*

Centres of Research Excellence (CoREs) are inter-institutional research networks, with researchers working together on commonly agreed work programmes. CoREs focus on the development of human capital, so they undertake outreach activities (for example, within the wider education system). CoREs make a contribution to national development and focus on the impact of their research. Each CoRE is hosted by a university and comprises a number of partner organisations which can include other universities, Crown research institutes and wānanga. Most CoREs have close working connections within their wider community of interest.

CoREs have been effective at generating external (i.e. non-TEC) income, showing that they have been effective at linking with research and industry partners. This also boosts Performance-Based Research Fund scores for participating universities.

The draft Tertiary Education Strategy has supporting research-based institutions as a key priority.

The international competitiveness of New Zealand's universities is important to increase the contribution of the higher education system to the Business Growth Agenda.

There is significant competition for high-quality academic researchers among the world's elite universities, and for students within the international student market. The international student market is a major export market for New Zealand.

High quality, high research intensity and research productivity allow universities to access international networks that lower-quality universities do not access. International networks are important to participation in significant innovation projects, and for universities to develop and retain capability which can in turn contribute to New Zealand's leading firms.

*Describe how this new funding requests aligns with your Strategic Direction and delivery thereof, as described in your 4YP:*

The strategic direction of the Vote Tertiary Education 4-Year Plan reflects the Government's priorities described above.

*Describe why this new initiative cannot be funded from within baselines*

The Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, the Government has reduced spending on low-value student loans and allowances, and re-invested the savings into higher value tertiary expenditure such as research, science and engineering.

Opportunities for further significant savings in student support (in the context of retaining interest-free student loans) are now limited without risking access goals for tertiary education. Although the tertiary system has no current fiscal pressures on the centre because the funding system is capped, forecast demand for tertiary study remains steady over the next four years, meaning it will also be difficult to gain significant savings from funding to providers.

*Describe what other activities are already being undertaken, with within your agency or across the State Sector, to address the issue this new funding will look to address*

Tertiary education funding generally aims to enable the contribution of the higher education system to the New Zealand economy. Key initiatives include the Performance-Linked Research Fund (\$300,000 per year from 2016), the Student Achievement Component (\$2,040 million per year) and Centres of Research Excellence (\$35 million per year).

The Minister of Tertiary Education Skills and Employment is proposing to change the relative weighting of the PBRF components to place greater emphasis on the external research income (ERI) component. This will better incentivise relevant research and place additional incentive on providers to generate funding from non-government sources.

*Describe the implication if this funding is not approved*

If funding is not approved it is likely that New Zealand's universities will be less internationally competitive if major overseas jurisdictions continue to increase investment in higher education. Over time, this is likely to impact on our ability to access leading edge innovation capability and also the NZ export education industry.

*If partial funding is an option, please describe how partial funding might work:*

This initiative is scalable, for example by funding one rather than two additional CoREs. This would both halve the start-up capital required and reduce the additional operating funding (above the additional funding provided for following Budget 2013) to approximately \$2 million per year

Initiative Name	Vote	Department	Contact Person
Establishment of ICT Graduate Programme in ICT precincts and related initiatives	Tertiary Education	TEC	Murray Johnson

*Describe what this funding request is for and what the expected results from this spending are.*

Information and Communications Technology (ICT) plays a central part in transforming existing and creating new services and innovative technologies with the potential to significantly increase productivity in New Zealand. It is an enabling technology that impacts upon all sectors of the economy. There has been increasing global demand for ICT professionals and this is likely to continue.

The availability of skilled ICT workers (both technicians and managers) is an important factor in whether firms invest in ICT and adopt new technologies. The skills system therefore needs to produce the graduates the skills that firms need.

Firms, however, report difficulties in finding the ICT graduates with the skills they need and this is hindering firm growth, productivity and the ability to innovate. Because firms are driving innovation and technological change in the information technology sectors, it is centrally important that ICT students and academics are closely connected with these firms to ensure:

- a strong supply of ICT graduates with work-relevant, enterprise and business-focused skills
- more direct pathways from education into employment, lowering search costs for graduates and employers
- industry-focused education and research.

The proposal involves tertiary education programmes delivered by a tertiary institution(s) in partnership with innovative firms in the ICT innovation precincts developing around the country. Because other skills issues exist with the ICT industry, work will be undertaken alongside these tertiary programmes to address specific mis-matches. The programmes with a specific industry focus to address ICT skills issues and encourage better human capital and knowledge flows between the tertiary sector and industry.

Establishing tertiary provision within an ICT precinct will test whether a more direct-purchasing approach that focuses on building work integrated learning opportunities, will be effective within the tertiary education system for responding to skill shortages in high-priority areas and improving linkages between industry and the tertiary system.

*Describe how the expected results will be measured.*

Tertiary providers and their industry partners will be required to report annually on across a range of outcome measures and agreed milestones, including:

- participation,
- completions,
- numbers of industry partnerships / projects,
- internships and work placements, and

- employment outcomes.

<b>Funding Sought at Budget 2014</b>	<b>2014/15 \$0.000m</b>	<b>2015/16 \$0.000m</b>	<b>2016/17 \$0.000m</b>	<b>2017/18 \$0.000m</b>
<b><i>Operating</i></b>				
Operating funding sought	5.000	10.000	10.000	10.000
<b><i>Capital</i></b>	-	-	-	-
Capital funding sought	-	-	-	-

*Describe how, if the funding sought represents the total amount required for the initiative – and if not what the total is and where the additional funds are coming from*

This represents the total amount required for the initiative.

*Describe if this initiative might require additional funding in future years:*

Any additional funding in future years will be advanced as part of a future Budgets.

*Describe how this new funding request supports the Government's priorities*

The aim is to increase the number of appropriately skilled graduates to meet increasing industry demand for high-level ICT graduates and, as IT is enabling technology, high-level ICT skills to support growth in the high-value, high-tech industry sectors in particular.

The draft Tertiary Education Strategy approved by Cabinet places a high priority on STEM (Science, Technology, Engineering and Mathematics) fields of study due to their link to economic growth and innovation. The draft TES also has supporting research-based institutions as a key priority.

*Describe how this new funding requests aligns with your Strategic Direction and delivery thereof, as described in your 4YP*

The strategic direction of the Vote Tertiary Education 4-Year Plan reflects the Government's priorities described above.

*Describe why this new initiative cannot be funded from within baselines:*

The Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, the Government has reduced spending on low-value student loans and allowances, and re-invested the savings into higher value tertiary expenditure such as research, science and engineering.

Opportunities for further significant savings in student support (in the context of retaining interest-free student loans) are now limited without risking access goals for tertiary education. Although the tertiary system has no current fiscal pressures on the centre because the funding system is capped, forecast demand for tertiary study remains steady over the next four years, meaning it will also be difficult to gain significant savings from funding to providers.

*Describe what other activities are already being undertaken, with within your agency or across the State Sector, to address the issue this new funding will look to address*

Callaghan Innovation improves linkages between higher education and research and key firms., MBIE and the TEC undertaking work to address ICT skills issues more broadly, The Productivity Commission has just released a report on the service sector productivity, with

ICT skills a key component: <http://www.productivity.govt.nz/inquiry-content/1624?stage=3>]

*Describe the implication if this funding is not approved*

Firms report that difficulties in acquiring the ICT skills they needs are hindering firm growth [Productivity commission report <http://www.productivity.govt.nz/inquiry-content/1624?stage=3>]. Capped funding constrains the tertiary education system's in responding to this.

*If partial funding is an option, please describe how partial funding might work:*

This initiative is scalable. Over time more funding could be sought out of existing EFTS, that is lower priority lower level ICT EFTS could be reprioritised to fund this type of provision.

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#### **Annex 4. Anticipated out-year funding requests**

There are no anticipated out-year funding requests

## **Annex 5. Capital Intentions**

For the Ministry of Education's capital intentions refer to the Vote Education Four-Year Plan.

The key capital assets in tertiary education are managed by tertiary education institutions. Tertiary institutions' capital expenditure is baseline funded from an institutions' balance sheets, and are subject to the principles of institutional autonomy set out in the Education Act 1989.

Canterbury institutions receiving new capital funding from the Crown via Vote Tertiary Education are monitored on a different basis because of the Crown contribution to rebuilding their capital. The latest information provided to the Treasury showed the following phasing of this CAPEX over the next several years.

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The total cost of the Business Cases for the University of Canterbury and Christchurch Polytechnic Institute of Technology is higher than was anticipated.

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## Annex 6. Government Information and Communications Technology Strategy and Action Plan to 2017 - Alignment of agency ICT Strategies to Destination 2017

The Ministry of Education's Information and Communications Technology (ICT) Strategy is tightly aligned with the Government ICT Strategy and Action Plan and is split into four themes with key activities for each:

Theme	Key activities
1. <b>Information is Managed as an Asset</b> (as per Government ICT Strategy)	<ul style="list-style-type: none"> <li>Establish the Business Intelligence Competency Centre</li> <li>Enhance data collections using SMS and Network for Learning (N4L) technologies</li> </ul>
2. <b>Enhanced Education Services</b> (Education centric theme)	<ul style="list-style-type: none"> <li>Use aggregated information to inform policy decisions</li> <li>Develop a learning with digital technologies strategy</li> </ul>
3. <b>Investment and Capability are Shared</b> (as per Government ICT Strategy)	<ul style="list-style-type: none"> <li>Have a managed plan to take up AOG offerings</li> <li>Have an end to end service design approach</li> <li>The Tertiary Information Future State (TIFS) programme</li> </ul>
4. <b>An Effective Corporate</b> (Education centric theme)	<ul style="list-style-type: none"> <li>Publish an ICT service and cost model for the Ministry of Education</li> <li>Adopt AOG modern office concepts in the Ministry of Education</li> </ul>

### Information is managed as an asset

We recognise that data and information are critical to a successfully performing education system. We are a major source, consumer, and supplier, of education data. This is the foundation on which the delivery of our services is built. It is critical to helping all parts of the education sector make the right educational decisions and enable individuals and communities to participate effectively.

We need to move to a state where our data provides intelligence, at the right time, to the right people, to make decisions that support the learner.

Information will be used to drive both the makeup and delivery of future services as well as guide the learner through their educational journey, from early childhood through to tertiary and beyond, with more of these services and access to that information being provided online as part of the move to "Digital by Default".

We will establish the Business Intelligence Competency Centre (BICC). This will be a virtual team whose work programme will drive the wider Ministry and stakeholders to undertake activities which will unlock the value of information to inform better decisions. Those decisions might be made by anyone involved in education, from a student or

parent/family/whanau to school principals, community groups or Ministry officials. A key activity here will be better data collection through mobile and N4L technologies, and the Tertiary Information Future State (TIFS) programme.

### **Enhanced education services**

In order to deliver “5 out of 5” students achieving education success, our support for educational services will need to allow greater targeting to individual students. Delivering individualised services will require building systems that recognise that not all learning will be provided in the context of a classroom, and that learners will be accessing information at different locations at different times.

One of the key areas of activity will be the delivery of digital learning and other services via the N4L. While this is currently in the early stages of being established it will be a key access and delivery point for services to institutions.

### **Investment and capability are shared**

We recognise the need to ensure we get the best value from Government’s investment in ICT, and that scarce resources and capabilities are used to meet the Government’s highest priorities. This will require managed change to the way we currently deliver services as a sector, and how we use our combined capability.

Opportunities for sharing key resources across activities will be considered and included in the sector’s ICT Strategy and associated work programme. For example, the TIFS programme aims to improve information systems used to manage the tertiary education sector. The vision for the programme is to provide comprehensive, integrated information for Government, the sector and the public. TIFS is a cross-agency work programme involving the Ministry of Education, the Tertiary Education Commission, the New Zealand Qualifications Authority and the Ministry of Social Development.

New opportunities in the sector will also arise from the availability of the Network for Learning (N4L).

### **An effective corporate**

The Ministry and the sector will use ICT to improve productivity and operational effectiveness. There will be increased emphasis on the end-to-end design and delivery of security and privacy in business processes and systems.

To ensure we have a robust and supportable information technology environment that enables achievement of educational objectives, we will implement a service catalogue to clearly describe the services provided, how they are delivered and what the cost sharing model is. The services supporting this will be delivered as ‘One Corporate’ as part of meeting our Corporate and Infrastructure Group’s mission of “equipping the Ministry with the people, knowledge, tools, systems, information and assets to successfully lift learner achievement”.

We will need to learn from the lessons of the Novopay project, to ensure there is capability to successfully deliver major IT projects – even where the project is part of a managed service, and not an in-house development. The Ministry has enacted a full programme of work in response to the Ministerial Enquiry that ensures the Novopay situation is remediated, and that the learnings will be incorporated into all our significant project governance processes and implementation.

### **Further actions supporting GCIO themes**

To support the GCIO theme 'Digital by Default' we are consolidating the 140+ websites used by the sector that we manage. There is also a 'Portal' being developed by Network for Learning Ltd as one place for students to access educational services.

We will continue to help improve the way schools manage corporate work by ensuring new systems are Digital by Default particularly in information sharing functions.

In the 'Leadership and Culture Deliver Change' focus area we anticipate following AOG direction and timeframes. Our Corporate and Infrastructure Group is starting to take more of a lead role in running the Ministry, and IT will strengthen that corporate function through better IT systems.

Support for the underlying theme of System Assurance will be seen primarily through the accountability levels for ICT governance being raised to second tier managers. We also plan to strengthen internal IT quality assurance processes and IT capability.

## Annex 7. Risks

### Strategic and operational risks that could lead to a fiscal impact

Description	Likelihood	Impact of risk	Mitigation
[7]			
<p><b>Canterbury rebuild – TEI business case process</b></p> <p>Additional Government support, above current baselines, is likely to be required for the three tertiary education institutions based in Canterbury following the earthquake of 2011.</p> <p>Cabinet has agreed to provide a capital contribution to Christchurch Polytechnic Institute of Technology and the University of Canterbury for selected capital projects. The business case for Lincoln University is expected to be finalised by June 2014.</p> <p>A tagged contingency was established in Budget 2013, to cover the potential capital support the Crown may decide to provide.</p>	High	Low – The level of the Government’s capital contribution will be agreed by Cabinet following consideration of the final business cases and will be sourced from the Future Investment Fund.	Officials (led by TEC) are working closely with Lincoln to finalise its business case. This is the final one of the business cases which should see the three institutions returning to full capability and contributing to regional and national priorities for tertiary education.
<p><b>Cost pressures on providers</b></p> <p>Cost pressures might increase to a level where the Government has to provide additional funding if tertiary education outcomes are at risk (e.g. if priority</p>	Low	Low – under current policy settings.	TEC monitors the financial performance of the sector. The next provider-level financial forecast is due in February 2014.

<p>programmes can no longer be operated due to the need to make cost savings).</p>			
<p><b>International competitiveness of New Zealand tertiary education institutions</b></p> <p>New Zealand higher education institutions are competing for academic talent and international students with universities from overseas jurisdictions who are investing heavily in higher education.</p>	<p>High</p>	<p>High – Government’s Business Growth Agenda depends significantly on the development of innovation from New Zealand’s higher education and research system and the transfer of this innovation to leading firms. Over time a lowering of international competitiveness by New Zealand institutions will reduce the contribution of the higher education system to the BGA.</p>	<p>The Four Year Plan proposes an additional investment to improve the international competitiveness of New Zealand’s universities</p>

[8]

## Resilience

Scale:

1. Strongly resilient to most possible eventualities, well within risk appetites
2. Resilient to most eventualities, mainly within risk appetites
3. Resilient to some eventualities, but need strengthening in some areas to be within risk appetites.
4. Only weakly resilient to most eventualities, exposed to significant risk
5. No resilience to many eventualities.

Departmental capability	Scale	Description
<b>Overall score</b>	<b>2</b>	The Ministry has proved it has substantial resilience to most eventualities, and key functions can be modified as needed to cope with unforeseen events.
Staff	2	There are a couple of key positions, but most human resources can be easily replaced. The large teaching workforce provides a significant recruiting pool for many operational positions. Well developed labour markets for management, ICT and policy roles should ease any evident recruitment issues in these areas.
Information Systems	3	Adequate at present, although legacy systems are coming to the end of their economic life. Systems enabling the real-time recoverability of data have recently been implemented, to aid recovery of functions in the event of disaster. Payroll administration has been strengthened, and additional resources will be wound down as the revised system is proven.
Stakeholder relations	3	Ongoing enhancements to these relationships, driven by the responsible Senior Managers and the Chief Executive.
Physical capability	2	Significant concentration risk for the National Office in Wellington, given likely consequences of a major earthquake. However, operational staff are dispersed and are located close to areas of schooling demand.
Finances	2	With the recent exception of specific Novopay remediation expenses, the Ministry has underspent its departmental appropriations in recent years. Audited annual accounts indicate no significant operational issues in terms of financial administration. Risks mainly relate to the management of the extensive school property portfolio, and Collective Agreements with education staff.

### *Staff*

The Ministry is in a capability development phase across many aspects of its workforce. The Leadership Team is focused on ensuring the Ministry has high performing senior leaders who work in partnership with stakeholders. At the same time, the Leadership Team is focused on ensuring the Ministry maintains a workforce able to deliver its service targets and programmes.

### *Information Systems*

Enhancements will be made to the Ministry's delivery by an effective corporate group providing a changed work culture supported by a different work environment, including ICT. This will be supported by enhanced use of flexible and mobile technology. There will be an increased emphasis on the end-to-end design and delivery of security and privacy in business processes and systems.

The Ministry and other responsible Government agencies have learned the lessons of the Novopay project, to ensure there is capability to successfully deliver major IT projects. This includes the enhancement of IT governance and oversight across technology aspects of projects.

In terms of web resilience, the Ministry is consolidating the 140+ websites used by the sector that we manage. There is also a portal being developed (by Network for Learning Ltd) as one place for students to access educational services.

#### *Stakeholder relations*

The Ministry has ongoing industrial relations and consultative activities with the New Zealand Educational Institute and the Post-Primary Teachers Association. The Ministry has a consultative relationship with the New Zealand Principals' Federation and the Secondary Principals Association of New Zealand. The Ministry has a functional consultative and funding relationship with the New Zealand School Trustees Association.

In 2012/13 the Ministry established taskforces to drive faster rates of change in key areas for our priority groups of students and to help us achieve our Better Public Services targets. The taskforces engaged parents, families, whanau and communities in their activity, and in education, with three overarching community engagement goals in mind:

- Inviting community leaders and groups in three areas of high potential and high need (Whangarei, West Auckland, and Rotorua) to champion better outcomes for their communities.
- Improving community access to information, support and services.
- Establishing multi-disciplinary teams to work on the front line, providing a more seamless and integrated service to education providers and communities.

Across Government, the focus on BPS targets has resulted in cross-agency work to align investment and direction, to ensure a seamless experience for the public and to make the best use of resources.

#### *Physical capability*

The Ministry's National Office is in Wellington, and there are 46 regional and local offices. The nature of the seismic risk in Wellington would imply immediate closure of the Ministry's National office in the event of a significant localised earthquake, which could have an immediate consequence for the operation of centralised funding structures. The Ministry has a contingency plan to ensure business continuity in such an event, dependent on the restoration of telecommunications capabilities and the continued presence of key staff.

#### **Risks to the sustainability of the Four-Year Plan beyond 17/18:**

The key assumptions informing forward planning beyond 2017/18 are:

- current Government education policy settings will be maintained
- New Zealand's level of economic growth will be in line with consensus economic forecasts for the period, as referenced by the Treasury
- the level of labour market participation and unemployment will be in line with consensus labour market forecasts for the period, as referenced by the Treasury and the Ministry of Business, Innovation and Employment
- demographic change(s) and migration levels over the period will be in line with population forecasts prepared by Statistics New Zealand
- there will be no major adverse changes in the global economic environment (i.e. of a scale similar to that of the 2008 Global Financial Crisis)
- there will be no major geopolitical ruptures (i.e. conflicts) affecting trade flows, tourism numbers, or international student enrolments.

## **Annex 8. Government priorities**

The Government sets out its priorities for the tertiary education sector through the Tertiary Education Strategy (TES). The Government recently consulted the public on a new TES and is considering feedback.

The next TES will inform planning and funding in the tertiary system from 2015 (including leading into 2015).

### **Delivering Better Public Services**

#### ***Result area five: Increase the proportion of 18-year-olds with NCEA Level 2 or equivalent qualification***

Result area five is led by the Minister of Education, with the Secretary for Education as lead Chief Executive.

The strategy for achieving this target is two-fold. There is a short term focus on raising NCEA level 2 achievement and a medium term focus on system change so that the achievement of the target is sustainable over time. The short term and long term measures are being implemented in tandem so they reinforce each other.

#### *Short Term Focus*

From 2013–2015, the Ministry is and will be working intensively with 141 schools whose level of NCEA level 2 achievement falls well below the target. Many of these schools have a high proportion of Māori or Pasifika students.

The Ministry has established Achievement, Retention and Transition teams which are responsible for working with these schools. The teams comprise a mix of leaders seconded from the secondary school sector and Ministry staff with the experience and expertise to work with the secondary sector.

The teams work with each school both to identify students at risk of not achieving NCEA level 2 and to put in place interventions to accelerate achievement for these students in ways which support these students to make a successful transition to further education and training or work.

#### *Medium Term Focus*

In order to ensure that the achievement of the target is sustainable over time and supports young people making an effective transition, the Ministry is implementing the Youth Guarantee. This seeks systems change at the senior school and secondary-tertiary interface.

The key components of the Youth Guarantee are:

- Fees-free provision in tertiary education at NZQF levels 1-3 which enables young people for whom school is no longer appropriate to continue their studies in a tertiary setting.
- Secondary-tertiary programmes which enable young people to remain enrolled in school and undertake some tertiary study.
- Vocational Pathways which enable young people, schools and tertiary providers to shape learning programmes leading to NCEA level 2 or equivalent in ways which are valued by industry.

- Collaborative arrangements, such as learning networks which enable schools, tertiary providers, employers and the wider community to work together to develop innovative programmes particularly around the vocational pathways.

The long term combined effect of the short and medium measures described above will be secondary schools and tertiary providers who are able respond more effectively to the needs of senior students, particularly the 70% who do not intend to progress to degree level study. This will ensure that high rates of NCEA L2 achievement and more effective transitions to further education, training and employment, including study at NZQF Level 4 and above, are sustainable. This includes Māori and Pasifika young people.

(\$m)	2012/13	2013/14	2014/15	2015/16
Direct resources committed to BPS NCEA L2	2.3	6.4	5.5	Information not available
Direct resources committed to BPS NCEA L2 (full-time equivalents)	10	35	35	0
Drawdown from priority learners contingency	0	1.405	1.405	0
Resources reallocated across agencies	0	0	0	0

***Result 6: Increase the proportion of 25 to 34-year-olds with advanced trade qualifications, diplomas and degrees (at Level 4 or above)***

The Minister for Tertiary Education, Skills and Employment is the lead Minister on this result, and the Secretary for Education is the lead Chief Executive. Skilled and Safe Workplaces Ministers and Chief Executives provide cross-portfolio governance and leadership oversight for this result area (both meet monthly).

Education agencies are supporting Result 6 by allowing providers more flexibility to increase enrolments at level 4+ (for example, delivery tolerance bands have been changed to enable providers to deliver between 99% and 105% of the student numbers specified in their investment plans). Highly performing private training establishments have also been given more flexibility to enrol over agreed amounts. The introduction of New Zealand Apprenticeships will allow for an estimated additional 14,000 new apprentices to start training over the next five years, in addition to the 7,000 who currently enrol every year. Māori and Pasifika trades training initiatives will provide support for about 3,000 trainees by 2017.

Most of the changes identified above are likely to start to impact on the Result from 2014. Many of the challenges to Result 6 come from factors that the government can influence only indirectly, such as the strength of the labour market (which influences demand for tertiary education) and the inward and outward migration of 25-34 year olds with qualifications at Level 4 and above.

Resources for the BPS level 4+ work stream within Vote Tertiary have not been separately costed. Work on this target is carried out as part of the core work programme for Graduate Achievement, Vocations and Careers Group at the Ministry.

## **Canterbury rebuild**

The Government has identified rebuilding Canterbury as a vibrant and strong city as a key priority for the next four years. Tertiary education has a large role to play in supporting the labour market to operate effectively in Canterbury. This includes:

- supporting Canterbury tertiary education institutions (TEIs) to re-build
- ensuring that the tertiary and skills sectors are responsive to the skills needed to rebuild Canterbury.

### *Canterbury TEI business cases*

Cabinet has agreed in principle to provide a capital contribution to the University of Canterbury, the Christchurch Polytechnic Institute of Technology (CPIT) and Lincoln University to assist with re-building.

The level of the Government's capital contribution will be agreed by Cabinet following consideration of business cases from each provider and will be sourced from the Future Investment Fund. [7]

The Tertiary Education Commission is coordinating the development of the Project Business Cases. Cabinet has considered business cases from CPIT and the University of Canterbury. [7]

### *Industry training*

The recently-agreed changes to the industry training system (including the “Apprenticeships Re-boot”) are intended to provide greater incentive for people to take up trade apprenticeships and support the labour force needs for the Christchurch rebuild.

Budget 2013 also introduced a consortium-based Māori and Pasifika Trades Training initiative to support the increase in demand for industry training, including the Christchurch rebuild. This initiative will provide additional support and a clear pathway for young Māori and Pasifika from initial tertiary education into employment and an apprenticeship.

Resources for the Canterbury rebuild work stream within Vote Tertiary have not been separately costed. Work on industry training and support for the TEI business case process is carried out as part of the core work programme of GAVC at the Ministry of Education.

## **Building a more productive and competitive economy (Business Growth Agenda work-stream)**

The Government's Business Growth Agenda (BGA) is an ambitious programme of work to support economic growth, in order to create jobs and improve New Zealanders' standard of living. The Business Growth Agenda focuses on six key "ingredients" businesses need to grow: Export markets, innovation, infrastructure, skilled and safe workplaces, natural resources, and capital. Education contributes strongly to three of the work streams in this agenda –skilled and safe workplaces, innovation and export markets.

### *Skilled and Safe Workplaces*

The Skilled and Safe Workplaces (SSW) work stream of the BGA aims to improve the safety of the workforce and build sustained economic growth through a skilled and responsive labour market.

The Ministry of Education leads the education priorities within SSW work, and co-chairs the two SSW officials groups with the Ministry of Business Innovation and Employment. Two particular Ministry-led initiatives are: the Vocational Pathways and the Māori and Pasifika Trades Training initiatives. These are described below.

- Vocational Pathways provide a clearer framework for vocational options, support better programme design and careers advice, and improve the linkages between education and employment. They provide a flexible road map that provides easy to understand pathways that lead to five industries: Manufacturing and Technology; Construction and Infrastructure; Primary Industries; Services Industries; and Social and Community Services (also a new industry, 'creative industries' is under development).
- The Māori and Pasifika Trades Training Initiative involves developing and delivering new and innovative training and skill development to employment pathway models. This involves close relationships with Māori and Pasifika groups and other industry led groups and tertiary education organisations. It is expected that training and skill development to employment pathway models will be innovative, flexible, and reflect the needs and relationships within the regions they will operate in - identifying key employer and industry needs, addressing the needs of learners and their communities, and building on the existing strengths and relationships.

### *Export markets*

The Ministry's contribution to the export markets stream of the BGA focuses on attracting more international students, and building international linkages. The Leadership Statement for International Education sets a goal of doubling the economic value of international education to \$5 billion by 2025, and for the value of education export services to increase. The funding is held within Vote Tertiary Education (i.e. to fund the operations of Education New Zealand), and a fraction for International Division operations.

The Ministry is working with several other agencies as part of the BGA working group, which reports to the relevant Ministers.

### *Innovation*

The Ministry leads several innovation work stream initiatives including:

- strengthening the governance of universities to ensure a stronger economic contribution to New Zealand
- reviewing the Performance Based Research Fund (PBRF) and Centres of Research Excellence (CoREs)
- collecting and providing better information on graduate outcomes to students and the tertiary sector
- increasing investment in engineering students at tertiary institutions and lift graduate numbers by 500 per annum by 2017.

The Ministry works with TEC and MBIE for the relevant Ministry led work (governance, PBRF and CoREs reviews).

The Ministry is also involved in the development of National Science Challenges and National Statement of Science and Innovation.

Resources for BGA work streams within Vote Tertiary Education have not been separately costed. Much of the work on the BGA work stream is carried out as part of the core work programme for the GAVC Group at the Ministry.

### **Strengthening provision for priority groups**

Over the last four years we have seen significant improvements in achievement and participation at higher levels for Māori and Pasifika learners, with an additional 4,400 Māori and Pasifika learners studying at Bachelors level in 2012, when compared to 2007 levels. However, young Māori and Pasifika learners are less likely than the total population to:

- gain school qualifications that enable entry to higher level study
- choose higher level study even when they get the necessary prior qualifications
- complete higher level tertiary qualifications (even after controlling for prior attainment).

Changing demographics mean that we will rely on increasingly improved education outcomes for Māori and Pasifika learners to meet our future skill and labour-force needs. Approximately 60% of the Māori population and 63% of the Pasifika population are aged 29 years old and under, compared to 42% in this age group in the total population. By 2030, 30% of the New Zealand population will identify as Māori or Pasifika.

Improving the responsiveness of tertiary education organisations to the needs of Māori and Pasifika learners will be important to improve existing levels of access and achievement and improve the way that tertiary education supports young Māori and Pasifika into the workforce.

Previous analysis of the alignment of tertiary education policy settings with the Government's priorities of higher system performance for Māori and Pasifika learners indicated that current accountability mechanisms could be used more actively to drive higher performance for Māori and Pasifika learners. For example, the Tertiary Education Commission allocated a small amount of funding in 2013-2014 plans, based on the performance of Māori and Pasifika learners.

There is also potential for Government to take a more active role in addressing evidence gaps, developing guidelines, and disseminating good practice for Māori and Pasifika learners across the system.