MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Science and Innovation Briefings on Budget 2018, 2 November 2017 – 15 May 2018

This public release contains all Science and Innovation briefings on Budget 2018 that were sent between 2 November 2017 and 15 May 2018.

There are a number of annotations throughout the briefings, intended to help provide some clarification for the reader. Below are the basic themes of those annotations.

Bilateral partnership with Singapore

- In briefing 0758 17-18 "Budget 2018 and your investment priorities", there is reference to funding to enable international science cooperation with Singapore as a cost pressure. However, this is not a reference to a 'cost pressure' as defined by the Treasury, but rather reflected MBIE's advice that the initiative was a priority that demanded urgent action.

Changes to funding requested

Refinement of budget bids and negotiation around budget bid costs is a natural part of the Budget process. Below are a list of initiatives for which the funding changed throughout the briefings.

- Bilateral partnership with Singapore
- The R&D Tax Incentive
- The National Research System (NRIS)
- The Centre of Digital Excellence.

Unsent letters

- There are several letters annexed throughout the Budget 2018 briefings. These include letters that were never sent by the Minister. Annotations have been provided to indicate which these are.

A complete list of the documents is as follows:

	Briefing Number	Briefing Name	Date
1.	0758 17-18	Budget 2018 and your investment priorities	2 November 2017
2.	1038 17-18	Budget 2018: Advice on the Research, Science and Innovation Fiscal Strategy	1 December 2017
3.	1427 17-18	Cost Pressure Budget Bids 2018	8 December 2017

	Briefing Number	Briefing Name	Date
4.	1293 17-18	Baseline review and opportunities to align the Research, Science and Innovation portfolio with Government priorities	18 January 2018
5.	1773 17-18	Budget 2018 - Draft Manifesto Bids and Baseline Review Letters	26 January 2018
6.	1905 17-18	Budget 2018 – Advice for your meeting with the Associate Minister of Finance Hon David Clark	9 February 2018
7.	2090 17-18	Budget 2018 – Reprioritisation and advice for your second meeting with the Associate Minister of Finance Hon David Clark	23 February 2018
8.	2398 17-18	Budget 2018 – Draft letter on reprioritisation to the Associate Minister of Finance Hon David Clark	7 March 2018
9.	2490 17-18	Budget 2018 - Factsheet to support your Ministerial Budget meetings	16 March 2018
10.	2716 17-18	Budget 2018 – Information on Budget Ministers' near-final Budget package	29 March 2018

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 and your investment priorities

Date:	2 November 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	0758 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods **Minister of Research, Science & Innovation**	Note the contents of this briefing for discussion with MBIE officials.	As your timetable permits.

Contact for telephone discussion			
Name	**Position**	**Telephone**	**1st contact**
Dr Peter Crabtree	General Manager, Science Innovation & International	s9(2)(a)	✓
Richard Walley	Manager, Innovation Policy		
Scott Russell	Policy Analyst, Innovation Policy	04 901 1408	

The following departments/agencies have been consulted
None.

Minister's office to complete:

☐ Approved ☐ Declined
☐ Noted ☐ Needs change
☐ Seen ☐ Overtaken by Events
☐ See Minister's Notes ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 and your investment priorities

Date:	2 November 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	0758 17-18

Purpose

To provide you with background information for a discussion regarding your investment priorities for Budget 2018.

Executive summary

Funding is a significant government lever for influencing the Research Science & Innovation (RS&I) system. As Minister of Research, Science & Innovation, securing government funding for the RS&I system as part of the annual budget process is vital for developing a world-class RS&I system in New Zealand.

However, we recognise that the short-term fiscal situation is constrained and that you will need to discuss priorities with your colleagues. Therefore, we would like to discuss which of your manifesto policies you wish to prioritise in Budget 2018.

The Government has recognised the importance of expenditure in the RS&I system by committing to a target of increasing R&D expenditure to 2% of GDP over the next ten years. In order to put New Zealand on a trajectory towards achieving this target, new investment in the RS&I sector should preferably begin early.

A number of Government pre-election commitments will affect the shape of the RS&I package for Budget 2018. The most significant of these initiatives is the proposed R&D tax credit. [redacted]
s9(2)(f)(iv)
[redacted]

There are also a number of cost pressures which we recommend you consider addressing in Budget 2018. These include addressing the underfunding of the Measurement Standards Laboratory, funding for a National Research Information System, and providing the funding needed to enable negotiations on an Enhanced Partnership Agreement with Singapore to proceed.

Beyond these areas there are also a number of other opportunities to create positive impacts in the RS&I system.

We would like to discuss your initial views on these potential budget initiatives and seek an indication of your preliminary investment priorities for Budget 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Discuss** the content of this briefing with officials

s9(2)(a) [redacted]

Dr Peter Crabtree
General Manager, Science, Innovation & International
Labour, Science & Enterprise, MBIE

02 / 11 / 17

Hon Dr Megan Woods
Minister of Research, Science & Innovation

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Background

1. In our initial briefing to you we indicated that we would like to discuss your investment priorities and plans for Budget 2018.

2. This briefing provides you with information on the role of expenditure in the research, science and innovation (RS&I) system, and a high-level summary of potential Budget priorities.

The role of public expenditure in the Research, Science & Innovation System

3. The RS&I system includes the interactions that occur in the production, sharing, and use of new knowledge. It includes researchers, research institutions, businesses, entrepreneurs, Māori, communities, international actors, and local and central government.

4. Government has many levers to influence the broader environment for RS&I, including regulation, competition and inputs, such as skills and capital. These levers differ by industry, market and sector.

5. The most significant lever available to government for shaping and influencing the RS&I system is funding. As Minister of Research, Science & Innovation, you can indirectly influence other Ministerial portfolios which impact the RS&I system, but you have more direct control over the size and distribution of funding throughout the RS&I system. Securing government funding as part of the annual Budget process is important for the following RS&I inputs:

    a. **Direction setting -** Government's involvement in the research, science and innovation system creates significant influence over the direction of the system.

    b. **Direct funding** – for strategically important research, science and innovation activities and infrastructure.

    c. **Institutions** – Government is responsible for supporting key institutions in the RS&I system such as Crown Research Institutes (CRIs) and Callaghan Innovation.

    d. **Information provision** - Government has a role in funding the collecting and sharing information to support good decision-making.

6. We recognise that the short-term fiscal situation is constrained and that you will need to have discussions with your colleagues regarding how much funding will be prioritised for RS&I and how quickly you will be able to achieve your targets. As such we would like to discuss which of your manifesto policies are of the greatest immediate importance for you going into Budget 2018.

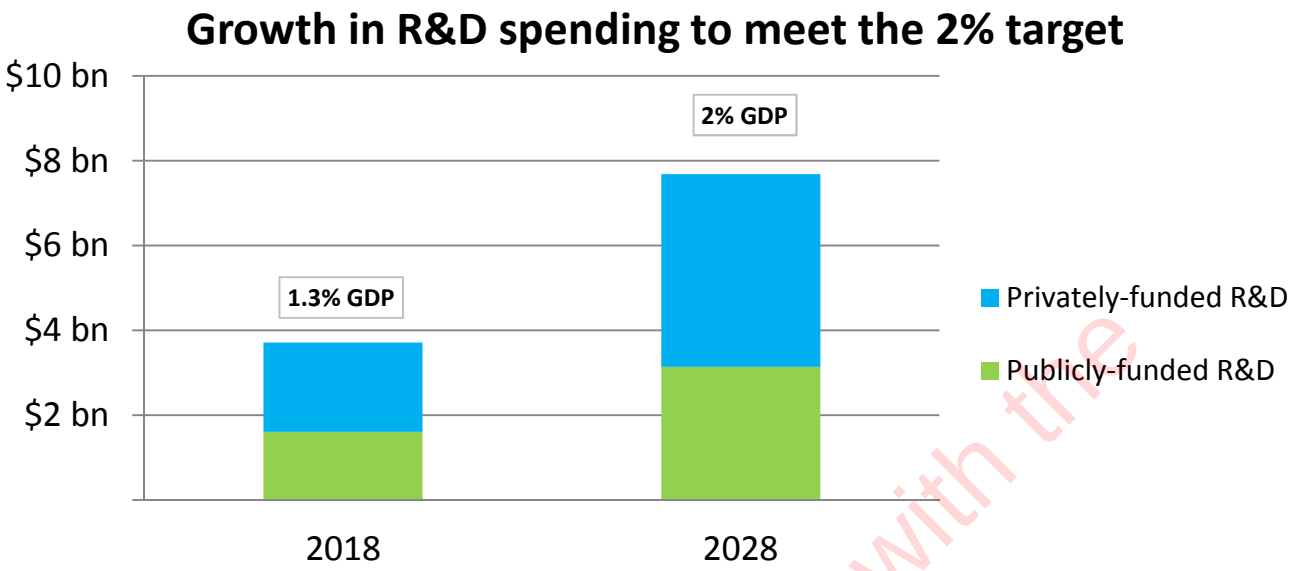
Increasing R&D spending to 2% of GDP over ten years

7. Economy-wide R&D expenditure was $3.2b in 2016 (1.26% of GDP), with around 55% funded by the private sector, and 45% by the government.

8. The Government has proposed to raise economy-wide expenditure to 2% of GDP over ten years. Since GDP is likely to continue growing, this requires significant and sustained increases in R&D investment. We estimate that economy-wide R&D investment would need to increase by $4b from a projected $3.7b in 2018 to around $7.7b in 2028.

9. Plausible scenarios to achieve this require the majority of growth to come from the private sector. Assuming the private sector's contribution gradually rises to 60% of R&D investment, this would provide around $2.5b of the total increase needed.

10. The balance of $1.5b would need to come from public investment. This would mean average annual increases in public research, science and innovation spending of $150m each year for ten years.



11. Some portion of this public investment increase would occur through the R&D Tax Credit mechanism if this were in place. For illustrative purposes, we estimate that a 12.5% Tax Credit would mean a fiscal cost of around $500m per annum in 2028 under this scenario.

12. Whether the public backing for business R&D support is mostly in the form of an R&D tax credit, or R&D Grants, or a combination of both for some period of time, there will still need to be further investments in other publicly funded R&D.

13. A significant amount of the lift in R&D spending needs to come from the business community in the form of increased private and business expenditure on R&D. New Zealand's Business Expenditure on R&D (BERD) in 2016 was 0.64% of GDP, well below the OECD average of 1.65% of GDP.

14. Government investment in publicly funded R&D can stimulate further increases from the private sector into BERD. This stimulus can be direct, such as government funding Business R&D with grants or tax credits. However the stimulus can also be indirect, such as signalling to businesses that the Government is committed to supporting R&D expenditure and the wider RS&I system. However, these stimulus effects can take time to occur as:

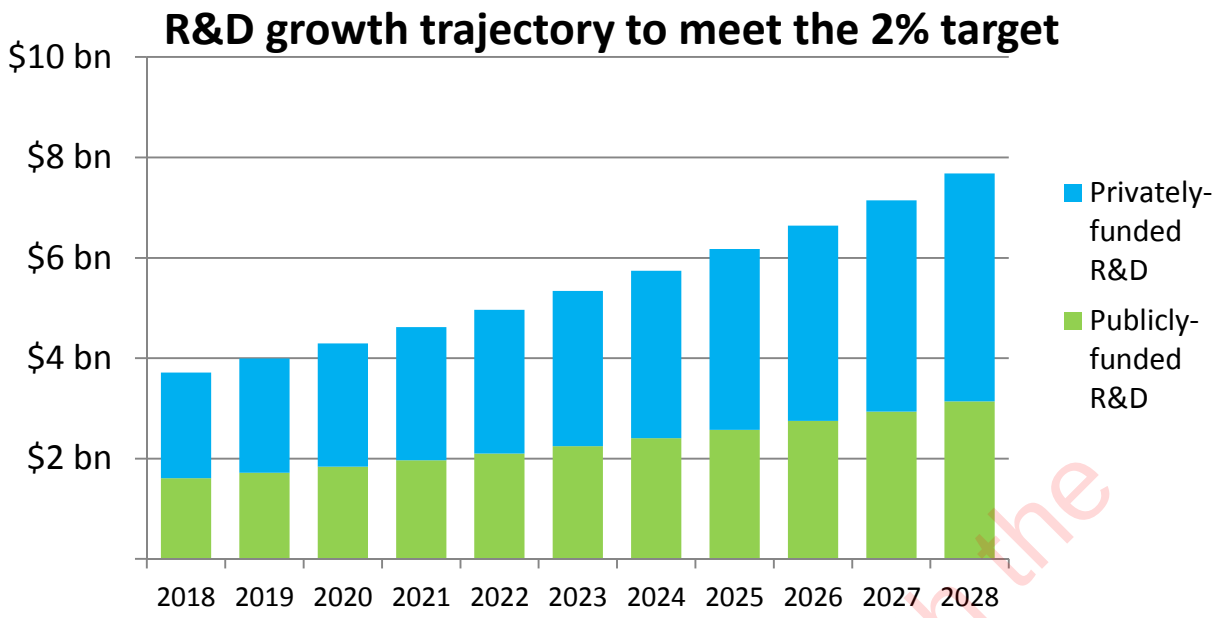
    a. businesses readjust their R&D plans,

    b. more researchers and scientists are trained,

    c. greater interest and confidence from overseas partners builds, and

    d. new technologies and markets develop.

15. Significant investment in the RS&I system should preferably begin early and be part of a longer term fiscal plan which maintains momentum and line of sight of the trajectory needed for achieving R&D expenditure at 2% of GDP over ten years. Note the required growth trajectory modelled below in order to meet the target.



16. You published a fiscal plan for implementing your policies before the election. In your pre-election fiscal plan the following amount was budgeted for implementing an R&D tax credit:

	2018/19	2019/20	2020/21	2021/22	4 Year Total
12.5% R&D Tax Credit	$100m	$200m	$250m	$300m	$850m

17. The amount of funding available in the existing R&D grants programme including R&D Growth Grants, Project and Student Grants, which may overlap with the R&D tax credit, is currently:

	2018/19	2019/20	2020/21	2021/22	4 Year Total
R&D Growth Grants	$153.9m	$161.4m	$169.2m	$172.8m	$657.3m
Project and Student Grants	$37.5m	$37.5m	$37.5m	$37.5m	$150m
Total	$191.4m	$198.9	$206.7	$210.3	$807.3

18. 9(2)(f)(iv) [redacted]

19. While all of the commitments in the Government's manifesto will have fiscal impacts, the magnitude and timing of these impacts will vary.

Government pre-election commitments

20. We would like to discuss with you which of the following initiatives are priorities for Budget 2018 and which you would like to receive further advice on first.

Introducing an R&D Tax Credit

21. The Government committed to implementing an R&D tax credit of 12.5% for R&D done within New Zealand.

22. The amount of new funding required for a tax credit will depend on the design, timing and implementation. These matters should be considered in the context of broader innovation policies to achieve the Government's goal of lifting R&D to 2% of GDP. This includes its interaction with public science investments and commercialisation, and broader industry and skills policy [we provide further advice on these issues in briefing 0797 17-18].

23. The size of the costs will also be affected by any savings from cancelling other expenditure such as winding down or reducing parts of the R&D Grants Programme as part of implementing the R&D tax credit.

24. We recommend considering a contingency budget bid in Budget 2018 which would be drawn down in the case of an R&D tax credit being available for businesses within the 2018/19 financial year.

s9(2)(f)(iv)

[redacted]

Creating a Centre of Digital Excellence in Dunedin

29. The Government committed to establishing a Centre of Digital Excellence (CODE) to support the development of software firms in Dunedin. This would involve building on existing gaming and digital businesses and academic centres. The CODE would have three main elements:

    a. a new Chair of Computer Gaming at Otago University

    b. an incubator space for that includes a motion-capture studio, access to publishing software and mentorship programmes

c. a funding pool administered by private industry aimed at attracting young talent to the industry with post-school digital pathways and scholarships.

30. Your pre-election fiscal plan budgeted for the CODE to receive $10m over three years. It also indicated that this would be funded through the new Regional Development Fund. MBIE is also the lead agency for the Regional economic development portfolio.

Cost pressure initiatives

31. There are a number of cost pressures across the RS&I system which we recommend you consider addressing in Budget 2018.

Addressing underinvestment in the Measurement Standards Laboratory

32. The Measurement Standards Laboratory (MSL) is New Zealand's national measurement science institute and is internationally recognised as the official state measurement standards agency.

33. Measurement science (metrology) enables many aspects of a modern, competitive economy and delivers clear social and economic benefits in trade, engineering and social activities. Regulators, businesses, scientific, and consumer communities all rely on MSL's services.

34. MSL has had a fixed baseline of $5.7m for the past ten years, and is currently operating at a minimum viable standard. International recognition of New Zealand's metrology system is essential for ongoing trade and for the export of New Zealand products. Without additional investment MSL will be unable to continue to provide metrology services, which would compromise New Zealand's ability to continue to trade and export.

35. Our initial estimate is that addressing underinvestment and building MSL's resilience will require approximately $8m - $10m over four years in increased capital and operating expenditure.

National Research Information System (NRIS)

36. Investing in improved data helps ensure that increased public investment in RS&I delivers maximum benefits to New Zealand. Currently, researchers, investors and institutions trying to find information about research (for example how a project was funded, who is working in a particular field such as child poverty or climate change, how much government spends on a particular area, or even what research outputs have been produced) can invest a lot of time and effort for incomplete results.

37. NRIS will be an information hub developed with the RS&I sector to provide accurate, reliable, accessible and timely information on RS&I in New Zealand. Scandinavian countries, Belgium, Portugal and the United States have already established similar digital RS&I infrastructures.

38. Improving RS&I data is critical for increasing the value of research investment. This bid fosters innovation and better connections between research, business and community while also reducing duplication and enabling funders to make smarter investments. To achieve this we have identified a package of measures to improve RS&I data, the core of which is the NRIS costing $44m total over four years. Ongoing benefits to research organisations in terms of reduced compliance costs alone are estimated to be $6m per year.

Funding to enable international science cooperation with Singapore

39. We also suggest that you consider funding for the bilateral partnership currently being negotiated with Singapore, specifically to support increased cooperation in data science and future food science.

Please note that this is not a cost pressure in the sense used by the Treasury, but rather was used to reflect the urgency of the initiative in a more general sense.

40. Funding is required for a data science platform enabling joint New Zealand-Singapore projects in data science 6(a) [redacted]

41. We would also like to be able to commit to funding New Zealand-Singapore cooperation on food science 6(a) [redacted] The platform would connect the country's best researchers, from a number of institutions, to a single host.

42. These initiatives would provide an opportunity to leverage Singapore's strengths in data and food science as a means to grow New Zealand's capability. This will lift the scale, depth, excellence and impact of New Zealand's data science research, and help to diversify the economy by supporting growth in New Zealand's capacity in new disruptive industries.

Opportunities

43. Working towards your target of increasing R&D spending to 2% of GDP over ten years will require investment in a range of instruments. While business expenditure will need to lead this growth, the public research system is also an important area of long-term investment, particularly for public good research that focuses on environmental sustainability, health, and social wellbeing.

44. 9(2)(f)(iv) [redacted]

45.

Next steps

46. We would like to discuss these issues with you to understand your priorities for Budget 2018.

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018: Advice on the Research, Science and Innovation Fiscal Strategy

Date:	1 December 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1038 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Note** the contents of this briefing for discussion at your meeting with MBIE officials on 4 December	4 December 2017

Contact for telephone discussion			
Name	**Position**	**Telephone**	**1st contact**
Dr Peter Crabtree	General Manager, Science Innovation & International	s9(2)(a)	✓
Richard Walley	Manager, Innovation Policy		

The following agency has been consulted
Callaghan Innovation

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018: Advice on the Research, Science and Innovation Fiscal Strategy

Date:	1 December 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1038 17-18

Purpose

To provide you with information regarding the proposed Research, Science and Innovation (RSI) budget initiatives 9(2)(f)(iv) [redacted] This information is intended to support your discussion with Ministry of Business, Innovation and Employment officials, the Minister of Finance and your other ministerial colleagues.

Executive summary

The Government has a target of raising economy-wide expenditure on R&D to 2 per cent of GDP over ten years. This briefing provides further information and some estimated costings of your RSI initiatives for Budget 2018, which will contribute to the 2 per cent target.

Increased investment in the RSI system should preferably begin early (within the fiscal constraints of Budget 2018) and be part of a longer term fiscal strategy to meet the target.

Assuming all the new funding initiatives noted in this paper go ahead with the current estimated numbers, the new funding committed per year from Budget 2018 is nearly on track in year one. However, the growth in RSI spending drops away from the trajectory to 2 per cent of GDP, and future Budgets will require further investment. Given this, we strongly recommend that any existing RSI funding should stay within the RSI system, rather than be reprioritised to other areas of expenditure across Government.

9(2)(f)(iv) [redacted]

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

Note the contents of this briefing for discussion at your meeting with MBIE officials on 4 December.

s9(2)(a) [redacted]

Richard Walley
Manager, Innovation Policy
Labour, Science & Enterprise, MBIE

1 / 12 / 17

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

1. Our earlier briefing to you sought an indication of your priorities for Budget 2018 [0758 17-18 refers]. Following discussions with you we understand the critical pieces of work you are interested in are, in order of priority:

    - Introducing an R&D tax credit

s9(2)(f)(iv) [redacted]

2. In addition to the manifesto priorities you specified, you had agreed with officials that initiatives which could be addressed in Budget 2018 were:

    - Meeting cost pressures for the Measurement Standards Laboratory (MSL)
    - Investing in the National Research Information System (NRIS)
    - Enabling an international science cooperation agreement with Singapore

3. Following our conversation with you on Monday 27 November, we will continue to progress the MSL initiative as a cost pressure bid for new funding.

Treasury has identified significant fiscal constraints

4. On Monday 20 November, Cabinet agreed to the Minister of Finance's Budget 2018 and Fiscal Strategy Cabinet paper. This outlined the significant fiscal constraints on the Government for Budget 2018.

5. Due to these fiscal constraints, budget initiatives related to Government priorities (the Coalition and Confidence and Supply agreements, the Government's 100 day plan, Labour's fiscal plan, and manifesto) have been prioritised above other budget bids.

6. Budget bids for new funding to address cost pressures will still be considered by the Minister of Finance and Treasury for Budget 2018.

7. The Minister of Finance and Treasury have indicated that initiatives which are not cost pressures or included in the Government's priorities will need to be funded from within baselines, or through reprioritisation. As such the NRIS and Singapore agreement initiatives will need to be funded through reprioritisations.

Increasing R&D spending to 2 per cent of GDP over ten years

8. The Government has committed to a target of raising economy-wide expenditure on R&D to 2 per cent of GDP over ten years. Since GDP is likely to continue growing, this will require significant and sustained increases in R&D investment.

9. Economy-wide R&D expenditure was $3.2b in 2016 (1.26 per cent of GDP), with around 55 per cent funded by the private sector, and 45 per cent by the government. We estimate that economy-wide R&D investment would need to increase by $4b from a projected $3.7b in 2018 to around $7.7b in 2028.

10. Plausible scenarios to achieve this require the majority of growth to come from the private sector. Assuming the private sector's contribution gradually rises to 60 per cent of R&D investment, this would provide around $2.5b of the total increase needed.

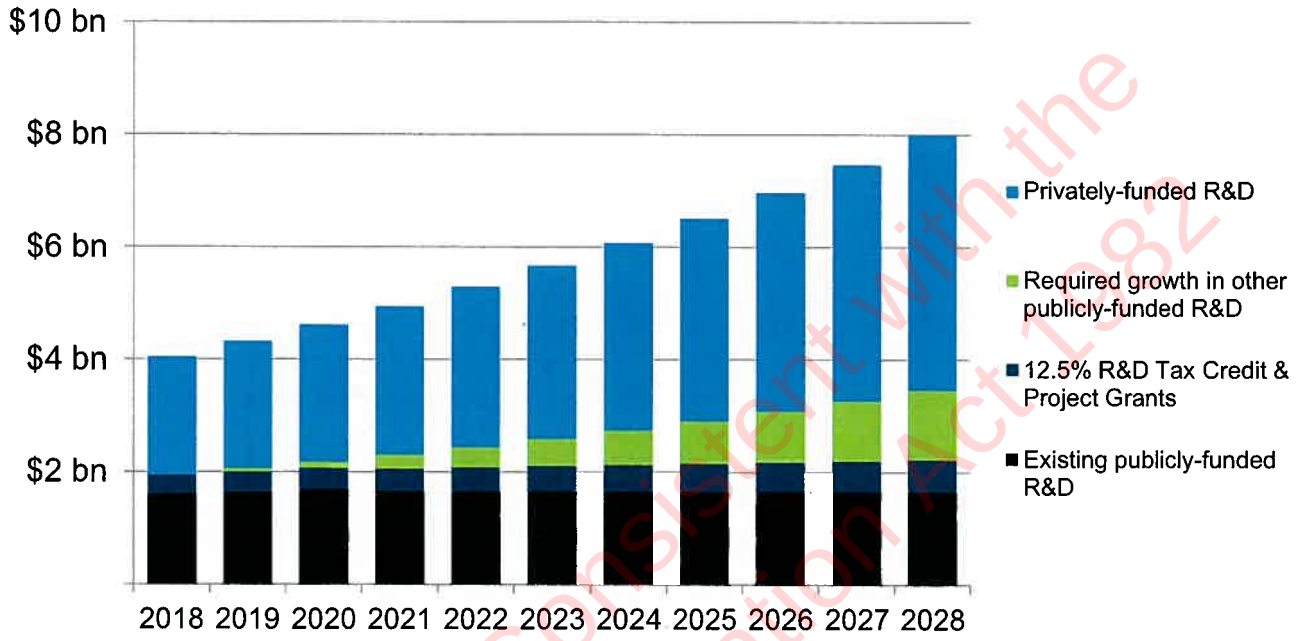
11. The balance of $1.5b would need to come from public investment. This implies average annual increases in public research, science and innovation spending of around $150m each year for ten years.

12. Some portion of the increase in public investment will occur through the R&D tax credit mechanism. For illustrative purposes, we estimate that a 12.5 per cent tax credit would eventually reach a cost of around $500m per annum in 2028 under this scenario.

13. Figure 1 below illustrates the estimated contribution of a 12.5 per cent R&D tax credit towards the 2 per cent target.

14. Figure 1 also shows that even with public backing for business R&D, and assuming there will be steady growth in BERD over the next ten years, further investments in other publicly funded R&D will be needed to reach 2 per cent of GDP by 2028.

Figure 1

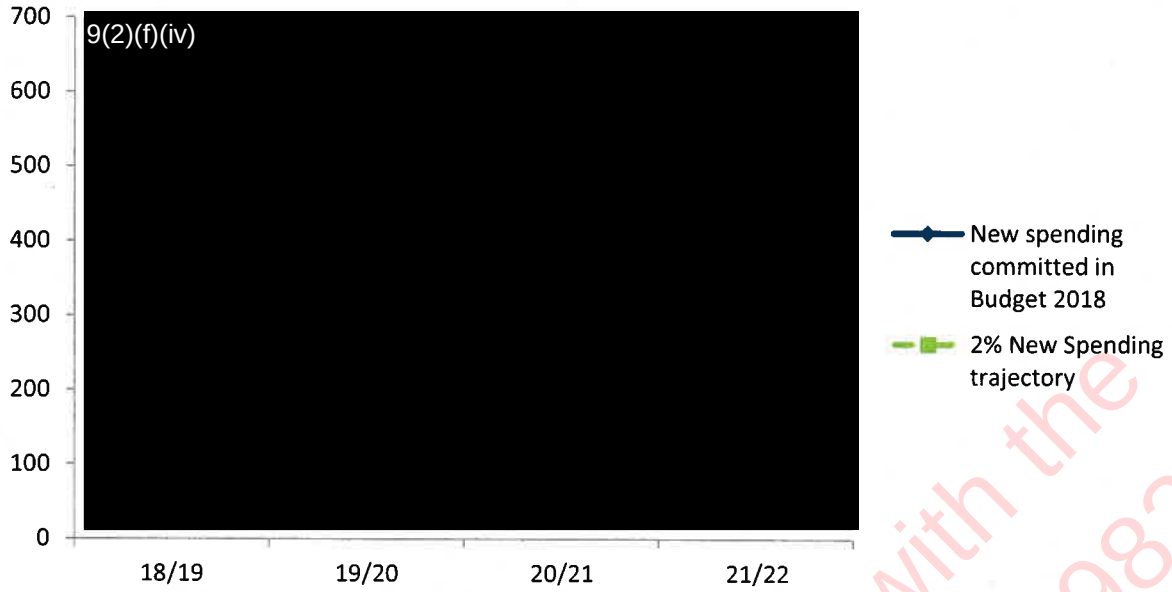


15. Increased public investment in the RSI system should preferably begin early (within the fiscal constraints of Budget 2018) and be part of a longer term fiscal plan which will achieve R&D expenditure of 2 per cent of GDP over ten years.

16. Given this, we strongly recommend that any existing RSI funding should stay within the RSI system, rather than be reprioritised to other areas of expenditure within Government. Moving money out of RSI will be a step away from the target and may send conflicting signals to key RSI actors (researchers, innovative businesses and investors etc.).

17. Assuming all the new funding initiatives (Government priorities and the MSL bid) go ahead with the current estimated numbers, the new funding committed per year from Budget 2018 is nearly on track towards the 2 per cent goal, in year one. However, after Budget 2018, the growth in RSI spending drops away, as shown in Figure 2 below. This will need to be addressed in future budgets.

Figure 2



The RSI fiscal implications

18. Table 1 below summarises the Government priorities and cost pressures for the RSI Budget 2018. We recommend requesting new funding for these initiatives.

Table 1

	18/19	19/20	20/21	21/22 (and out years)	4 year total
Estimated costs for Government priority and cost pressure initiatives ($million)					
R&D tax credit (included in Fiscal Plan)	100.00	200.00	250.00	300.00	850.00
s9(2)(f)(iv)					
Measurement Standards Laboratory (cost pressure)[1] - includes operational and capital expenditure	2.89	5.68	4.59	5.87	19.08
Total New funding	s9(2)(f)(iv)				

Note: superseded by later numbers

19. Table 2 below indicates the estimated cost of the other initiatives you agreed to. We have also included areas where there are existing underspends which could be used to fund these initiatives:

9(2)(f)(iv)

Table 2

	17/18	18/19	19/20	20/21	21/22	5-year total	Operating	Capital
Estimated costs for other initiatives								
NRIS - Data Infrastructure		9(2)(f)(iv)						
Science cooperation with Singapore								
Total cost pressure initiatives								

9(2)(f)(iv)

Establishing a Centre of Digital Excellence in Dunedin

24. The Dunedin Centre of Digital Excellence (CODE) is also a Government priority. It is intended to build on Dunedin's existing gaming and digital businesses and academic centres. The manifesto commitment states that CODE will cost $10m over 10 years, and will be funded out of the Regional Development Fund.

25. The CODE will:

- set up a set up a new Chair of Computer Gaming at Otago University,
- accelerate existing digital start-ups with an incubator space, and
- establish a funding pool administered by private industry to attract young talent with post-school digital pathways and scholarships.

26. As the CODE will not be directly funded from the RSI portfolio it is not included in the budget bids in this briefing. We will provide you with a separate briefing on CODE in the next few weeks. This will provide information on expected costs and seek clarification on how you would like officials to progress the CODE's implementation across ministerial portfolios and within the constraints of the Regional Development Fund.

Next steps

27. We would like to discuss the indicative costings and how to use the available underspends in our next weekly officials' meeting with you.

28. We need to provide details of the budget bids for Government priority commitments to Treasury by 26 January 2018. We will brief you further on each of these initiatives over the coming weeks so that firmer costings and policy decisions can support the bids for new funding.

29. 9(2)(f)(iv) [redacted]

Annexes

Annex One: Update on Budget Initiatives in the RSI Portfolio

Annex One: Update on Budget Initiatives in the RSI Portfolio

Government priorities and cost pressures in the RSI budget

30. We have provided further detail below regarding the RSI budget initiatives. This information should support your conversations with the Minister of Finance. In line with Treasury's expectations, we have supplied the following information to support budget bids:

- The indicative amount of funding sought (still to be finalised)
- The main reason the initiative needs to be funded now
- Under fiscal constraints, how initiatives could be scaled back if needed
- How the initiative relates to Government's priorities
- The underlying cost drivers, assumptions, and impacts for particular cost pressures.

R&D Tax Credit

31. This new funding enables an R&D tax credit (tax credit) to be introduced for April 2019. The tax credit aims to provide a stable and predictable mechanism to increase business expenditure on R&D (BERD), which will support increased economic diversification and development, and will enable some innovative businesses to invest in R&D which addresses climate change and other environmental challenges.

New Funding Sought ($m)	2018/19	2019/20	2020/21	2021/22 & outyears	4 year TOTAL
Operating	100.00	200.00	250.00	300.00	**850.00**
Capital	0.00	0.00	0.00	0.00	**0.00**
Total	**100.00**	**200.00**	**250.00**	**300.00**	**850.00**

Note: Superseded by later numbers

32. Introducing a 12.5 per cent tax credit was a manifesto commitment and you have indicated to us that it is your top priority, to support the Government's goal of raising R&D expenditure to 2 per cent of GDP. New Zealand is currently an outlier in not having a tax credit, as 28 out of 34 OECD countries use some form of R&D tax credits and international evidence shows that tax credits are most effective at lifting BERD.

33. Although BERD has been steadily rising, at 0.64 per cent of GDP it is one of the lowest compared to other Small Advanced Economies and is well below the OECD average of 1.65 per cent. Funding the R&D tax credit is key to attaining the 2 per cent goal by stimulating increased BERD.

34. The cost of a tax credit is somewhat uncertain as design choices, which will shape the fiscal impact of the credit, are yet to be made.

Other matters to consider

35. 9(2)(f)(iv) [redacted] For example, increasing the rate alone can have significant fiscal impacts as below:

	2018/19[2]	2019/20	2020/21	2021/22	4 Year Total
Indicative costs					
12.5% R&D tax credit	68	272	294	318	884
20% R&D tax credit	109	436	471	508	1,415

36. The Labour Fiscal Plan allocates $100m in for the R&D tax credit in 2018/19. Maintaining the potential budget currently available for tax credits will maximise your flexibility in design choices, and cover any immediate costs incurred in the 18.19 financial year.

37. Implementing the R&D tax credit by 1 April 2019 means the bid for funding is required now. MBIE will continue working with you and other agencies to clarify the policy design.

s9(2)(f)(iv) [redacted]

[2] Assumes one quarter of expenditure will be claimed in the 2018/19 financial year if the tax credit is to be implemented in April 2019.

s9(2)(f)(iv)

[redacted]

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Cost Pressure Budget Bids 2018

Date:	8 December 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1427 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods **Minister of Research, Science & Innovation**	**Confirm** the cost pressure budget bid for your Research, Science & Innovation portfolio. **Sign** and provide the attached letter to the Minister of Finance.	11 December 2017

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Dr Peter Crabtree	General Manager, Science Innovation & International	s9(2)(a)	
Richard Walley	Manager, Innovation Policy		✓
Scott Russell	Policy Analyst, Innovation Policy	04 901 1408	

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Cost Pressure Budget Bids 2018

Date:	8 December 2017	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1427 17-18

Purpose

The purpose of this briefing is to provide you with a short description of the Measurement Standards Laboratory cost pressure budget initiative as submitted to the Treasury on 8 December 2017 and request you sign the attached letter to the Minister of Finance confirming the cost pressure budget bid.

Recommended action

The Ministry of Business, Innovation and Employment (MBIE) recommends that you:

Sign the attached letter confirming your Research, Science & Innovation portfolio's cost pressure budget initiative and provide it to the Minister of Finance.

Agree / Disagree

s9(2)(a) [redacted]

Richard Walley
Manager, Innovation Policy
Science, Innovation & International
MBIE
8 / 12 / 17

Hon Dr Megan Woods
Minister of Research, Science & Innovation
..... / ..... / .....

Background

1. The Ministry of Business, Innovation and Employment (MBIE) has prepared a list of cost pressure and 'manifesto' budget initiatives to be included as part of Budget 2018 Initiatives Process.

2. This briefing is related to the cost pressure initiative for your Research, Science & Innovation portfolio which was submitted to the Treasury on 8 December 2017.

3. Treasury's Budget 2018 guidance requires requires a letter confirming your cost pressure bids be sent to the Minister of Finance.

We have provided a letter to the Minister of Finance outlining your cost pressure bid

4. Cost pressure bids are limited to the existing services and outputs which are facing personnel, price, or volume pressures, and where an agency considers it cannot be delivered the same level or quality of services with existing funding.

5. The only cost pressure initiative for your Research, Science & Innovation portfolio is the Measurement Standards Laboratory (MSL) bid. The MSL bid requests total additional funding of $24.6 over five years, as detailed below:

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/2023 & outyears	TOTAL
Operating	-	1.736m	2.236m	2.736m	3.736m	4.236m	**14.680m**
Capital	-	1.152m	3.440m	1.858m	2.135m	1.340m	**9.926m**

6. This is a capacity bid to enable MSL to continue to operate, and provide services to enable trade of New Zealand goods, support R&D and growth of NZ industry.

Other letters are required in January for manifesto initiatives and the baseline review

7. s9(2)(f)(iv) [redacted]

8. Manifesto initiatives will be submitted to the Treasury on 26 January. We will provide you with a letter to the Minister of Finance to confirm those initiatives. We will also provide you with a letter to the Associate Minister of Finance (Hon Dr David Clark) confirming the outcome of the baseline review.

Next steps

9. We will provide you with the two letters described above prior to 26 January 2018.

Annexes

Annex One: Letter to the Minister of Finance

Hon Grant Robertson
Parliament Buildings
WELLINGTON

Dear Minister,

I am submitting the cost pressure initiative outlined below for Vote Business, Science & Innovation, for consideration as part of the Budget 2018 process.

The only cost pressure initiative for the Research, Science & Innovation portfolio is:

Initiative title: Measurement Standards Laboratory (MSL) Funding

Initiative description: Capacity bid to enable MSL to continue to operate, and provide services to enable trade of New Zealand goods, support R&D and growth of New Zealand industry

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/2023 & outyears	TOTAL
Operating	-	1.736m	2.236m	2.736m	3.736m	4.236m	14.680m
Capital	-	1.152m	3.440m	1.858m	2.135m	1.340m	9.926m

This funding is to address chronic underfunding and enable the Measurement Standards Laboratory (MSL) to replace failing physical infrastructure and ageing equipment, and respond to critical human capability risks.

MSL is New Zealand's national metrology institute, responsible for maintaining the national measurement system essential for critical activities such as international and domestic trade, electricity metering, safe aviation, high value manufacturing, and law enforcement. MSL provides services that enable the export of New Zealand goods. Metrology is critical to other countries recognising our goods, and ensuring compatibility between our technology and the rest of the world. They also support R&D performed in New Zealand and the growth of New Zealand's industry.

Additional investment is required so that MSL's metrology services do not fail. Without additional investment the issues facing MSL can not be addressed, resulting in a reduction of MSL's capability, and potentially the loss of our national metrology service. This would be a disaster for New Zealand's exporters, particularly in our high-tech sectors.

Reduction in capability is not technically feasible due to the interdependencies between the different measurement standards and full outsourcing to another country's metrology service would cost significantly more than it would to operate the service domestically.

Thank you,

Hon Dr Megan Woods
Minister of Research, Science & Innovation

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Baseline review and opportunities to align the Research, Science and Innovation portfolio with Government priorities

Date:	17 January 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1293 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods **Minister of Research, Science and Innovation**	**Provide feedback** to officials on which opportunities outlined in this briefing you would like to pursue	23 January 2018

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	✓
Sarah Honeybone	Senior Advisor, Science Policy	04 901 3819		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Baseline review and opportunities to align the Research, Science and Innovation portfolio with Government priorities

Date:	17 January 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1293 17-18

Purpose

This briefing summarises our baseline review of Research, Science and Innovation (RSI) appropriations and identifies opportunities to better align some existing funding with the Government's priorities.

Executive summary

Cabinet has instructed all agencies to review their baselines to determine alignment with Government priorities, and identify underspends and poorly performing investments. You need to write to the Associate Minister of Finance by Thursday, 1 February 2018 with the findings of this review. We will provide you with a draft letter following your feedback on this briefing.

We suggest three Government priority areas where a forward-looking, collaborative and innovative RSI system can make significant contributions: a) Invest for economic diversification into high-tech, knowledge-intensive industries; b) Support a rich and protected environment; c) Address inequalities in health and well-being.

Government has committed to increasing total R&D funding to 2% of GDP in ten years. The R&D tax credit will lift business contribution, but meeting the target will also require early and ongoing increases in public RSI investment. Therefore **our most important recommendation is to retain all existing RSI funding**, including contributions from other portfolios.

The current set of funding mechanisms is broadly appropriate to meet your strategic objectives and supports a wide range of research, innovation and commercialisation. Research is a long term investment so to maintain a stable and effective funding environment, **we recommend using existing mechanisms to improve alignment** rather than overhauling the system.

There are opportunities to improve alignment of investments in current mechanisms with the suggested priorities. Many funds have investment plans, which sit under the Government's upcoming over-arching system strategy. **We recommend sending specific investment signals in investment plans for each fund.** Most investment plans are refreshed annually, and in particular there are opportunities to better align Endeavour and Partnerships.

The following table summarises unallocated funding you could redirect into priority areas. **We seek your feedback by 23 January** on which of the following opportunities you would like further advice on or would like to pursue.

Source of funding	Amount available	Opportunity
9(2)(f)(iv)	[redacted]	[redacted]

9(2)(f)(iv)		
Precision medicine (SSIF)	$5.5m in 2018/19 $3.5m in out years	Proceed with SSIF platform, possibly in partnership with Australia
Regional Research Institutes (RRIs)	$18.1m (over 3 years)	Provide longer-term support for the four approved RRIs; OR Redirect to priority areas

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Note** the results of the baseline review

Noted

b **Provide feedback** to officials by 23 January about the opportunities outlined in this briefing, and select which of them you would like further advice on or would like to pursue

Agree / Disagree

c **Note** that you need to write to the Associate Minister of Finance with the results of the baseline review by 1 Feb 2018, and we will provide you with a draft letter once we have received your feedback on this briefing

Noted

s9(2)(a)

Dr Peter Crabtree
General Manager, Science, Innovation and International
Labour, Science and Enterprise, MBIE
17 / 1 / 2018

Hon Dr Megan Woods
Minister of Research, Science and Innovation
..... / ..... / .....

Background

A baseline review is part of the Budget 2018 process

1. Budget 2018 will support initiatives that advance the Government's 100-day commitments and key commitments in coalition agreements. Cabinet has agreed to a baseline review process as part of the Budget 2018 fiscal strategy.

2. The baseline review requires us to examine current RSI investments to determine how well they align with the Government's priority areas, and identify underspends and poorly performing investments.

3. All agencies are reviewing their baselines. Ministers are expected to write to the Associate Minister of Finance by Thursday, 1 February 2018 with the outcome of their reviews. Once agencies have identified funding that could be reprioritised, Treasury will add it to the funding available to support Budget 2018 initiatives.

4. We have assessed current RSI investments against Government priorities to which we think RSI can make significant contributions. This briefing summarises the results of the review and identifies several opportunities to improve alignment of the RSI portfolio with three suggested priorities.

RSI portfolio context

You plan to release a new strategy for RSI in 2018; our advice here aims to support this

5. You have asked us to develop a long term, over-arching strategy for the RSI system. This is a good vehicle for you to state:

   - Government's aspirations and strategic objectives for system impacts and design
   - System-level targets
   - Broad areas of research in which the Government will increase or decrease investment
   - Specific actions that will achieve the vision in the strategy.

6. This baseline review is an important opportunity to set in place the groundwork for achieving your strategic objectives for RSI funding.

7. You have stated the need to look ahead, collaborate, innovate continually and adapt to new challenges. To achieve this aim, the RSI system as a whole needs to strike a balance between stability and dynamism, invest across research horizons, and adequately support capability building. Stability is important in RSI investment mechanisms due to the long-term and uncertain nature of research activity, but this has to be balanced with the dynamism needed to address new lines of enquiry, priorities and technological developments.

8. You have indicated your intention to continue the shift away from purely economic measures when considering the return on and impact of RSI investments, and include broader impacts on sectors and communities.

9. We are also seeking to make the system as simple as possible. There may be opportunities arising in 2018 to reduce the number of funding mechanisms or ensure existing ones fit together in complementary ways.

10. These strategic objectives will be central to our work on your over-arching strategy, and have guided our thinking in developing the suggested priorities and recommended opportunities in

this briefing. We will provide regular advice and updates as work on the strategy and our thinking about impact progresses.

We suggest three priority areas where the RSI system can contribute to your strategic objectives

11. In the baseline review, we have considered alignment of expenditure with Government priorities. We suggest considering three main priority areas for RSI, based on the priorities for Budget 2018 and the Government's manifesto and coalition agreements:

    a) *Invest for economic diversification into high-tech, knowledge-intensive industries* – including research areas such as transitioning to a carbon-zero economy by 2050, ICT, space, and other technologies that could disrupt existing industries.

    b) *Support a rich and protected environment* – including understanding climate change and its drivers and possible effects on New Zealand, biosecurity priority areas of countering kauri dieback and myrtle rust, and piloting alternatives to 1080, and improved quality of New Zealand's freshwater.

    c) *Address inequalities in health and well-being* – including mental health, child poverty, health outcome inequities, and housing.

We can use existing mechanisms to increase investment in these priorities

12. Most RSI investment mechanisms should be broadly neutral towards the topic of research undertaken in order to support the best research and retain agility in the system. The Endeavour Fund, the Marsden Fund, the Strategic Science Investment Fund (SSIF), and National Science Challenges (NSCs) can and do support a broad range of research topics, including research relevant to the priorities.

13. Funding distributed through the Health Research Council (HRC) is limited to research with health outcomes. However, health is a broad field of enquiry and the funding can be aligned with several Government priorities for health.

14. We are confident that current RSI mechanisms can be tweaked and updated through annual processes to better align with the suggested priorities. Therefore we do not recommend an immediate overhaul or movement of funding between the mechanisms themselves.

Increasing RSI investment to 2% of GDP in ten years

You have committed to increasing total R&D funding to 2% of GDP

15. Increasing R&D spend to 2% of GDP over ten years is the Government's key goal for the RSI system, reflected in the coalition agreement between Labour and NZ First.

16. The R&D tax credit is being designed to leverage increased private sector R&D investment to achieve this goal, but it will need to be supplemented by public investment. Based on current GDP projections, we have calculated that reaching this goal will require $150 million new government funding each year for the next ten years [briefing 1038 17-18 refers].

17. Increased public investment in RSI needs to begin early. We are seeking approximately $950m over four years in the Budget 2018 RSI package (of which around $850m is for the R&D tax credit). If successful in securing that amount, funding is nearly on track towards the 2% goal in 2018/19. However, subsequent budgets will require further increases to maintain progress. We will monitor progress and advise you on an ongoing basis.

Note: Superseded by later numbers

Our most important recommendation is to retain all existing RSI funding with the portfolio

18. *All* current funding is aligned with the commitment to raise R&D investment to 2%, so our most important recommendation is therefore to retain all current funding within the RSI portfolio.

19. However, there are ways to improve alignment of this funding with broader government social, environmental and economic priorities. The remainder of this paper focuses on those opportunities.

Other portfolios make significant contributions to RSI investment

20. You can take a broad approach in measuring which Government expenditure counts towards the 2% goal. We have counted a number of items in other Ministerial portfolios that focus on RSI and closely related activities. Investment from other portfolios totals around $454 million per year compared with around $1.2 billion from Vote Business, Science and Innovation. The following investments from other Votes have been counted towards Government's total spend on RSI.

Vote	Mechanism	2017/18 $m
Tertiary Education	Performance-Based Research Fund (PBRF)	307.5
	Centres of Research Excellence (CoREs)	50
	Entrepreneurial Universities	11
Primary Industries	Primary Growth Partnership (PGP)	50.3
	Global Research Alliance on Agricultural Greenhouse Gases	11
	Climate change research on primary land-based Sectors	3
Foreign Affairs	Logistics support for Antarctic research	21
TOTAL		**453.8**

21. Any reduction in funding for these schemes would mean a loss of ground against the 2% target. Other agencies' baseline reviews and the signalled review of the PGP could pose a risk to the 2% target. We recommend you raise this risk with your ministerial colleagues and suggest that any savings realised from the funds noted above could be redirected into other RSI priorities, or that the PGP could be used to seek more transformative innovations for the primary sector.

22. You could consider adopting a tighter definition of Government spending that focuses only on funds within the RSI portfolio. We do not recommend this because it is sensible to count the above items towards Government's overall expenditure on RSI, and any changes would present as an immediate, large step backwards in progress towards the 2% target.

Improving alignment of the portfolio to Government priorities

23. This section outlines opportunities to improve alignment of the RSI portfolio to the three suggested priorities. We also summarise our previous advice on unallocated funding.

Increase investment in priority areas through use of unallocated or redirected funding

R&D Growth Grants

24. The introduction of the R&D tax credit will necessitate decisions on the future of the current R&D Growth Grants ($164.7 million in 2017/18). [redacted]

9(2)(f)(iv) [redacted]

9(2)(f)(iv) [redacted]

Strategic Science Investment Fund (SSIF)

30. All SSIF programmes funding is currently allocated. However, there is a one-off $9.5m available in SSIF infrastructure in 2017/18 due to lower than expected expenditure on some major investments. We recommend putting this funding towards a new SSIF investment, or an international opportunity.

31. In Budget 2016, $5.5 million in 2018/19 and $3.5 million in out years was allocated to a new precision medicine SSIF infrastructure platform, preferably in partnership with Australia. This is part of our agreed work programme with Australia under the Australia-New Zealand Science, Research and Innovation Cooperation Agreement and we have had some very early conversations with Australian colleagues.

32. Initial thinking is for the platform to be based around genome sequencing of a population-scale cohort using compatible protocols, allowing for precision medicine research to be informed by relevant data about the New Zealand population. This is closely aligned to the priority of reducing health inequalities, as a key objective would be to ensure that ethnically disadvantaged communities that are likely to be overlooked by studies conducted overseas are well-represented in the cohort, so that they are able to benefit from precision medicine research findings.

9(2)(f)(iv) [redacted]

Regional Research Institutes (RRIs)

34. There is a total of $18.1 million available over the next three years in the RRI appropriation. We are provisionally planning to use it to ensure sufficient ongoing funding for the four approved RRIs until they can become financially self-sustaining. However, you could redirect this funding to priority areas. We can provide further advice on this trade-off if you wish.

Send investment signals to the sector via investment plans, which sit underneath the over-arching strategy

35. Investment plans can contain more detailed information about the purpose, design and investment signals for each fund. This can help overcome incumbent and inertia effects in the current system.

36. We currently have investment plans for SSIF, Endeavour, Marsden, Vision Mātauranga Capability Fund (VMCF), and Partnerships. These are refreshed annually so the next iterations will be in light of the Government's priorities. We will provide you with advice as each refresh proceeds. In particular, the Endeavour and Partnerships investment plans present opportunities for better alignment (briefing 0636 17-18 refers).

37. We suggest not initiating another Partnerships round until we have refreshed the investment plan to ensure it reflects the suggested priorities. Partnerships is around $22 million per year, with $3.7 million available for new Partnerships each year. We will provide further advice on Partnerships shortly.

38. The HRC is developing an investment plan in line with the new Health Research Strategy. You and the Minister of Health can send investment signals for HRC funding through the upcoming investment plan, and through an annual Letter of Expectations to the HRC.

NRIS will help us make more nuanced judgements about alignment in future

39. You are seeking 9(2)(f)(iv) for NRIS in Budget 2018. We consider NRIS a high-priority investment for future policy development in the RSI system.

40. Improving RSI data is critical for increasing the value of research investment. Among other benefits, NRIS will provide high-quality data on the hundreds of individual RSI projects. This will make tracking investments and calculating amounts of funding in particular areas much faster, easier and more accurate, so we will be able to provide you with advice based on a more detailed analysis than is currently possible.

41. Annex One summarises the extent to which we have been able to assess alignment of existing investments.

Findings of our review

42. The following table summarises our view of the overall alignment of each major RSI appropriation with the three priority areas, and recommends steps to improve alignment. Numbers are for the 2017/18 financial year.

43. This table includes only appropriations and investment mechanisms within Vote Business, Science and Innovation that are the responsibility of the Minister of Research, Science and Innovation. RSI funding from other portfolios are not in scope of this baseline review.

44. We have included a more detailed analysis and commentary on alignment in Annex One.

Fund	Annual $m	Relevant priorities	Comment	Opportunities
			Contestable funds	
Endeavour	196.3	• All	Current investments through Endeavour are not yet focused enough on government priorities.	Endeavour funding decisions are made on the basis of an **investment plan**. We plan to update and publish a new investment plan, reflecting Government's priorities.
Heath Research Fund	93	• Inequalities in health and wellbeing • Economic diversification	HRC manages most government investment in health research. In 2017 around 36% of its funding was directly in priority areas, but other areas support priorities indirectly with longer-term research.	The Health Research Strategy sets out the intention that HRC funding decisions will in the future be made on the basis of an **investment plan**, which should more closely reflect Government's priorities. Joint governance from you and the Minister of Health will ensure close alignment in the future.
Marsden	63.4	• All	Marsden is specifically directed towards projects that support investigator-led research, and do not need to be aligned to immediate socio-economic priorities. We think this is appropriate and important for a well-functioning RSI system, and that the fund makes a strong, but indirect, contribution to all three priorities identified.	No change.
Partnerships	22	• All	Funding historically largely awarded to firms and researchers in the primary sector.	Refresh the **investment plan** to clarify the policy settings and investment signals before running a 2018 round.
Vision Mātauranga Capability Fund (VMCF)	6	• All	Mostly focused on building capability to engage with research, rather than conducting research. We believe it fulfils a valuable role in improving engagement between the research community and te ao Māori, and makes a broad contribution across all priorities.	Vision Mātauranga funding decisions are made on the basis of an **investment plan**. You could consider updating this plan to ensure alignment with Government objectives.
			Strategic, mission-led funds	
Strategic Science Investment Fund: Programmes	198.7	• Economic diversification • Rich and protected environment	Most SSIF programmes investments are in CRIs, meaning that by default it currently focuses on providing underpinning research to support existing industries to innovate and grow. It also contributes strongly to environmental science, particularly around fresh water, biosecurity and climate change.	SSIF is a strong mechanism for future investment, as it enables government to make proactive decisions about investments in areas of strategic priority. You could consider **increasing existing or establishing new SSIF programmes investments** as a medium-term priority for raising expenditure to 2% of GDP. The SSIF **investment plan** is updated annually.
Strategic Science Investment Fund: Infrastructure	62.3	• All	SSIF infrastructure investments support a wide range of activities across the RSI portfolio, including many closely aligned to Government priorities. Assessing alignment is not required because use of research infrastructure will shift in line with the research that is undertaken using them.	9(2)(f)(iv)
National Science Challenges	73.4	• All	NSCs are generally well-aligned to Government priorities.	
Catalyst	13.4	• All	Supports activities that develop international collaboration on science and innovation. These activities are generally closely aligned with Government priorities, especially economic diversification.	No change.
			Callaghan Innovation-administered Funding	
R&D Growth Grants	164.7	• Economic diversification	These funds align to the R&D tax credit.	9(2)(f)(iv)
Targeted business R&D funding	56.3	• Economic diversification	These funds directly support economic diversification by supporting smaller, innovative businesses.	No change.
Repayable Grants for Start Ups	19.5	• Economic diversification	This funding aims to build innovative New Zealand firms. It includes funding for the incubator and accelerator programmes, and repayable grants for start-ups.	A **review** of the incubator programme is scheduled for 2018, as funding for the current pilot expires in July 2019. The review will consider the effective functioning of these schemes.
Building Business Innovation	32.4	• Economic diversification	Innovation programmes to upskill firms including training and networking.	No change.
Business R&D contract	7.8	• Economic	Funding to Callaghan to administer grants to businesses.	No change. The R&D tax credit may impact on Callaghan's grant function.

Fund	Annual $m	Relevant priorities	Comment	Opportunities
management		diversification		However, it is too early to determine the size and nature of any impacts.
R&D Services and Facilities for Business and Industry	19.5	• Economic diversification	Research and technical services provided by Callaghan including fee for service and access to specialist equipment.	No change.
Callaghan capital expenditure	18	• Economic diversification	Previously approved funding to upgrade Callaghan's Gracefield facilities and develop it as a precinct for advanced technology.	Callaghan will provide a **business case** to Cabinet in June 2018.
National Measurement Standards	5.5	• Economic diversification	We have advised on significant long-term underfunding of the Measurement Standards Laboratory (which is supported by this appropriation) as part of the Budget 18 process. We do not consider there is a case for reprioritisation of any of this funding.	Further funding sought through Budget 18.
			Other funds	
Regional Research Institutes	10.5	• Economic diversification	The four new regional research institutes will support economic growth and diversification in New Zealand's regional economies. These entities are still being established, so we do not see a strong case for reprioritisation. Annual investment fluctuates substantially.	*$18.1m available over three years.* You could use this to provide longer-term support for the four approved RRIs, or redirect it to priority areas.
PreSeed Accelerator Fund	8.3	• Economic diversification	Funding to develop pre-commercial opportunities to a stage where they can attract private investment.	A comprehensive **review** of commercialisation initiatives is scheduled for 2018.
Commercialisation Partnership Network	3.4	• Economic diversification	The CPN aims to share commercialisation expertise among public research organisations.	
Innovative Partnerships	1.9	• Economic diversification	Funds activities to attract international firms in high-tech, knowledge intensive industries to do R&D in New Zealand. Well-aligned with economic diversification.	No immediate opportunities - could continue/expand programme when we have evaluated its effectiveness.
Fellowships for Excellence	11.6	• All	The Fellowships (offered by the Royal Society) attract and retain high-performing researchers in the New Zealand RSI system. As such, they make an important contribution to our national capability across all three priorities.	No change.
Envirolink	1.6	• All	Driven by Regional Councils. Funds research organisations to do research and provide advice on identified environmental projects/topics. Around 35% is directly aligned with the suggested priorities, while other investments contribute indirectly.	No change.
Science in Society	8.8	• All	This includes funding for the Participatory Science Platform and the Unlocking Curious Minds Contestable Fund. These initiatives are not directly for research. The funding supports education-focused programmes, some of which are aligned with the suggested priorities.	No change.
			Departmental and Administrative Funds	
Research contract management	29.3	• All	Both research contract management and departmental output expenses allow MBIE, and agencies such as the Royal Society and the Health Research Council, to administer and monitor RSI funding.	No change. Increasing RSI funding and pressure on departmental and administrative funding will increase the administrative workload. We do not think there is currently scope to reprioritise this funding.
Departmental output expenses	7.8	• All		
Royal Society	0.5	• All	Core services provided by the society.	No change.

Next steps

45. We seek your feedback by 23 January about the opportunities outlined in this briefing, and which of them you would like further advice on or would like to pursue.

46. Once we have received your feedback on this briefing, we will provide you with a draft letter to the Associate Minister of Finance for your comment.

47. We can make any necessary funding transfers at March Baseline Update (MBU) and will provide further advice on this in due course.

Annexes

Annex One: 2017/18 RS&I investments in priority areas

Annex One: 2017/18 RSI investments in priority areas

48. This annex details how much in each RSI appropriation is invested in each priority area in 2017/18 (unless otherwise indicated).

49. Note that all figures are estimates based on high-level definitions of the priority areas. All numbers are GST exclusive. We have not included RSI expenditure in other portfolios. We have double counted where an investment clearly contributes to more than one priority area.

Contestable, semi-directed funds

50. New Zealand's main contestable funds are the Endeavour Fund and the Marsden Fund. The much smaller Partnerships scheme and VMCF are also contestable.

51. Contestable funding mechanisms are an important part of an RSI system. Competition allows funders to select the highest quality research with the greatest potential for impact. The funds are largely agnostic on research area which provides agility and can support a broad range of capability and potential knowledge breakthroughs.

Endeavour

52. The Endeavour Fund supports excellent, higher risk research with the potential for transformative impact. Around $196 million will be invested in 2017/18, including $58 million per year for new investments in the 2018 round.

53. The Endeavour Fund has two investment mechanisms:

- *Smart Ideas* invests for 2-3 years in promising, innovative research ideas
- *Research Programmes* supports ambitious, excellent and well-defined research ideas for 3-5 years.

54. The existing Endeavour investment plan signals an investment split of 70% economy, 25% environment, and 5% society. Existing investments are roughly aligned with this split. Our current approach to categorisation means we could not easily assess each individual priority area. Of the available funding, 2017/18 investments include approximately:

- $140 million in potentially disruptive innovations and/or economic transformation (note that this figure includes primary industries)
- $40 million in biosecurity
- $20 million in human well-being
- $15 million in climate change
- $15 million in environmental research.

Marsden

55. The Marsden Fund supports invests in excellent, investigator-led research aimed at generating new knowledge, with long-term benefit to New Zealand. The Fund is administered by the Royal Society. Around $64 million is invested in 2017/18.

56. The Royal Society issued the Fund's first investment plan in 2017. Potential impacts are now considered although it is expected that, with blue-skies research, some areas of investigation will be more successful than others. Also, a new category for multi-disciplinary research was introduced. Investments current in 2017/18 include approximately:

- $2 million in climate change

- $0.6 million in freshwater research
- $0.3 million in highly innovative, potentially disruptive research
- Smaller investments in health inequities, biosecurity, housing and mental health.

Partnerships

57. Partnerships is around $22 million per year to co-fund sector-led investment and collaborative effort in longer term, innovative research activity. It is designed to increase industry R&D investment at an earlier, more uncertain point in the research pipeline than industry would normally invest. Around $3.7 million per year is available on an ongoing basis.

58. The Partnerships scheme was reviewed in 2016 and an investment plan released earlier in 2017. The scheme became contestable rather than on-demand, was directed to earlier in the research pipeline to distinguish it from the PGP and Callaghan grants, and the investment plan signalled that preference would be given to applications from non-primary sectors.

59. The 2017 Partnerships round did not have as strong an effect on the investment split as desired. The scheme is still dominated by the primary sector. Other Partnerships are mostly in environment, health technologies, and manufacturing.

Vision Mātauranga Capability Fund

60. VMCF aims to strengthen capability, capacity, skills and networks between Māori and the science and innovation system. Around $2 million is available each year to fund new projects through a contestable investment process. As projects can be up to two years in length, the total value of successful proposals in a round is up to $4 million. A further $2 million per year is invested through the HRC.

61. Partnership is an important aspect of VMCF projects. There is a co-funding requirement of 25% of the total project costs.

Health Research Council (HRC)

62. The HRC is responsible for managing the vast majority of government investment in health research. It supports research with the potential to improve health outcomes and delivery of healthcare, and to produce economic gains for New Zealand. Most of the funding is allocated through a contestable, investigator-led mechanism, but some is also available through a call for proposals for research in a particular area.

63. The first Health Research Strategy, jointly developed by MBIE and the Ministry of Health was released earlier in 2017. The strategy strongly supports the Government's priorities. The HRC will be running a prioritisation process next year. The results of the prioritisation exercise will be reflected in a three-year investment plan which you and the Minister of Health will approve.

64. In 2017/18, around 36% of the HRC's $93 million is invested in research on health inequities, mental health and child poverty.

Long term, mission-led, and strategic funds

65. The main long term, mission-led, strategic funding mechanisms are the Strategic Science Investment Fund and the National Science Challenges. We have also included the Catalyst Fund in this category.

66. These kinds of funds provide stability and direction for research that is critical to New Zealand in strategically important areas. This is in contrast to the more topic-neutral drive for

the highest-quality, highest-impact research provided by contestable mechanisms. Both types of mechanisms are essential in a high-functioning RSI system.

Strategic Science Investment Fund (SSIF)

67. SSIF supports underpinning research in areas of enduring importance. SSIF investments are in research platforms, which comprise "a combination of people, facilities, information and knowledge that provide a particular, ongoing science and innovation capability for New Zealand". SSIF has a programmes component (mostly research), and an infrastructure component (mostly equipment or facilities). SSIF programmes is around $200 million per year and SSIF infrastructure is around $62 million per year. We have not assessed SSIF infrastructure investments as they are not targeted to any particular area of science.

68. SSIF is provider-neutral but current investments are mostly those that were rolled over from CRI core funding, IRO capability funding, and various research infrastructure investments. SSIF currently supports mostly environmental and primary sector research. In 2017/18, investments in priority areas include:

- Climate change (understanding drivers and effects) – NIWA's *Climate and Weather Hazards* platform $14.3 million, and smaller investments through other platforms hosted by Manaaki Whenua, GNS, AgResearch, and Scion
- Climate change (economic transformation / transition to a low carbon economy) – $13 million
- Freshwater – $20 million
- Biosecurity (myrtle rust, kauri dieback, alternatives to 1080) – $20 million
- Health inequities - $0.7 million
- Innovative/disruptive research areas - $7 million

69. Investment in new SSIF programmes platforms could be used to target support for specific priorities. For example, new SSIF funding in 2016 and 2017 budgets is supporting genomics research and Antarctic science.

National Science Challenges (NSCs)

70. The eleven NSCs target science-based goals which, if achieved, would have major and enduring benefits for New Zealand. They support highly collaborative, cross-disciplinary, mission-led research. Most of the NCSs are well aligned with the priority areas including Challenges focusing on climate change, technological innovation, housing, health, and environmental issues.

71. NSCs are a Multi-Year Appropriation (MYA). Around $73 million in 2017/18 includes:

- $6.325 million in *The Deep South* challenge, which aims to understand the role of Antarctica and the southern ocean in New Zealand's climate to inform mitigation and adaptation measures
- Climate change (economic transformation / transition to a low carbon economy) – $2 million through *Science for Technological Innovation*
- Freshwater – $9 million (*Our Land and Water, Science for Technological Innovation)*
- Biosecurity (myrtle rust, kauri dieback, alternatives to 1080) – $3 million (*New Zealand's Biological Heritage)*

- Housing – $6 million (*Building Better Homes, Towns and Cities)*
- Health inequities – $10 million (*Healthier Lives, Ageing Well, A Better Start)*
- Mental health – $2 million (*Ageing Well, A Better Start)*
- Innovative/disruptive research areas - $7 million (*Science for Technological Innovation).*

Catalyst Fund

72. The Catalyst Fund is designed to support activities to increase the international connectedness of the RSI system. As such, it has a system benefit additional to the benefits obtained from the research funded. The fund is directed towards research that will maximise benefit for New Zealand, and the fund can be well-aligned to the Government's priorities. Recent investments have focused on building relationships with Australia and China.

73. Forward planning of investment for 2018/19 has a focus on economic diversification with significant investments planned in cyber-security ($2m planned in 2018/19) and space science ($2m planned in 2018/19). In 2017/18, investments in priority areas include:

- Climate change - $0.5 million
- Freshwater research - $0.9 million
- Myrtle rust - $1 million (project with Australia)
- Health priorities - $1.7 million
- Innovative/disruptive research – $1.6 million.

Callaghan Innovation

74. You can send signals through the Ministerial Direction to Callaghan to prioritise spending in different areas.

Incentives and support for Business Innovation

75. R&D grants, introduced in 2013, incentivise private businesses to invest in R&D. Callaghan Innovation administers the following grants:

- R&D Growth Grants ($164.7 million) support investment in firms with a track record in R&D by co-funding their R&D investments. These are non-discretionary payments for business R&D, and the largest initiative to incentivise business investment. They provide a good starting place for the new R&D tax credit as they share similar features.
- Targeted business R&D funding ($56.3 million) support businesses that are relatively inexperienced at performing R&D, and funds internships in R&D active firms. This funds provision of research and technical expertise and facilities to business and industry.

76. Callaghan also directly supports businesses to develop new and improved products, processes and services through R&D, and technology-driven innovation. Funds include Building Business Innovation ($32.4m), Business Research and Development Contract Management ($7.8m), and R&D Services and Facilities for Business and Industry ($19.5m).

Incubators and Accelerators

77. The Repayable Grants for Start Ups ($19.5 million) supports incubators and accelerators. Funding incubators and accelerators aligns to Government's goal of economic diversification by supporting New Zealand's growing technology sector.

78. Technology incubators primarily invest in commercialising intellectual property (IP) generated by public research. They can access grants to validate IP, and repayable grants to invest in start-ups. Founder incubators work with entrepreneurs to develop start-up ideas, connect to investors and guide the business through its early stages and into global markets ($3.56m for both Tech and Founder incubators in 2017/18).

79. Accelerators are short programmes used to train and accelerate entrepreneurs during the initial set-up stage of a new start-up, usually culminating in a pitch to investors where the start-up seeks funding ($0.75 million in 2017/18).

80. These initiatives were established as pilots in 2012. A 2015 review of accelerators in 2015 led to the programme being made permanent. Funding for incubators ends in June 2019.

Other Funds

The Pre Seed Accelerator Fund

81. Established in 2003, PreSeed co-funds CRI and university early stage commercialisation activities from publicly funded research. PreSeed helps researchers develop opportunities to the stage that they can attract private investment for further growth. The 50% co-funding encourages researchers to seek external investor funding.

82. It is a devolved fund that research organisations can use to attract investment for research commercialisation. MBIE will invest up to $8.3 million per annum for three years to advance commercialisation projects to a point of investor-readiness. PreSeed funded projects require 50% co-funding from other sources and operates with a 'use it or lose it' principle, which allows MBIE to reallocated unused funds on an annual basis as appropriate.

Commercialisation Partner Network (CPN)

83. Established in 2010, the CPN aims to share commercialisation expertise among public research organisations. There are currently three commercial partners: Return on Science, KiwiNet and ChristchurchNZ Innovation. A 2015 review of the initiative found it resulted in an increase in collaboration on commercialisation activities, and improved researcher attitudes to commercialisation. Contracts with the three partners are due to expire in June 2018 and a new investment round is underway that can continue this mechanism.

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Draft Manifesto Bids and Baseline Review Letters

Date:	26 January 2018	**Priority:**	Urgent
Security classification:	**Budget Sensitive**	**Tracking number:**	1773 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Discuss** the annexed manifesto bids and baseline review letters with officials	29 January 2018

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	
Richard Walley	Manager, Innovation Policy	04 901 4164		✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408		

The following departments/agencies have been consulted					
☐ Treasury	☐ MoJ	☐ NZTE	☐ MSD	☐ TEC	☐ MoE
☐ MFAT	☐ MPI	☐ MfE	☐ DIA	☐ TPK	☐ MoH
		☐ Other:	N/A		

Minister's office to complete:

☐ Approved ☐ Declined
☐ Noted ☐ Needs change
☐ Seen ☐ Overtaken by Events
☐ See Minister's Notes ☐ Withdrawn

Comments:

BRIEFING

Budget 2018 – Draft Manifesto Bids and Baseline Review Letters

Date:	26 January 2018	**Priority:**	Urgent
Security classification:	**Budget Sensitive**	**Tracking number:**	1773 17-18

Purpose

To provide you with draft letters detailing your 2018 Manifesto bids for the Minister of Finance, and a draft letter with the outcome of the baseline review of the Research, Science and Innovation (RSI) portfolio for the Associate Minister of Finance (Hon Dr David Clark). As part of the Budget 2018 process these letters need to be sent to the respective Ministers by 1 February 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Discuss** the annexed Manifesto Bid letter to the Minister of Finance and Baseline Review letter to the Associate Minister of Finance

Agree / Disagree

If you agree with the content of the letters:

b **Agree** to sign the attached letters, and have your office send the letters by 1 February 2018.

Agree / Disagree

s9(2)(a) [redacted]

Richard Walley
Manager, Innovation Policy
Labour, Science and Enterprise, MBIE

26 / 1 / 18

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

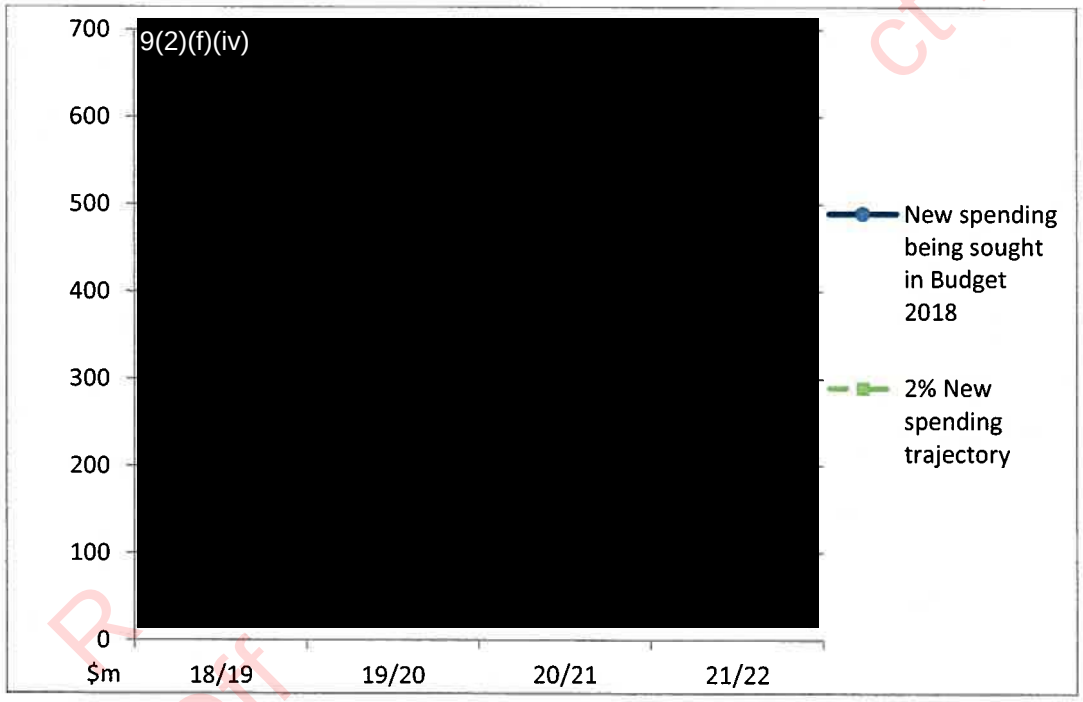
1. As part of the Budget 2018 fiscal strategy Cabinet instructed portfolio Ministers to:

   - Develop and submit initiatives aligned with the Government's 'manifesto' priorities.
     - The scope of manifesto includes initiatives which support the policy priorities in the Labour Fiscal Plan, and the Government's Coalition and Confidence and Supply agreements.
   - Review their baselines to determine alignment with Government priorities, and identify underspends and poorly performing investments.

2. The next step in the Budget process is to write to the Minister of Finance Hon Grant Robertson by Thursday, 1 February 2018, informing him of the Manifesto initiatives you are proposing for Budget 2018. A draft letter is attached at Annex One. We have based the letter on the contents of briefing 1038 17-18 and our discussions with you at officials meetings.

3. A response to the Associate Minister of Finance is due Thursday, 1 February 2018 with the findings of the baseline review. A draft letter is attached at Annex Two. We have based the letter on the contents of briefing 1293 17-18.

4. Both letters attached emphasise that in order for the Government to achieve its target of increasing R&D spending to 2 per cent of GDP, early and sustained investment in the Research, Science and Innovation (RSI) portfolio is required. Any reduction in the spending within the vote would put New Zealand on a negative trajectory against this goal.



Manifesto Bids

5. We have prepared several Manifesto initiatives for you to propose to the Minister of Finance for Budget 2018. These are:

Research & Development (R&D) Tax Credit

- Labour's Manifesto committed to introducing an R&D tax credit to raise New Zealand's low business R&D to support the target of raising R&D expenditure to 2 per cent of GDP by 2027.
- Funding for this initiative was included as part of Labour's Fiscal Plan.

s9(2)(f)(iv)

[redacted]

Enabling Science Cooperation with Singapore

- In December 2017, Cabinet confirmed the negotiating mandate for a New Zealand Singapore Enhanced Partnership, and the need to adequately fund the food and data science initiatives [CAB-17-MIN-0539].

Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)

- This initiative will create strategic data infrastructure for ensuring increased value from RSI investment. This will support the goals of increasing R&D spending to 2 per cent of GDP.

Dunedin Centre of Digital Excellence (CODE)

- Labour's manifesto committed to establishing a Centre of Digital Excellent in Dunedin to build on existing gaming and digital businesses.
- The CODE will also support the Government's focus on regional development.

6. The following table outlines the funding sought for all six bids: Note: Superseded by later numbers.

Operating funding ($m)	2018/19	2019/20	2020/21	2021/22	4 yr TOTAL
R&D Tax Credit	100	200	250	300	850
s9(2)(f)(iv)	[redacted]				
Science Cooperation with Singapore	12	15	15	15	57
Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)	9(2)(f)(iv)	[redacted]			
Dunedin Centre of Digital Excellence	1	1	1	1	4
Total Funding Sought	s9(2)(f)(iv)	[redacted]			

1773 17-18

Capital funding ($m)	2018/19	2019/20	2020/21	2021/22	4 yr TOTAL
National Research Information System	1	1	1	0	3

Baseline review

Our main recommendation is to retain all existing RSI expenditure in the portfolio

7. The Government has committed to increasing total R&D funding to 2 per cent of GDP in ten years. *All* existing RSI funding is aligned with this commitment and any reduction in RSI funding would be a step backwards.

We recommend sending investment signals in investment plans for each fund

8. Existing R&D funding mechanisms (Endeavour, Marsden, Strategic Science Investment Fund) are largely neutral on the topic of research they fund. The RSI system already funds a broad range of research types and topics, many of which are well-aligned to the priority areas. We do not recommend an overhaul of the system. Rather, we recommend using investment plans to ensure funding is aligned with Government priorities. Investment plans sit underneath the overarching strategy for the RSI system, which we are currently working on.

Next steps

9. We would like to discuss the letters with you at officials' meeting on 29 January.
10. We will then provide a final draft of both letters on 1 February 2018 for you to sign and send to Minister Robertson and Minister Parker.

Annexes

Annex One: Draft Manifesto initiatives letter to the Minister of Finance

Annex Two: Draft Baseline review letter to the Associate Minister of Finance

Annex One: Draft Manifesto initiatives letter to the Minister of Finance

Hon Grant Robertson
Parliament Buildings
WELLINGTON

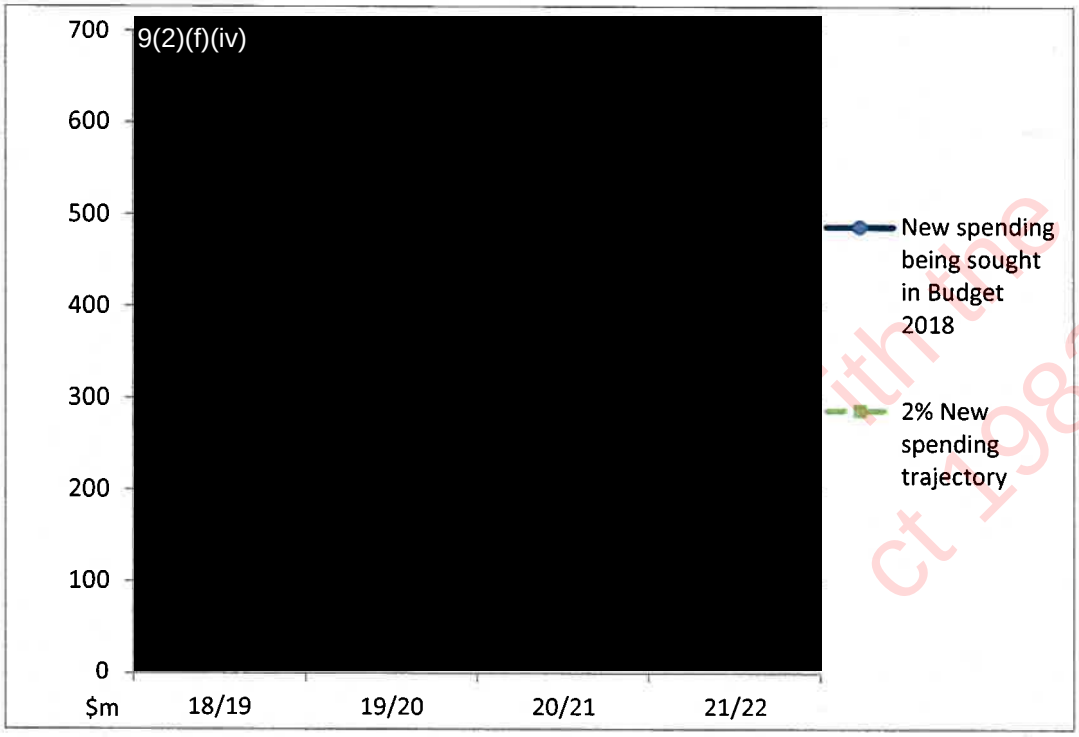
Dear Minister

I am submitting the manifesto initiatives outlined in the Annex for Vote Research, Science & Innovation for consideration as part of the Budget 2018 process.

The Research, Science and Innovation (RSI) budget package supports key Government priorities. Increasing R&D spend to 2 per cent of GDP over ten years is the Government's primary goal for the RSI system, reflected in the coalition agreement between Labour and NZ First. The RSI budget

package also supports Government's wider priorities including greater economic diversification, transitioning to a low-carbon economy and protection of the environment.

Even with the new funding for confidence and supply and manifesto commitments I am seeking in Budget 2018, the trajectory to achieve the 2 per cent target beyond 2018 drops away. It is therefore critical that we invest in the RSI sector now if we are to maintain trajectory toward our R&D spending target, as many of the benefits from implementing these initiatives will take time to be realised.



s9(2)(f)(iv)

The initiative which will contribute to the 2 per cent target the most is the *Research & Development Tax Credit*. This initiative is my top priority for Budget 2018, as it has the potential to stimulate investments in R&D from the private sector and address New Zealand's low levels of Business R&D. Lifting business expenditure on R&D is critical for diversifying New Zealand's economy and creating high-quality jobs in high-tech sectors.

s9(2)(f)(iv)

The *Enabling Science Cooperation with Singapore* initiative will support our target to lift R&D spending. I also note that Cabinet has committed to supporting this cooperation agreement (CAB-17-MIN-0539 refers).

I am also proposing investment in the two further initiatives: *Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)* and the *Dunedin Centre of Digital Excellence*. The NRIS initiative will be critical for creating efficiencies in funding system and gaining better line-of-sight on how we are tracking towards our targets. The Dunedin Centre of Digital Excellence is an item in the Labour Party Manifesto, and supports the Government's regional development focus.

I am happy to discuss with you further the opportunities within the RSI portfolio to advance the Government's priorities.

Yours sincerely

Hon Dr Megan Woods
Minister of Research, Science and Innovation

Budget 2018 Manifesto Initiatives for Vote Research, Science & Innovation

Research and Development Tax Credit

This funding responds to an R&D tax credit (tax credit) being introduced and available for businesses within the 2018/19 financial year. The tax credit aims to provide a stable and predictable mechanism to increase business expenditure on R&D (BERD).

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	TOTAL
Operating	-	100	200	250	300	850
Capital	-	-	-	-	-	-

Note: Superseded by later numbers

The funding for implementation will cover the costs associated with the implementation of the tax credit.

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	TOTAL
Operating	-	1.2	1.5	0.8	0.8	4.3
Capital	-	-	-	-	-	-

s9(2)(f)(iv)

[redacted]

Enabling science cooperation with Singapore

New funding will support delivery of a new bilateral 'Enhanced Partnership' currently being negotiated with Singapore, leveraging Singapore's strengths in data and bio-processing science as a means to grow New Zealand's own capabilities in these fields and diversify our economy. The

funding will establish a new data science platform in New Zealand and enable joint New Zealand-Singapore research in data science. Funding will also create a "future foods" collaborative research programme to develop food products from novel sources that will meet future demand for healthy, nutritious, affordable and environmentally sustainable diets.

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	TOTAL
Operating	-	12	15	15	15	57
Capital	-	-	-	-	-	-

Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)

This funding delivers underpinning data infrastructure – the National Research Information System – to ensure growing public investment in research, science and innovation (RS&I) generates maximum benefits to New Zealand. Major data gaps exist for RS&I funding and expenditure, activities, outputs, people, skills and outcomes. These gaps impose ongoing costs. With NRIS, information will be more accurate, reliable, accessible and timely. This will help close these gaps and improve the effectiveness, transparency and value of RS&I investment.

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	TOTAL
Operating	9(2)(f)(iv)					
Capital						

The Dunedin Centre of Digital Excellence (CODE)

The proposal is to fund a Centre of Digital Excellence (CODE) in Dunedin. Funding will be $1m per year over ten years. The CODE will build on existing gaming and digital businesses and academic centres in Dunedin. It will have three main elements, to:

- Set up a new Chair of Computer Gaming at Otago University
- Accelerate existing digital start-ups with an incubator space that includes a motion-capture studio, access to publishing software, and mentorship programmes
- Establish a funding pool administered by private industry that is aimed at attracting young talent to the industry with post-school digital pathways and scholarships.

Funding Sought ($m)	2017/18	2018/19	2019/20	2020/21	2021/22	TOTAL
Operating	-	1	1	1	1	4
Capital	-	-	-	-	-	-

Note: Superseded by later numbers

Annex Two: Draft Baseline Review Letter to the Associate Minister of Finance

Hon Dr David Clark
Associate Minister of Finance
Parliament Buildings
WELLINGTON

Dear Minister

I am writing to advise you of the outcome of the baseline review of the Research, Science and Innovation (RSI) portfolio. Cabinet instructed all agencies to review their baselines to determine alignment with Government priorities, and identify underspends and poorly performing investments. This letter summarises the review findings and the steps I will take to ensure the RSI portfolio is well-aligned with this Government's priority areas, particularly raising economy-wide expenditure on R&D to 2 per cent of GDP over ten years.

RSI baseline expenditure is currently $1.15 billion per annum

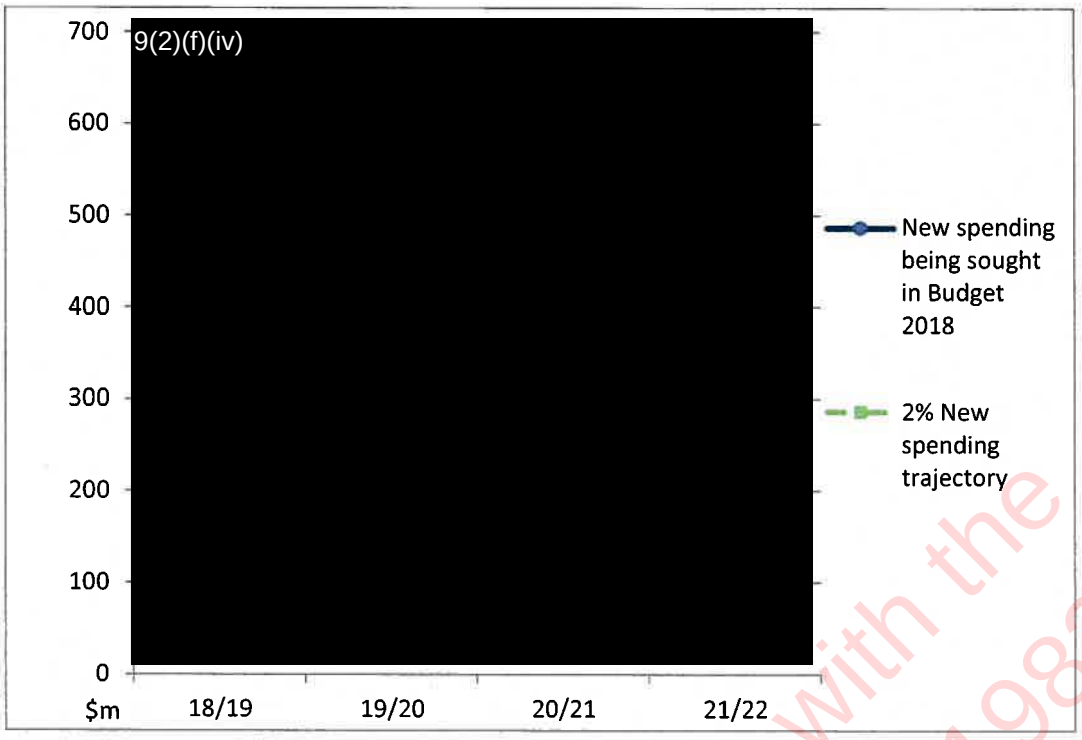
The RSI portfolio currently receives Crown funding of $1.15 billion a year. The Primary Industries, Foreign Affairs and Tertiary Education portfolios also contribute significantly to overall public investment in RSI, totalling $1.6 billion across Government.

The most recent R&D survey (2016) identified that New Zealand's total expenditure on R&D is 1.25 per cent of GDP. This is significantly below the OECD average of 2.4 per cent.

I recommend against reprioritising any existing RSI funding outside of the portfolio

Increasing R&D spend to 2 per cent of GDP over ten years is the Government's key goal for the RSI system, reflected in the coalition agreement between Labour and NZ First. All existing RSI funding is aligned with this commitment. Any reduction in RSI funding would be a step away from this goal, and reflect a real reduction in R&D spend as a percentage of GDP.

Even with new funding for confidence and supply and manifesto commitments I am seeking in Budget 2018, the trajectory to achieve the 2 per cent target beyond 2018 drops away.



Implementing an R&D tax credit is the major focus for my portfolio

Implementing an R&D tax credit is the major focus for my portfolio. This initiative is key to supporting Government's goal to increase expenditure on R&D to 2 per cent of GDP. While detailed policy decisions are yet to be made, funding for the R&D tax credit included in the fiscal plan provides for $850 million over four years. 9(2)(f)(iv) 9(2)(f)(iv) Even with this investment, achieving the 2 per cent will require early and ongoing increases in public RSI investment.

There are two broad areas where RSI can contribute significantly to Government priorities

Within existing baselines, I intend to increase investment in the following Government priorities:

- Sustaining economic development and supporting the regions – including research areas such as s9(2)(f)(iv) space, and other technologies that could disrupt existing industries.
- Managing our natural resources and taking action against environmental challenges such as climate change – including understanding climate change and its drivers and possible effects on New Zealand, s9(2)(f)(iv) s9(2)(f)(iv) and improved quality of New Zealand's freshwater.

I have identified opportunities for strengthening alignment of RSI expenditure with the Government priorities above

I will release a strategy for the RSI system in 2018

I am developing an overarching strategy for the system in which I will state:

- Government's aspirations and strategic objectives for system impacts and design, including system-level targets.
- Broad areas of research in which the Government will increase or decrease investment in order to make progress in Government priority areas.
- Specific actions that will achieve the vision in the strategy.

This strategy will help guide RSI investment towards areas of highest priority to the Government.

I will also send investment signals through science fund investment plans to direct investment in priority areas

Existing R&D funding mechanisms (Endeavour, Marsden, National Science Challenges, Strategic Science Investment Fund) are largely neutral on the topic of research they fund. The RSI system already funds a broad range of research types and topics, many of which are well-aligned to the priority areas. I do not intend to overhaul the system. Rather, I will issue an investment plan for each fund that is aligned with the overarching strategy and contain detailed investment signals to diversify the portfolio and lift investment in priority areas.

I have concurrently written to the Minister of Finance outlining my Budget priorities for the RSI portfolio. As outlined in the graph above, if successful, these initiatives will go some way towards making progress towards the Government's commitment to spend 2 per cent of GDP on R&D.

I am happy to discuss with you further the opportunities within the RSI portfolio to advance the Government's priorities.

Yours sincerely

Hon Dr Megan Woods
Minister of Research, Science and Innovation

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 - Advice for your meeting with the Associate Minister of Finance Hon David Clark

Date:	9 February 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1905 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Note** the suggested talking points in annex one. **Discuss** your approach to this meeting with officials.	12 February 2018

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	
Ewan Delany	Manager, Science Policy			✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 - Advice for your meeting with the Associate Minister of Finance Hon David Clark

Date:	9 February 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	1905 17-18

Purpose

To provide you with information and suggested talking points for your Budget meeting with the Associate Minister of Finance Hon David Clark and other Ministers at 6 – 6:30pm on 14 February 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Discuss** your strategy for this Budget meeting with your colleagues at your weekly officials meeting on 12 February 2018.

Agree / Disagree

b **Note** Minister Little, and representatives of Ministers Robertson and Davis will also be attending this 30 minute meeting with the Associate Minister of Finance Hon David Clark, to discuss an aggregate view of all portfolios.

Noted

c **Note** the suggested talking points, graph and table attached in Annexes for you to table at the meeting.

Noted

s9(2)(a) [redacted]

Ewan Delany
Manager, Science Policy
Labour, Science and Enterprise, MBIE
9 / 2 / 18

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

Finance Ministers have asked for a discussion on Budget priorities

1. As part of the Budget 2018 fiscal strategy Cabinet instructed portfolio Ministers to:
   a. develop and submit initiatives aligned with the Government's 'manifesto' priorities[1]
   b. review their baselines to determine alignment with Government priorities, and identify underspends and poorly performing investments.
2. Following our previous briefing to you [1773 17-18 refers] your office sent a letter to the Minister of Finance Hon Grant Robertson on 29 January, informing him of your Manifesto initiatives for Budget 2018.
3. Your office also sent a response to the Associate Minister of Finance Hon David Clark (Minister Clark) with the findings of the baseline review.
4. Both letters emphasised that in order for the Government to achieve its target of increasing R&D spending to 2 per cent of GDP, early and sustained investment in the Research, Science and Innovation (RSI) portfolio is required. Any reduction in the spending within the Vote would put New Zealand on a negative trajectory against this goal.

Minister Clark has organised a 30-minute meeting with you at 6pm on 14 February to discuss budget priorities and the baseline review

5. Minister Little, and representatives of Ministers Robertson and Davis will also be attending.
6. Minister Clark and Treasury have indicated that this meeting should serve the following purposes, to discuss:
   a. An aggregate view of the budget initiatives that have been submitted.
   b. How to manage initiatives within the fiscal parameters for Budget 2018.
   c. How the initiatives may align with the Government's proposed wellbeing framework.

Focus for the meeting

The RSI Budget initiatives

7. The RSI Budget package is key to several manifesto priorities. The table below summarises the funding you are seeking across these initiatives:

[1] The scope of manifesto includes initiatives which support the policy priorities in the Labour Fiscal Plan, and the Government's Coalition and Confidence and Supply agreements.

Note: Superseded by later numbers.

Commitment	Initiative	2018/19	2019/20	2020/21	2021/22	4 year TOTAL
Labour Fiscal Plan	**R&D Tax Credit (includes implementation costs for Vote Revenue)**	101.2	201.5	250.8	300.8	854.3
s9(2)(f)(iv)						
Cabinet agreement, December 2017 [CAB-17-MIN-0539 refers]	**Science Cooperation with Singapore**	12	15	15	15	57
Supports our commitment to increase R&D spending	**Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)**	9(2)(f)(iv)				
Labour Manifesto	**Dunedin Centre of Digital Excellence**	1	1	1	1	4
	Total Funding Sought	s9(2)(f)(iv)				
	Gap to the two per cent target					

The overarching commitment for the RSI portfolio is to increase R&D expenditure to two per cent of GDP by 2027

8. It is important to begin work on increasing R&D spending now, as it takes time for projects to get commissioned, implemented and for the benefits to be realised.

9. Lifting R&D expenditure to two per cent of GDP would bring New Zealand into line with other OECD economies (averaging 2.4 per cent of GDP). In particular, at 0.64 per cent New Zealand has particularly low levels of business expenditure on R&D (BERD). Increases in total R&D expenditure are likely to be made up primarily of increased BERD.

Even with all new funding for the initiatives you have submitted in Budget 2018, we will fall below the trajectory necessary to achieve the two per cent target

Note: Superseded by later numbers.

10. The Government committed to introducing an R&D tax credit to raise New Zealand's low BERD. Funding for the tax credit forms a significant majority of the funding requested across your various initiatives ($850 million out of 9(2)(f)(iv) over four years). You have indicated that implementing the tax credit is your immediate priority in the RSI portfolio.

11. Other key initiatives aim to lift R&D expenditure while also addressing other manifesto commitments and Government priorities as indicated in the table above.

Reprioritising RSI funding out of the portfolio would mean a real reduction in public R&D spending as a percentage of GDP

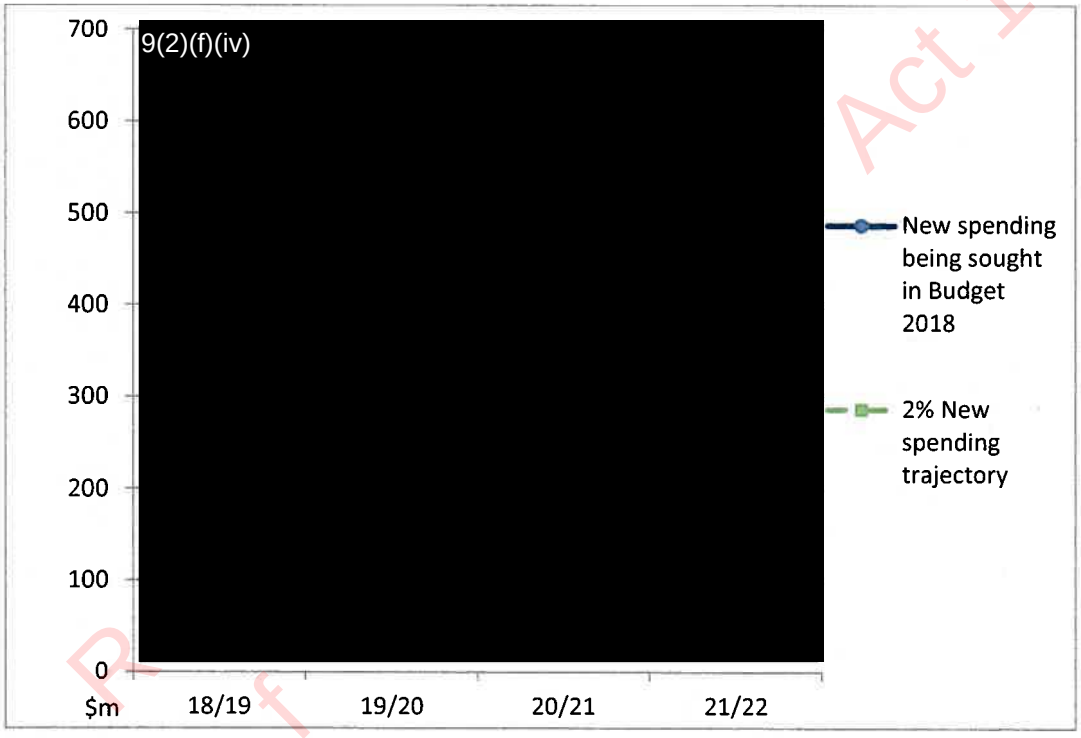
12. 9(2)(f)(iv) Our recommendation to you was that the Government keep existing funding within the RSI portfolio and at least maintain current levels of R&D spending in other portfolios so as not to undermine the Government's ability to meet its commitment to reaching two per cent of GDP over ten years.

Reprioritising and using underspends within the portfolio also has downsides

13. The overarching downside that applies to all reprioritisation within the Vote is that funding new initiatives with existing money means there will be no real increase in public R&D spending. This also increases pressure on future budgets to increase investment in R&D. For example, even assuming all existing public expenditure continues and that all new initiatives submitted this year receive new funding, public spending on R&D would fall approximately 9(2)(f)(iv)

14. We have provided the following chart for you in annex two, to table at the meeting if you wish.

Chart 1. Gap between funding sought in Budget 2018 and spending trajectory for the two per cent target



15. 9(2)(f)(iv)

16.

Current funding supports a broad range of research types and topics, many of which are well-aligned to Government priorities.

17. You noted this in your letter to Minister Clark and indicated that although existing funding within the RSI portfolio was aligned with the Government's target to lift R&D spending, that you intended to wherever possible align existing spending with other Government priorities too.

18. Some existing R&D funding mechanisms (Endeavour Fund, Marsden Fund) are largely agnostic on the topic of research they fund. However you can use investment plans to ensure broad alignment with your overarching RSI strategy.

The Government's proposed wellbeing framework

19. The Prime Minister and Minister of Finance Grant Robertson have indicated the Government intends to develop a framework for measuring wellbeing impacts as a way to assess initiatives for Budget 2019.

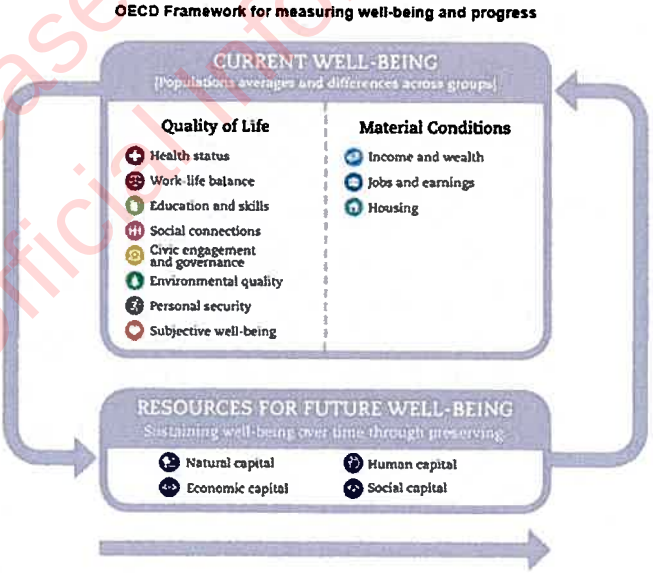
20. Budget 2018 initiatives are not required to demonstrate impact within this wellbeing framework. However, the Prime Minister's office has indicated that portfolio ministers should consider the impacts of their Budget 2018 initiatives on broader wellbeing.

21. The wellbeing framework has not been designed yet, but the Government has indicated that it intends to measure the impact of Government policy against a broader set of indicators, in Budget 2019. For example, the Prime Minister was quoted indicating the measures would consider, "natural, social, human, and possibly cultural capital too."[2]

Wellbeing frameworks already exist but have not been widely implemented.

22. Treasury and the Social Investment Agency have been developing wellbeing frameworks over the past few years to broaden our understanding of the impacts of government policy. Further information about Treasury's Living Standards Framework is attached in Annex three.

23. These wellbeing frameworks are largely based on the work of the OECD Wellbeing Framework, which uses a set of 11 indicators to measure wellbeing. A visual representation of the OECD Wellbeing Framework is below:



[2] https://www.stuff.co.nz/national/politics/101066981/nz-government-to-lead-world-in-measuring-success-with-wellbeing-measures

We know that R&D spending has a significant positive impact on wellbeing, but measuring specific impacts can be hard.

24. There are some difficulties with measuring the impact of RSI spending on wellbeing. In particular, although R&D and innovation creates some direct impact, the impact of RSI activities in general is highly diffuse and occurs over a long timeframe.

25. The most easily measured impacts of increased R&D spending are improved productivity growth and economic competitiveness. These in turn lift material conditions such as improved incomes and high-quality jobs.

26. However, direct support for R&D and innovation in particular areas (e.g., environmental research) will more directly impact specific quality-of-life indicators (e.g., environmental quality, health status) by solving problems facing individuals, firms, and wider sectors.

27. We have included some suggested talking points regarding the potential impact of your initiatives for Budget 2018 on broader wellbeing (Annex One).

Next steps

28. The next steps for you are to:

    a. discuss this briefing with officials at your weekly officials meeting on Monday 12 February

    b. indicate whether you would like more information to support any of the bids or the baseline review letter you have submitted. Officials will be available to support you at your meeting with the Associate Minister of Finance.

Annexes

Annex One: Suggested talking points

Annex Two: Reprioritising RSI funding elsewhere would mean a real reduction in R&D spending as a percentage of GDP

Annex Three: Treasury's Living Standards Framework

Annex One: Suggested talking points

Research, Science and Innovation initiatives for Budget 2018:

- The Government has committed to raising R&D expenditure across the economy to 2% of GDP by 2027 to lift productivity and innovation rates, improve our economic competitiveness, increase high-quality employment and improve environmental wellbeing.
- The R&D tax credit is my main priority for Budget 2018. It will be critical to lifting New Zealand's business expenditure on R&D and allowing us to meet our coalition target to increase R&D spending to 2% of GDP.
- The exact costings of the R&D tax credit are still unclear as Cabinet is yet to decide the key features of the credit. Funding for the R&D tax credit included in the fiscal plan provides for $850 million over four years
- s9(2)(f)(iv) [redacted]

Baselines review:

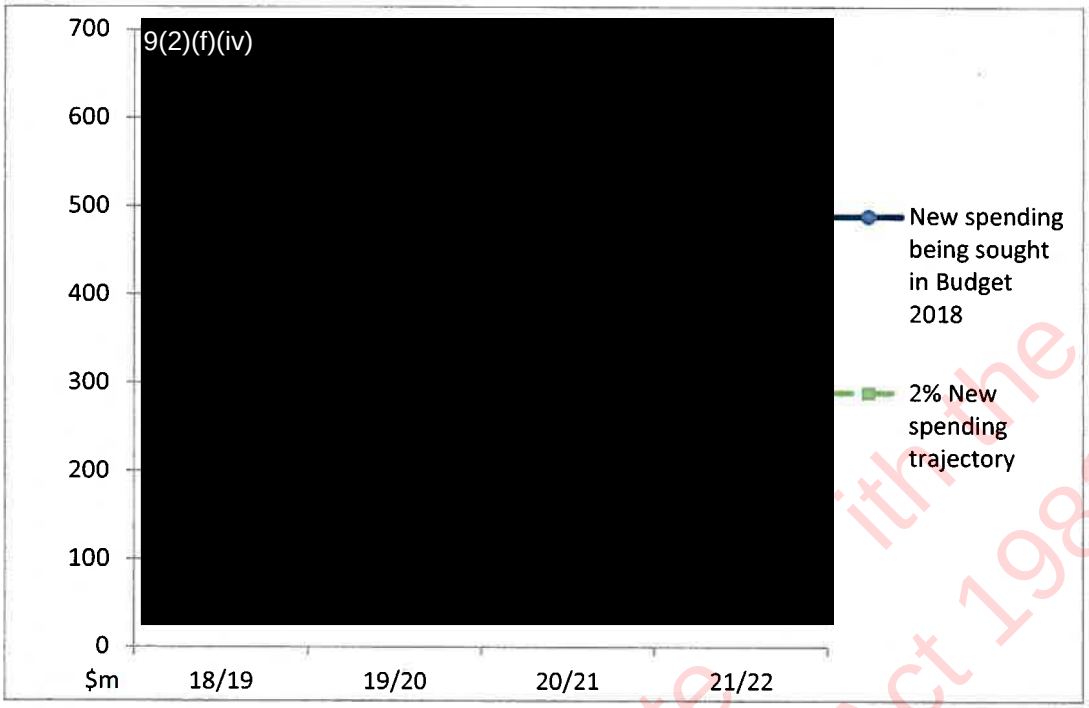
- Even with projected growth in business expenditure on R&D, public expenditure on R&D must increase by an average of $150 million a year in order to increase total R&D spending to 2% of GDP by 2027.
- I have proposed keeping all existing spending within the RSI portfolio to ensure we stay on track to meet our target.
- Reprioritising funding away from Government support for R&D in Budget 2018 will set us back in real terms. This will increase the pressure on future budgets.
- I will ensure that wherever possible, science spending addresses the Government's priorities around transitioning to a low-carbon economy, addressing climate change, and supporting regional development.

Government's wellbeing framework:

- R&D spending has highly diffused impacts and contributes to improved wellbeing in a number of areas.
- We know that spending on R&D lifts productivity and innovation rates, and improves economic competitiveness. This transforms the economy, and increases incomes and high-quality, high-value employment.
- Spending on R&D in specific areas such as environmental research can also help address critical issues affecting New Zealanders' wellbeing, such as climate change and fresh-water quality.

Annex Two: Retaining and expanding R&D spending is critical to meeting the Government's 2% target

Gap between funding sought in Budget 2018 and spending trajectory for the two per cent target



- The Government has committed to raising R&D expenditure across the economy to 2% of GDP by 2027 to lift productivity and innovation rates, drive diversification, increase high-quality employment and support a just transition to a low-carbon economy.
- Public expenditure on R&D is going to have to increase by an average of $150 million a year in order to increase R&D spending to 2% of GDP by 2027.
- Funding new RSI initiatives from baselines would lead to no real increase in R&D spending. This will increase pressure on future budgets to lift R&D investment.

Note: Superseded by later numbers

		Funding ($m)				
Supporting Commitment	**Initiative**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**4 year TOTAL**
Labour Fiscal Plan	**R&D Tax Credit (includes implementation costs for Vote Revenue)**	101.2	201.5	250.8	300.8	854.3
s9(2)(f)(iv)						
Cabinet agreement [CAB-17-MIN-0539]	**Science Cooperation with Singapore**	12	15	15	15	57
Commitment to increase R&D spending	**Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)**	9(2)(f)(iv)				
Labour Manifesto	**Dunedin Centre of Digital Excellence**	1	1	1	1	4
	Total Funding Sought	s9(2)(f)(iv)				
	Gap to the 2% target					

Annex Three: Treasury's Living Standards Framework

1. The Treasury already uses a broader economic impact framework called the *Living Standards Framework* (the LSF) to shape macroeconomic policy advice. The LSF conceptualises the wellbeing of New Zealanders as based on interdependent 'pools' of capital:

   a. Natural Capital – the environmental aspects including land, water, biodiversity, emissions, energy resources, and ecosystem services.

   b. Social Capital – the networks, attitudes and norms that promote collaboration and coordination between people, and the connections that provide emotional, informational, and instrumental support across society.

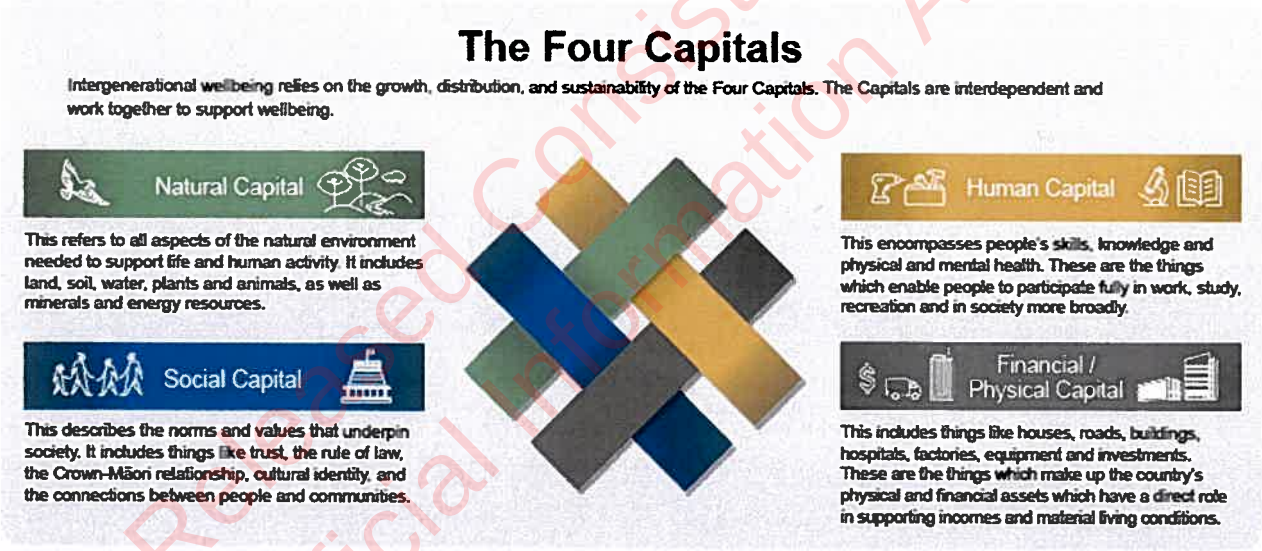
   c. Human Capital – the stock of individual's skills, knowledge, mental and physical health that enable participation in work, study, recreation, and society more broadly.

   d. Financial / Physical Capital – the stock of assets such as physical buildings, infrastructure, machines and equipment, and household financial assets.

2. When considered in their totality the LSF aims to help the Government understand the resilience the broader macroeconomic system and the wider impacts of policy decisions.

3. The LSF does not currently have a solid measurement base or a comprehensive range of indicators behind it.

4. See a visual representation of the LSF below:



MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Reprioritisation and advice for your second meeting with the Associate Minister of Finance Hon David Clark

Date:	23 February 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2090 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Agree** to a reprioritisation strategy	27 February 2018

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	
Richard Walley	Manager, Innovation Policy	04 901 4164		✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 - Reprioritisation and advice for your second meeting with the Associate Minister of Finance Hon David Clark

Date:	23 February 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2090 17-18

Purpose

To provide you with advice regarding reprioritisation within the Research, Science and Innovation (RSI) portfolio and information for your Budget meeting with the Associate Minister of Finance Hon David Clark and other Economic Development Budget workstream Ministers at 3:30pm on 27 February 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommend you:

a **Discuss** your strategy for this Budget meeting at your weekly officials meeting on 26 February 2018

Agree / Disagree

b **Note** that other portfolio Ministers in the economic development workstream will be attending 60 minute meeting with the Associate Minister of Finance Hon David Clark

Noted

c **Note** that annex one contains suggested talking points for your meeting

Noted

d **Discuss** how you would like to begin reprioritising savings and some baseline funding in the RSI portfolio into your top priority initiatives for Budget 2018

Agree / Disagree

e **Agree** to make the following funding available for reprioritisation within the RSI portfolio:

Funding / Appropriation	**Amount**
9(2)(f)(iv)	[redacted]

f **Agree** this reprioritised funding will be used to offset the cost of your Budget 2018 bids for new funding

Agree / Disagree

g **Note** that we will provide you with a separate briefing providing options for the future of Partnerships funding [briefing 1128 17-18].

Noted

s9(2)(a [redacted]

Richard Walley
Manager, Innovation Policy
Labour, Science and Enterprise, MBIE

23 / 02 / 18

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

Finance Ministers have asked for further discussion on Budget priorities

1. You previously met with the Associate Minister of Finance Hon David Clark on 14 February to discuss the Government's priorities and operating allowances for Budget 2018.

2. Both of the letters you submitted for Budget 2018 emphasised that in order for the Government to achieve its target of increasing R&D spending to 2 per cent of GDP, early and sustained investment in the Research, Science and Innovation (RSI) portfolio is required.

3. These letters advised against any reduction in spending within the Vote and did not offer options for reprioritisation. They also indicated you were seeking new funding for all of your initiatives.

4. You indicated that your meeting with the Associate Minister of Finance focused on the need to look for further opportunities for reprioritisation and potentially using underspends to offset the costs of some of the Budget 2018 bids.

5. We have previously provided you with high-level advice about potential options using underspends in the RSI portfolio [briefing 1293 17-18 refers]. Further advice on reprioritisation is provided below.

Minister Clark has organised a 60-minute budget workstream meeting on 27 February to further discuss Budget priorities and the baseline review

6. Other portfolios in the Economic Development Budget workstream will be discussed at the meeting including Foreign Affairs, Regional Economic Development, Economic Development, Tourism, Trade and Export Growth, Commerce and Consumer Affairs, Customs, Immigration, Energy & Resources, Statistics, Civil Defence, Housing and Urban Development, Broadcasting, Communications, and Government Digital Media.

7. Minister Clark and Treasury have indicated that the agenda for this meeting will include:

    a. Minister Clark to provide aggregated overview of the Treasury Vote team assessment of budget initiatives (including cost pressures and manifesto commitments) in the context of the Budget 2018 allowance.

    b. Discussion of common themes and key initiatives drawn out in the Treasury aide memoire provided.

    c. Discussion on the workstream top priorities for Budget 2018 including cross-portfolio linkages.

    d. Next steps for the reprioritisation process and in the Budget 2018 decision-making process.

8. We have provided you with suggested talking points for this meeting in annex one.

The RSI Budget initiatives

9. The RSI Budget 2018 package is key to several manifesto priorities. The table below summarises the funding you are seeking across these initiatives:

Commitment	Initiative	2018/19	2019/20	2020/21	2021/22	4 year TOTAL
Labour Fiscal Plan	**R&D Tax Credit (includes implementation costs for Vote Revenue)[1]**	71.2	281.5	320.8	350.8	1024.3
s9(2)(f)(iv)						
Cabinet agreement, December 2017 [CAB-17-MIN-0539 refers]	**Science Cooperation with Singapore**	12	15	15	15	57
Supports our commitment to increase R&D spending	**Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)**	9(2)(f)(iv)				
Labour Manifesto	**Dunedin Centre of Digital Excellence**	1	1	1	1	4
Cost pressure	**Investing in MSL**	s9(2)(f)(iv)				
	Total Funding Sought					

Treasury and Finance Ministers have identified significant fiscal constraints for Budget 2018

10. The Minister of Finance and Treasury have indicated that initiatives which are not cost pressures or included in the Government's priorities will need to be funded from within baselines, or through reprioritisation.

11. Treasury has also indicated that its initial advice to Ministers would be to:

    a. 9(2)(g)(i)

    b.

    c.

[1] These numbers assume a tax credit a rate of 12.5%, an April 2019 implementation, refundable for firms in loss, a volume-based credit, no cap, 100% of R&D reported in the R&D survey is eligible and that costs cannot be accrued as a Crown liability until returns are filed. The Growth grants funding has not been taken off these costs.

d. 9(2)(g)(i)

e.

Addressing Reprioritisation

Reprioritising RSI funding out of the portfolio would mean a real reduction in public R&D spending as a percentage of GDP

12. Our baseline review briefing to you [briefing 1293 17-18 refers] identified some areas where reprioritisation *within* the RSI Vote could occur.

13. Our recommendation to you was that the Government keep existing funding within the RSI portfolio and at least maintain current levels of R&D spending in other portfolios so as not to undermine the Government's ability to meet its commitment to reaching the two per cent target.

Reprioritising and using underspends within the portfolio means less progress towards the two per cent target

14. Funding new public spending on R&D with existing money reduces the real increase in public R&D spending in 2018. It is important to expand investment in public support for R&D early to achieve the two per cent target. Investing early reduces pressure on future budgets to make up the investment in R&D.

15. Additionally, publicly funded R&D can stimulate further increases in investment from the private sector. This stimulus can be direct, such as government funding business R&D with grants or tax credits. The stimulus can also be indirect, such as signalling to businesses that the Government is committed to supporting R&D expenditure and the wider RSI system.

16. Delaying investment may mean the Government misses out on some of these increases within the ten-year timeframe. The effects take time to occur as:

    a. businesses adjust their R&D plans,

    b. more researchers and scientists are trained,

    c. greater interest and confidence from overseas partners builds, and

    d. new technologies and R&D intensive markets develop.

9(2)(f)(iv)

[2] The Enhanced Partnership negotiations for science cooperation with Singapore are proceeding. The joint programmes are not negotiations in the typical sense. They are more accurately described as co-design processes involving the key players from the two governments, research institutions and the private sector. The funding security provided by the Cabinet mandate is therefore critical in being able to make joint decision on key design features such as the number of researchers and scale of programme components.

9(2)(f)(iv)

19. The headline number of the funding requested for the Budget 2018 RSI package 9(2)(g)(9(2)(g)(i) $1.2 billion over four years). 9(2)(f)(iv)

	18/19	19/20	20/21	21/22	4 year Total
Total RSI Funding Sought	9(2)(f)(iv)				

9(2)(f)(iv)

20. Note that if you use all of the reprioritisation options, *the real fiscal impact of the RSI budget 2018 package would be lower than the allocation for RSI in the Labour Fiscal Plan*.

9(2)(f)(iv)

9(2)(f)(iv)

[redacted]

24. This would need to be made up for with increases in future budgets if the Government is to reach its two per cent target.

9(2)(f)(iv)

[redacted]

9(2)(f)(iv)

36. A summary table of all of these reprioritisation options is set out below (in $ millions) – along with the key trade-offs of reprioritising each of them. [3]

Proposed reprioritisation	18/19	19/20	20/21	21/22	4 year TOTAL	Key trade-offs
9(2)(f)(iv)						

[3] Note that the exact amount of funding available from reprioritising Growth Grants is subject to the design of transitional arrangements. We are currently discussing the best way to resolve this with Treasury officials.

We will provide you with further advice about directing existing funding mechanisms through investment plans where appropriate

37. Your letter to Minister Clark indicated that existing funding within the RSI portfolio is aligned with the Government's two per cent target, but that you also intend to align existing spending with other Government priorities.

38. Some existing R&D funding mechanisms (eg Endeavour Fund, Marsden Fund) are largely agnostic on the topic of research they fund. You can use investment plans for some funding instruments to ensure broad alignment with your upcoming RSI strategy.

Treasury has also made its own suggestions to its Ministers for reprioritising RSI funding

39. These include reprioritising:

    a. Growth Grants funding to offset the costs of the tax credit (see our advice above).

    b. A $16.1 million underspend set aside to support Regional Research Institutes (RRIs) becoming financially sustainable after their appropriation finishes in 2019/20. We recommended this not be reprioritised in our baseline review briefing to you [briefing 1038 17-18].

    c. Callaghan Innovation's $45.1m Capital appropriation for upgrades to the Gracefield Innovation Quarter. This is funding held in contingency, which Callaghan Innovation can only access once a business case for the project is submitted. We understand that Callaghan is aiming to submit a business case in June 2018 so that they can access the funding and begin organising longer-term work.

Treasury proposed reprioritisation	2018/19	2019/20	2020/21	2021/22	4 year TOTAL
9(2)(f)(iv)					
Regional research Institutes (RRI) funding	-16.1	0	0	0	-16.1
Callaghan Innovation Capital Appropriation (Gracefield Innovation Quarter)	-24	-21.4	0	0	-45.4
Total	9(2)(f)(iv)				

We do not recommend supporting the reprioritisation of RRI money or the Callaghan Innovation Capital Appropriation

40. The Regional research institutes are a relatively new set of organisations. Early feedback through the first round of RRI decisions indicated that it was not realistic to expect a brand new organisation to establish itself, set up governance and management structures, employ staff, embark on research programmes and become financially sustainable in three or four years. We recommend retaining the $16.1 unallocated RRI funds to help ensure the financial sustainability of these new entities.

41. Treasury has indicated that there is a risk that the completion and costs of the Gracefield project will be delayed. This is based on old information regarding Callaghan Innovation's intention to deliver a Business case for the Gracefield Innovation Quarter in June 2018. We understand that they are committed to achieving this target.

42. 9(2)(g)(i) [redacted]

Next Steps

43. Ministerial discussions in the workstream meeting on Tuesday 27 February will feed into the development of a draft Budget package by the Treasury. The package will inform the remaining three Budget Ministers' meetings in which they deliberate on the final Budget package. These meetings are scheduled in March and early April.

44. The immediate next steps for you are to discuss this briefing with officials at your weekly officials meeting on Monday 26 February and indicate which options for reprioritisation of funding *within* the RSI portfolio you agree to.

Annexes

Annex one: Suggested talking points

Annex one: Suggested talking points

The RSI budget package

- The initiatives I have proposed in the Research, Science and Innovation Portfolio support a number of key government priorities and commitments.
- The Government has committed to raising R&D expenditure across the economy to two per cent of GDP by 2027 to lift productivity and innovation rates, improve our economic competitiveness, increase high-quality employment and improve environmental wellbeing.
- The R&D tax credit is my main priority for Budget 2018. It will be critical to lifting New Zealand's business expenditure on R&D and allowing us to meet our coalition target to increase R&D spending to two per cent of GDP by 2027.
- s9(2)(f)(iv) [redacted]
- Although the Science Cooperation with Singapore was not a part of the Labour Fiscal Plan, Coalition or Confidence and Supply agreements, Cabinet committed to the negotiation continuing in December 2017. This funding will help secure our relationship with Singapore.

Significant reprioritisation is being undertaken

- Funding for the R&D tax credit included in the Labour Fiscal Plan provides for $850 million over four years.
- 9(2)(f)(iv) [redacted]
- I have proposed reprioritising within the RSI portfolio to ensure we stay on track to meet our R&D spending target.
- 9(2)(f)(iv) [redacted]
- Even with projected growth in business expenditure on R&D, public spending on R&D must increase by an average of $150 million a year to meet our target.
- Reprioritising funding away from R&D in Budget 2018 will set us back as GDP is expected to grow in the coming years. This will increase the pressure on future budgets.

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Draft letter on reprioritisation to the Associate Minister of Finance Hon David Clark

Date:	7 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2398 17-18

Action sought

	Action sought	Deadline
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Send** the attached letter to the Associate Minister of Finance by 9 March 2018	9 March 2018

Contact for telephone discussion (if required)

Name	Position	Telephone		1st contact
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	
Richard Walley	Manager, Innovation Policy	04 901 4164		✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Draft letter on reprioritisation to the Associate Minister of Finance Hon David Clark

Date:	7 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2398 17-18

Purpose

To provide you with a draft letter to the Associate Minister of Finance Hon David Clark indicating that there is no funding that you are recommending for reprioritisation outside of Research, Science and Innovation (RSI). As part of the Budget 2018 process this letter needs to be sent to the Associate Minister of Finance by 9 March 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Sign** the attached letter and have your office send it to the Associate Minister of Finance Hon David Clark by 9 March 2018.

Agree / Disagree

s9(2)(a)

Richard Walley
Manager, Innovation Policy
Labour, Science and Enterprise, MBIE

07 / 03 / 18

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

Finance Ministers have asked for further reprioritisation where possible

1. You met with the Associate Minister of Finance Hon David Clark and other economic development workstream Ministers on 27 February to discuss the initial budget packages and operating allowances for Budget 2018. The Associate Minister of Finance asked for further reprioritisation.

The Government has a target to increase R&D spending to 2 per cent of GDP by 2027

2. All of your previous submissions for Budget 2018 have highlighted that in order for the Government to achieve its target, early and sustained investment in the Research, Science and Innovation (RSI) portfolio is required. You also advised the Associate Minister of Finance against any reduction in RSI spending and did not offer options for reprioritising funding outside of RSI.

The Associate Minister of Finance has asked you to consider whether some specific RSI funding could be reprioritised away from the RSI portfolio

3. We previously briefed you on the opportunities available for reprioritisation and potentially using underspends to offset the costs of some of the RSI Budget 2018 bids [briefing 2090 17-18 refers]. The Treasury has identified three potential areas for reprioritising RSI funding:
   a. 9(2)(f)(iv) [redacted]
   b. Regional Research Institutes (RRIs) ($16.1m underspend)
   c. Callaghan Innovation Capital Appropriation - Gracefield Innovation Quarter ($45.4m)[1]
4. We have provided you with a draft letter (Annex One) for the Associate Minister of Finance indicating that the Government should not be reprioritising any funding away from the RSI portfolio in Budget 2018. The letter notes that reprioritising funding will set the Government back in achieving its priorities and will increase the pressure on future budgets, and that you are actively ensuring your portfolio aligns with the Government's priorities.

Responding to the Treasury's recommendations

We do not recommend supporting the reprioritisation of RRI money or the Callaghan Innovation Capital Appropriation

5. As noted above, the Treasury and the Associate Minister of Finance have asked you to consider whether some specific funding could be available for reprioritisation outside of the RSI portfolio. This includes some unallocated funding for RRIs and the Callaghan Innovation Capital Appropriation.

Regional Research Institutes

6. The RRIs are a relatively new set of organisations. Early feedback through the first round of RRI decisions indicated that it was not realistic to expect a brand-new organisation to establish itself, set up governance and management structures, employ staff, embark on research programmes and become financially sustainable in three or four years.

7. The likely impact of reprioritising this RRI funding would be to increase the incentives for the RRIs to generate immediate revenues through short-term research contracts, at the expense of building long-term science capabilities in the regions.

[1] The R&D Growth Grants funding is baseline funding, the RRI pool of money is an underspend, carried forward from early in the programme, and the Callaghan Innovation Capital appropriation is a contingency appropriation, to be drawn down when Callaghan Innovation gets a business case for Gracefield approved.

8. We recommend retaining the $16.1m unallocated RRI funds to help ensure the financial sustainability of these new entities.

Callaghan Innovation Capital Appropriation - Gracefield Innovation Quarter

9. The Callaghan Capital appropriation is funding committed to the development of the Gracefield Innovation Quarter. [redacted] 9(2)(g)(i)

10. It is therefore important that Callaghan Innovation has the capital appropriation funding available for 2018/19 in order to begin work as soon as possible. We understand that Callaghan Innovation is committed to delivering a business case for the Gracefield Innovation Quarter in June 2018, which would allow them to draw down the funding.

Next steps

11. Sign the attached letter and have your office provide it to the Associate Minister of Finance Hon David Clark by 9 March 2018.

Annexes

Annex One: Draft letter on reprioritisation to the Associate Minister of Finance Hon David Clark

Annex One: Draft letter on reprioritisation to the Associate Minister of Finance Hon David Clark

Hon Dr David Clark
Associate Minister of Finance
Parliament Buildings
WELLINGTON

NOTE: This letter was not sent.

Dear Minister

I am writing in response to your request for further reprioritisation investigation in the Research, Science and Innovation (RSI) portfolio.

A more diversified, knowledge-intensive and zero-carbon economy requires greater investment in RSI. Increasing R&D expenditure to 2 per cent of GDP over ten years is the Government's key goal for the RSI system, reflected in the coalition agreement between Labour and NZ First. All existing RSI funding is aligned with this commitment.

New Zealand's total expenditure on R&D in 2016 was 1.25 per cent of GDP. This is significantly below the OECD average of 2.4 per cent. [redacted] We cannot afford to be left behind in this space.

s6(b)(i)

Even with business expenditure on R&D projected to grow, public R&D spending must increase by an average of $150 million a year to meet the 2 per cent target. Reprioritising funding away from RSI now will set the Government back against our priorities and increase pressure on our future budgets.

I have already planned significant funding realignment within my portfolio and I intend to continue reviewing the portfolio to ensure alignment to our policy priorities

Implementing an R&D tax incentive is currently the major focus of my portfolio. This initiative is key to supporting Government's goal to increase expenditure on R&D to 2 per cent of GDP, as it helps stimulate additional investment in R&D from the private sector.

9(2)(f)(iv)

[redacted] While we cannot afford to reduce overall RSI spending, I remain committed to managing my portfolio actively to ensure alignment to our policy priorities.

I have considered the Treasury's recommendations

s9(2)(g)(i)

[redacted]

I am happy to discuss with you further the opportunities within the RSI portfolio to advance the Government's priorities.

Yours sincerely

Hon Dr Megan Woods
Minister of Research, Science and Innovation

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Factsheet to support your Ministerial Budget meetings

Date:	16 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2490 17-18

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods Minister of Research, Science and Innovation	**Note** the attached information	19 March 2018

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Dr Peter Crabtree	General Manager, Science, Innovation and International	04 901 3907	s9(2)(a)	
Richard Walley	Manager, Innovation Policy	04 901 4164		✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Budget 2018 – Factsheet to support your Ministerial Budget meetings

Date:	16 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2490 17-18

Purpose

To provide you with a factsheet regarding the fiscal projections for raising economy wide R&D investment to 2% of GDP by 2027, to support your attendance at

- the R&D tax credit Ministers' meeting on Monday 19 March 2018.
- the economic development workstream meeting on Tuesday 20 March 2018.

Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

a **Note** the attached Q&As to support you in your R&D tax credit meeting with Minister Robertson and Minister Nash

Noted

b **Note** the range of different growth scenarios for business expenditure on R&D, and their impact on reaching the two percent target in 2027

Noted

s9(2)(a) [redacted]

Richard Walley
Manager, Innovation Policy
Labour, Science and Enterprise, MBIE

16 / 03 / 18

Hon Dr Megan Woods
Minister of Research, Science and Innovation

..... / ..... / .....

Background

Finance Ministers have asked for further discussion on Budget priorities

1. You previously met with the Associate Minister of Finance Hon Dr David Clark to discuss the Government's priorities for Budget 2018 and opportunities for reprioritisation of Research, Science and Innovation (RSI) funding.

2. You are scheduled to meet with Minister Nash and Minister Robertson on Monday, 19 March to discuss the R&D tax incentive. Annex One provides answers to questions Minister Robertson may ask you on the R&D tax incentive.

3. You are also scheduled to attend an Economic Development Workstream Ministers meeting on 20 March to discuss the draft Budget packages.

4. This meeting will be an opportunity to comment on Treasury's proposed package ahead of the next all Budget Ministers meeting. Treasury should provide the proposed budget package to your office by the morning of Tuesday 20 March.

The Government has a target to increase R&D investment to two per cent of GDP by 2027

5. All of your previous submissions for Budget 2018 have highlighted that in order for the Government to achieve the two per cent target, early and sustained investment in Research, Science and Innovation (RSI) is required.

6. You also advised the Associate Minister of Finance against any reduction in RSI spending and rejected options for reprioritising funding outside of RSI.

7. We have attached a factsheet on fiscal projections for raising economy wide R&D investment to two per cent of GDP by 2027 (Annex Two). This information is intended for you to use in your meeting and share with other Economic Development Ministers if required.

8. We have also provided the summary table of your RSI budget bids in Annex Three for your convenience.

Assumptions in the attached graphs

9. We have produced some models to demonstrate the implications of different growth rates of Business Expenditure on R&D (BERD) for reaching the 2% target in 2027.

10. These models assume that BERD achieves compounding, year-on-year growth (across different rates). The model also assumes that the R&D tax incentive will subsidise BERD at an effective rate of 12.5%.

11. We have only included Growth Grants in the 18/19 year of our model.9(2)(f)(iv) 9(2)(f)(iv) [redacted]

12. We have also assumed that the value of the existing RSI baselines will be maintained. If they are reduced through reprioritisation, this will put increased pressure on the cumulative other new spending needed in future budgets to reach two per cent.

Annexes

Anne One: Q&A for your R&D tax incentive meeting on Monday 19 March

Annex Two: Factsheet – new RSI spending required to meet the 2% target

Annex Three: The RSI Budget initiatives

Annex One: Q&A's for your R&D tax incentive meeting on Monday 19 March 2018

How can we ensure the R&D tax incentive can be delivered effectively while meeting Budget Responsibility Rules?

- *The final design of the R&D tax incentive will proceed with care once feedback is garnered from the sector on the proposed design through public consultation.*
- *The R&D tax incentive design will be refined with consideration to fiscal headroom and the trade-offs made between the design's interrelated objectives of providing easily accessible support to a range of R&D businesses, while maintaining trust and confidence in the tax system.*

How should the credit work alongside other initiatives in the innovation and taxation systems to support the Government's R&D expenditure target?

- *The R&D tax incentive will be one form of support amongst a broader package of support for businesses (including support for start-ups) and the public research and science system.*
- *Other forms of government support for business R&D include: project and student grants, advice, and support in kind; some smaller research-focused grants; and a limited R&D tax loss cash out.*
- *Attracting large international businesses to conduct R&D in New Zealand can also make a valuable contribution to business expenditure on R&D and the number of businesses performing R&D overall. The Innovative Partnerships Programme currently targets large international businesses that perform R&D and attracts them to New Zealand.*
- *A new comprehensive Research, Science and Innovation Strategy is being developed that will provide a framework to guide the suit of interventions in the Research, Science and Innovation system.*

How will agencies monitor and evaluate the effectiveness of the R&D tax credit policy?

- *To ensure the R&D tax incentive supports genuine R&D activity we will be monitoring the scheme to quickly identify and remedy issues that compromise its integrity.*
- *Officials are currently considering what information/data will be required from tax credit recipients to enable evaluation of the costs and benefits of the scheme.*
- *An appropriate evaluation plan will be determined once the design settings are confirmed.*

Annex Two: Factsheet – new RSI spending required to meet the 2% target

Reaching **the R&D to 2% of GDP by 2027 target (2% target)** requires increasing spending to around $8 billion per year in 2027 across the economy.

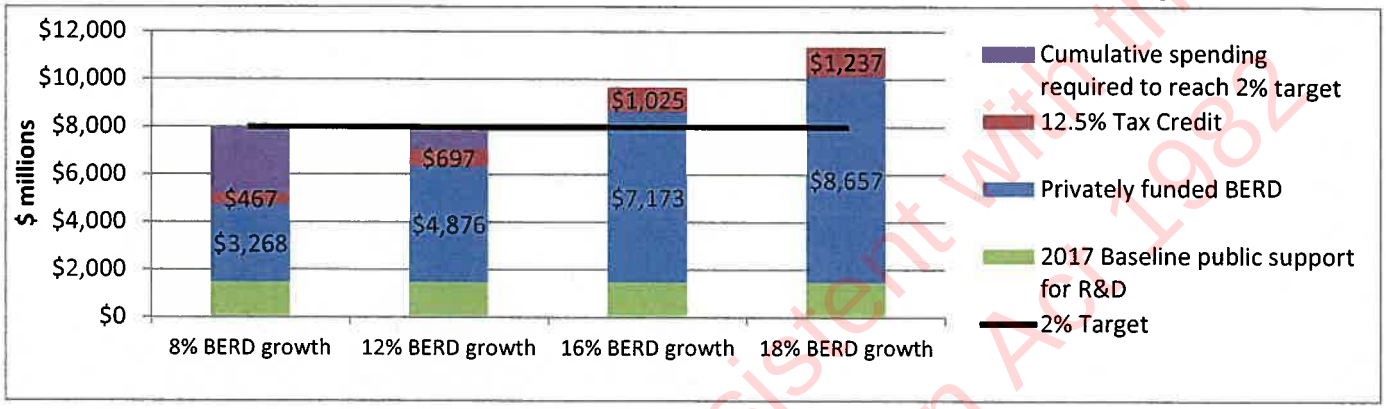
9(2)(f)(iv)

This shortfall could be met from an increase in business expenditure on research and development (BERD) and the accompanying tax incentive and/or other increased government support for R&D.[1]

It is important we expand our investment in R&D early to achieve the 2% target. Investing early reduces pressure on future budgets.

The Government's contribution through the R&D tax incentive (at a rate of 12.5%) is an efficient way of increasing BERD (assuming this doesn't crowd out other private spending on R&D).

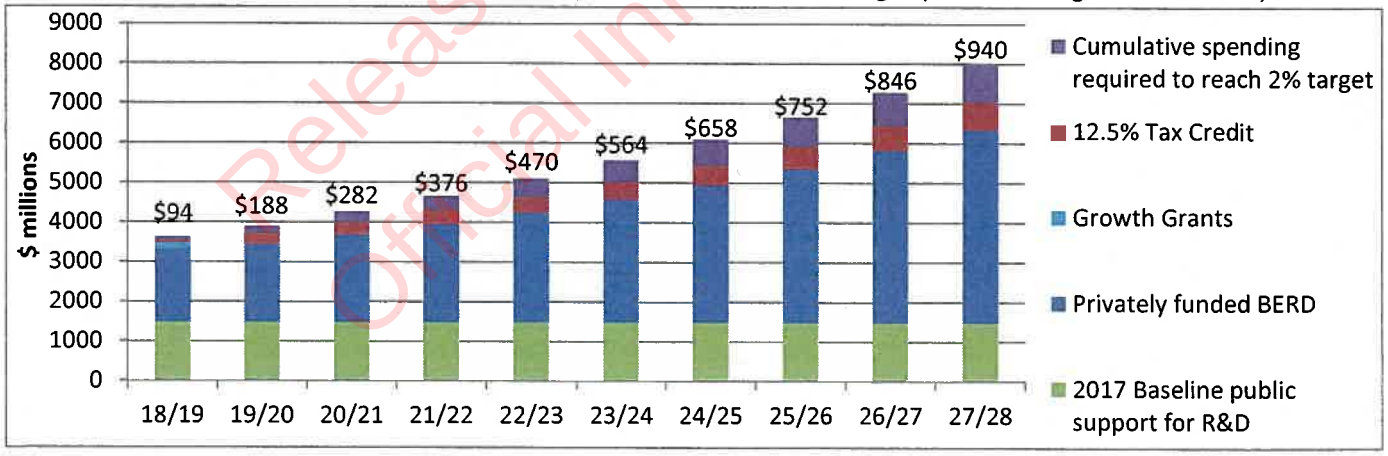
Figure 1: BERD growth scenarios to reach the 2% target and the impacts on public spending in 2027



New Zealand's historical BERD growth has averaged around 7%. If New Zealand experiences 12% growth in BERD year on year by 2027, we would require $697 million government spending on the R&D tax incentive.[2] This is an additional $153 million above the estimated $544 million allocation.

The graph below provides the approximate trajectory of growing tax credit spending and other complementary spending required to reach our 2% target (under a 12% BERD growth scenario). We need to grow public support for R&D by $147 million each year on average.

Figure 2: trajectory of spending growth required to reach our 2% target (12% BERD growth scenario)



[1] A combination of increasing both BERD and other public investment in the RSI system is usually considered the best option given their symbiotic relationship (i.e. public R&D spending can stimulate and complement BERD).

[2] 12% BERD growth is an optimistic, but not an unrealistic ambition that would bring New Zealand closer to the OECD average split on public/private expenditure on R&D. If BERD grows more slowly, further additional spending would be required.

Annex three: The RSI Budget initiatives

The table below summarises the funding you are seeking across these initiatives ($ million).

Commitment	Initiative	2018/19	2019/20	2020/21	2021/22	4 year TOTAL
Labour Fiscal Plan	**R&D Tax Credit (includes implementation costs for Vote Revenue)**[3]	71.2	281.5	320.8	350.8	1024.3
s9(2)(f)(iv)						
Cabinet agreement, December 2017 [CAB-17-MIN-0539 refers]	**Science Cooperation with Singapore**	12	15	15	15	57
Supports our commitment to increase R&D spending	**Developing a Fit for Purpose Research Information Infrastructure: The National Research Information System (NRIS)**	9(2)(f)(iv)				
Labour Manifesto	**Dunedin Centre of Digital Excellence**	1	1	1	1	4
Cost pressure	**Investing in MSL**	s9(2)(f)(iv)				
	Total Funding Sought					

[3] These numbers assume a tax credit a rate of 12.5%, an April 2019 implementation, refundable for firms in loss, a volume-based credit, no cap, 100% of R&D reported in the R&D survey is eligible and that costs cannot be accrued as a Crown liability until returns are filed. The Growth grants funding has not been taken off these costs.

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

AIDE MEMOIRE

Budget 2018 - Information on Budget Ministers' near-final Budget package

Date:	29 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2716 17-18

Information for Minister(s)
Hon Dr Megan Woods **Minister of Research, Science & Innovation**

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Ewan Delany	Manager, Science Policy	s9(2)(a)	✓
Scott Russell	Policy Advisor, Innovation Policy	04 901 1408	

The following departments/agencies have been consulted
n/a

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

AIDE MEMOIRE

Budget 2018 - Information on Budget Ministers' near-final Budget package

Date:	29 March 2018	**Priority:**	High
Security classification:	Budget - Sensitive	**Tracking number:**	2716 17-18

Purpose

To provide you with information on the near-final Research, Science and Innovation Budget package decided by Budget Ministers (the Minister of Finance, and the Associate Ministers of Finance) on Monday 26 March.

s9(2)(a) [redacted]

Ewan Delany
Manager, Science Policy
Labour, Science and Enterprise, MBIE

29 / 03 / 2018

Budget Ministers met on Monday 26 March

1. This meeting was to decide on a near-final package for Budget 2018.

2. Budget Ministers will meet again on Tuesday 3 April to make final decisions then send aides memoire to portfolio Ministers to confirm which initiatives will receive funding in Budget 2018.

Proposed Budget 2018 funding for Research, Science and Innovation

3. The table below outlines the near-final Research, Science and Innovation Budget package resulting from the Budget Ministers' meeting on Monday 26 March:

	18/19	19/20	20/21	21/22	Total
	($millions)				
Investing in the Measurement Standards Laboratory (MSL)	2.457	5.308	4.212	4.938	16.915
R&D Tax credit					
Operational Expenditure	70.0	280.0	320.0	350.0	1020.0
(Vote Revenue implementation costs)	1.2	1.5	0.8	0.8	4.3
Total	71.2	281.5	320.8	350.8	1024.3
National Research Information System	3.9	2.4	2.2	1.6	10.1
Science Cooperation with Singapore (contingency)	12.0	15.0	15.0	15.0	57.0
s9(2)(f)(iv) [redacted]					
Dunedin Centre of Digital Excellence	**Not funded**				
Total Operating Expenditure	86.2	298.8	339.1	369.4	1093.4
Total Capital Expenditure	2.6	3.9	2.4	2.1	10.6
Total funding[1]	**88.4**	**302.7**	**341.4**	**371.5**	**1104.0**

Things to note

4. The proposed package contains all of the funding requested for the R&D Tax Incentive.
s9(2)(f)(iv) [redacted]

[1] Numbers may not add correctly due to rounding.

c. **Dunedin Centre of Digital Excellence (CODE):** the 2017 manifesto commitment was that the CODE would be funded through a regional development fund. In 2018 Government established the Provincial Growth Fund. Arrangements for funding the CODE from the Provincial Growth Fund are yet to be agreed between you and relevant ministers. We will brief you further on establishing the CODE.

5. 9(2)(f)(iv) [redacted]

6. Budget Ministers have agreed to fund your **Science Cooperation with Singapore** initiative in full. However, they have put it into a contingency, meaning you may need to return to Cabinet once you have satisfied the drawdown conditions.

7. We are proposing that the drawdown condition for accessing the Science Cooperation with Singapore funding should be when New Zealand and Singapore reach formal agreement on the data science and future food research programmes.