



## COVERSHEET

<b>Minister</b>	Hon Dr Megan Woods	<b>Portfolio</b>	Research, Science and Innovation
<b>Title of Cabinet paper</b>	Maintaining Momentum in Research, Science and Innovation: Reprioritisation of Funding	<b>Date to be published</b>	5 February 2020

### List of documents that have been proactively released

<b>Date</b>	<b>Title</b>	<b>Author</b>
19 July 2019	Maintaining Momentum in Research, Science and Innovation: Reprioritisation of Funding	Office of the Minister of Research, Science and Innovation
24 July 2019	Cabinet Economic Development Committee: Minute of Decision	Cabinet Office

### Information redacted

### YES / NO

Some information has been withheld because it relates to issues that are still under active consideration by the Government.

Any information redacted in this document is redacted in accordance with MBIE's policy on Proactive Release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

In Confidence

Office of the Minister of Research, Science and Innovation

Chair, Cabinet Economic Development Committee

## Maintaining our momentum in Research, Science and Innovation

### Proposal

1. This paper seeks agreement to reprioritise funds from the Research, Science and Innovation (RSI) portfolio. The reprioritisations aim to make the most of our investment in science and innovation in light of emerging opportunities.

### Executive Summary

2. Our shared vision for the future is for a productive, sustainable and inclusive New Zealand. A key part of achieving that is the commitment we have made to raise Research and Development (R&D) in New Zealand to two percent of GDP. Increasing our production of knowledge via research and science, and its practical application through innovation, is the only way to generate sustainable long-term progress towards that vision.
3. The reprioritisation package below identifies a range of initiatives which will support progress towards important objectives in a range of other Government portfolios. During the Budget 2019 discussions, the Minister of Finance and I considered reprioritisation possibilities and agreed that these would be pursued following the Budget decision. This paper presents my reprioritisation package.
4. In building this package I have focused in particular on the Government's cross-cutting goals including transitioning to a carbon neutral New Zealand via investment in climate science and alternative energy, growing our prosperity through supporting innovative high-tech businesses and new industries, and building a more dynamic and diverse research system with initiatives focussing on diversity in science, and innovation in the health sector.
5. The funding available for reprioritisation involves a series of transfers across Research, Science and Innovation, Economic Development and Transport appropriations that are fiscally neutral over the forecast period.
6. A summary of the reprioritisation package is provided in the table below:

Initiative / \$m	2019/20	2020/21	2021/22	2022/23	Total
Climate science initiative to enable participation in MethaneSAT satellite mission	4.000	4.000	14.000	4.000	<b>26.000</b>
International partnership programme with Germany	5.500	7.500	7.500	7.500	<b>28.000</b>
Diversity and engagement with science	1.500	1.500	1.500	1.500	<b>6.000</b>

Supporting the Prime Minister's Chief Science Advisor	0.500	0.500	0.500	0.500	<b>2.000</b>
Transport: Automatic Dependent Surveillance – Broadcast (ADS-B) transponders rebate and administration	4.250	4.125	4.125		<b>12.500</b>
Transport: Civil Aviation Authority (CAA) capability to employ technical experts and engage with applicants	0.700	0.700	0.700		<b>2.100</b>
Transport: accelerate Ministry of Transport (MoT)-led work on regulatory settings	0.300	0.300	0.300		<b>0.900</b>
Technology Incubators		3.000	3.000	3.000	<b>9.000</b>
Callaghan Innovation Operations: MCA – Building Business Innovation (HealthTech Activator)	0.500	0.500	0.500	0.500	<b>2.000</b>
Callaghan Innovation cost pressures	2.000	3.500			<b>5.500</b>
<b>Total</b>	<b>19.250</b>	<b>25.625</b>	<b>32.125</b>	<b>17.000</b>	<b>94.00</b>

7. A summary of the source of funds for reprioritisation is provided in the table below:

<b>Appropriation / \$m</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>Total</b>
Projected underspend from the Research and Development Growth Grants (MYA Expense) appropriation	(34.490)			(8.740)	<b>(43.230)</b>
Projected unallocated funding from the Regional Research Institutes appropriation	(4.000)	(0.500)			<b>(4.500)</b>
Projected underspend from the Partnered Research Fund appropriation	(1.910)	(6.000)	(7.000)	(8.260)	<b>(23.170)</b>
Underspend from the Science and Innovation: Repayable Grants for Start Ups appropriation	(23.100)				<b>(23.100)</b>
<b>Total</b>	<b>(63.500)</b>	<b>(6.500)</b>	<b>(7.000)</b>	<b>(17.000)</b>	<b>(94.000)</b>

8. Note that as policy decisions have now been made on the design and implementation of the R&D Tax Incentive, including increasing the rate from 12.5 per cent to 15 per cent and further funding for Inland Revenue to implement the scheme, I also propose to return \$57 million to the centre from the Growth Grant appropriation in 2022/23 to offset the increased cost of the Tax Incentive.

## **I am seeking agreement to a new investment package using reprioritised funds from the RSI portfolio**

9. Our shared vision for the future is for a productive, sustainable and inclusive New Zealand.
10. A key part of achieving that is the commitment we have made to raise R&D in New Zealand to two percent of GDP. Although the path to meeting this goal will not be linear, it is important to maintain the momentum of the increases to prevent additional pressure in future years and to continue contributing to our wellbeing goals.
11. The initiatives I have selected aim to meet Government priorities including an economy that is growing and working for all New Zealanders and in particular initiatives which are in line with a transition to a sustainable and low emissions economy, increasing wellbeing and supporting a thriving nation by enabling innovation to diversify and transform the economy.
12. The selected initiatives only have time limited funding and therefore the new investment package targets temporary programmes.

### **Two initiatives focus on the transition to a sustainable and low emissions economy**

13. These initiatives contribute to New Zealand's international and domestic leadership in addressing climate change emissions, advanced energy technology and accelerating the growth of an R&D intensive space sector which will also help better understand climate change causes and impacts.

#### *Supporting a climate science initiative to enable participation in the MethaneSAT satellite mission*

14. I propose to invest \$26 million over four years in a time limited opportunity to participate in the MethaneSAT satellite mission. This funding will support the mission's agricultural greenhouse gas remote sensing science, launch and mission control activities. This investment will also enable New Zealand students and researchers to lead and participate in other small space missions.
15. As well as accelerating capability development for a high-value, low-carbon and R&D intensive space sector, investing in the MethaneSAT mission will make an important contribution to global climate change mitigation efforts and bolster New Zealand's international climate change credentials. It will put New Zealand researchers at the forefront of greenhouse gas remote sensing science, contributing to our transition to a low-emissions economy.

#### *International Science Partnership with Germany*

16. I propose to invest \$28 million over four years in at least two research programmes in collaboration with Germany. This will contribute to the government's priority of creating an international reputation we can be proud of and keeping New Zealand internationally connected.
17. The programmes will be in areas where New Zealand has science strengths that have potential as global leaders, including robotics, new materials (particularly nanomaterials), climate science and photonics. The investment could also be used to

connect our new alternative energy technologies platform funded in Budget 2019 to German expertise.

18. This will allow New Zealand to take advantage of the interest Germany expressed in engaging with us on the development of more ambitious research partnerships.

**Two initiatives create opportunities to contribute to the Government goal of improving wellbeing for all New Zealanders and our ambition to promote diversity in science and research.**

*Improving diversity and engagement with science*

19. I propose investing \$6 million over four years in existing programmes, which are showing good results but are currently under-funded, as well as seeding institutional change to promote greater equity, diversity and inclusion (EDI) within research performing organisations. This includes:

19.1. Confidential advice to Government

This will help supplement the longer term aspirations of the Ministry of Business, Innovation and Employment (MBIE) Diversity in Science Statement for the science workforce to better reflect the diversity of New Zealand.

- 19.2. Establishing an institutional EDI capacity-building grant to help research performing organisations to develop and to implement policies, plans, projects, resources and training. These aim to tackle challenges encountered by underrepresented groups in the science workforce.

*Supporting the Prime Minister's Chief Science Advisor*

20. Since the appointment of Professor Juliet Gerrard as the Prime Minister's Chief Science Advisor, the nature of the role has changed and demands on her and her office have grown.
21. I propose to provide a small increase to her operational funding of \$2 million over four years to enable her to continue to provide high-quality and rigorous science advice at the heart of Government and to improve social outcomes and reduce inequality by developing evidence to underpin policy interventions.

**The following four initiatives support a thriving nation by enabling innovation**

*Supporting Innovative Partnerships and positioning New Zealand as a location of choice for the development of advanced aviation technologies*

22. I propose investing \$15.5 million over four years to accelerate the integration of Unmanned Aircraft (UA) into national airspace.
23. UA integration is critical to realising our objective to position New Zealand as a location of choice for the development of advanced aviation technologies, and the wider Government vision of a thriving, innovative and safe aviation sector as outlined in the Ministry of Transport (MOT) led paper Taking flight: an aviation system for the automated age, discussed at Cabinet on 24 June 2019.

24. This investment is also in line with the new Government approach to industry policy which is aimed at growing more innovative industries in New Zealand. This economic strategy lists innovative industries as a key policy focus area and aerospace is one of the initial priorities sectors for developing Industry Transformation Plans.
25. The investment will include funding of \$12.5 million for a rebate on the installation of Automatic Dependent Surveillance – Broadcast (ADS-B) transponders for the owners of approximately 4,000 aircraft that operate in controlled airspace in New Zealand below flight level 245 (24,500 feet). Incentivising the uptake of ADS-B is critical to enable UA integration, as it will enable aircraft operators to detect the presence of UA operating in their vicinity. Cabinet has previously agreed to introduce mandatory ADS-B in all controlled airspace, as part of the New Southern Sky programme, which aims to modernise New Zealand’s aviation system.
26. A new multi-year appropriation for the ADS-B rebate scheme is proposed. The rebate scheme will assist with the costs of ADS-B equipment and installation, and offset the costs to disproportionately-affected users. The Minister of Transport, as the responsible Minister, is supportive of introducing a rebate scheme to assist with the transition to ADS-B, and will work with MOT and the Civil Aviation Authority (CAA) to inform further decisions around the scheme, such as eligibility requirements.
27. A new appropriation is also proposed to cover the costs of administering the rebate scheme. While the level of funding required has been priced, the Minister of Transport and the Minister of Finance, may, acting jointly, re-profile funding between the rebate scheme appropriation and the administration appropriation if required to ensure the scheme is administered appropriately.
28. The investment will also include \$3 million to grow and develop technical capability at the CAA and to accelerate MOT-led work on regulatory settings. This will be critical to ensure that New Zealand maintains its reputation as an internationally credible and innovative regulator. MBIE will work closely with MOT and CAA to ensure that this funding is targeted to support the delivery of key initiatives, in particular the establishment and implementation of a programme of airspace integration trials.

*Three initiatives are aimed at taking concrete steps to improve the commercialisation of innovation*

29. Technology incubators:
  - 29.1. This programme provides support to early stage firms seeking to bring complex technology to market. Technology incubators are entities which provide deep support to such firms over a long period of time while technology is developed.
  - 29.2. A request for proposals will be run in 2019 to ensure that selected providers are high quality, internationally connected, backed by sufficient capital, and focus on priority technologies.
  - 29.3. We are highly ambitious about the success of this programme, and we sought to expand it through a bid for additional funding at Budget 2019.



- 29.4. Budget 2019 provided some additional funding for the initiative and I propose to provide a further increase.
30. Callaghan Innovation HealthTech Activator:
- 30.1. I propose to invest \$2 million in the HealthTech Activator initiative which will be delivered by Callaghan Innovation. The Activator will deliver enhanced specialised knowledge and in-kind support to clinicians, firms, and entrepreneurs working in health technology.
- 30.2. This initiative aligns with priority four of the Health Research Strategy to “advance innovative ideas and commercial opportunities”. It will help create more effective pathways for knowledge transfer into the economy and our health providers from our world-leading health research.
31. Addressing Callaghan Innovation cost pressures:
- 31.1. To address Callaghan Innovation’s cost pressures, I propose to invest two years of “bridging” funding (\$5.5 million) while Callaghan Innovation continues to develop its future service mix. MBIE will work with Callaghan Innovation on the use of the cost pressures funding.
- 31.2. Moving to a sustainable funding path in two years’ time will require MBIE and Callaghan Innovation to address how all parts of Callaghan Innovation’s business, including Research and Technical Services (RTS), are operating sustainably.

**I have identified underspends in various appropriations which can be reprioritised to support these initiatives.**

32. Due to the large number of research contracts and initiatives under management at any one time in the RSI portfolio, underspends are not unusual. Active management of the portfolio funds is an important part of meeting RSI overall goals and maximising impact for New Zealand.
33. These underspends were identified as potential savings prior to Budget 2019 decisions, but were not returned as savings as this had the potential to harm our progress towards our goal of raising R&D expenditure to two percent of GDP.
34. Funding available from the Partnered Research Fund appropriation is due to an underspend across the forecast period. Funds available for investment were not fully allocated in the 2018 investment round.
35. Funding available from the Regional Research Institute (RRI) appropriation is also due to an underspend across the forecast period. All RRIs were funded on the basis of their business cases, which made commitments to financial sustainability within the timeframe of the MBIE contract. There are no plans at present for MBIE to invest any additional funding.
36. The funding available in the Repayable Grants for Start Ups appropriation is also due to an accumulated underspend from a number of years. This is because the scheme was not as successful as hoped and fewer repayable grants were drawn-down than

originally anticipated. I am confident the providers we will contract for the revised technology incubator scheme will deliver a more successful programme.

37. The funding available from the Growth Grant appropriation is \$43 million across both the R&D Tax Incentive and the Growth Grant forecast expenditure:
  - 37.1. This is because the amounts set aside in Budget 2018 for the R&D Tax Incentive and Growth Grants reflected the most accurate estimate of expenditure at that time. However, Budget 2018 forecasts predated policy decisions on the design and implementation of the R&D Tax Incentive. Further, the Growth Grant was intended to be replaced by the R&D Tax Incentive, but the Growth Grant forecast appropriations were retained pending further policy decisions.
  - 37.2. Policy decisions have now been made on the design and implementation of the R&D Tax Incentive, including increasing the rate from 12.5 per cent to 15 per cent and further funding for Inland Revenue to implement the scheme. This has resulted in an increase in the amounts forecasted to meet the cost of the R&D Tax Incentive. Government has also decided to cease Growth Grants.
  - 37.3. The increase required to implement subsequent decisions on the R&D Tax Incentive is less than the funds available in the Growth Grant appropriation, resulting in \$43 million being available for reprioritisation. I propose to return \$57 million to the centre from the Growth Grant appropriation in 2022/23 to offset the increased cost of the Tax Incentive as noted above.
  - 37.4. A detailed explanation of the financial transactions for the Growth Grant underspend is contained in Annex One of this Cabinet paper.

### **Consultation**

38. The Treasury, the Ministry of Transport and Department of Prime Minister and Cabinet were consulted on this paper.

### **Financial Implications**

39. This paper proposes a series of transactions across the RSI portfolio appropriations, Economic Development portfolio appropriations, and Vote Transport. These transactions are overall fiscally neutral to the Crown over the forecast period.
40. Further details are provided in the recommendations at the end of this paper and at Annex One.

### **Legislative Implications**

41. There are no legislative implications for this Cabinet paper.

### **Impact Analysis**

42. There are no regulatory options for this paper and therefore there is no impact analysis.



## Human Rights

43. There are no human rights implications associated with this paper.

## Gender Implications

44. We are recommending using reprioritised money to invest in the establishment of an institutional equity, diversity and inclusion (EDI) grant to help research performing organisations to tackle challenges encountered by underrepresented groups in the science workforce. Therefore this paper does have gender implications.

## Disability Perspective

45. There are no disability implications associated with this paper.

## Publicity

46. The Ministry of Transport and the Civil Aviation Authority will develop a communications strategy to support publicity of the introduction of a rebate scheme for ADS-B. The general aviation sector is awaiting a decision as to whether there will be any financial assistance for operators who are required to fit their aircraft with ADS-B. The Minister of Transport will make an announcement to the sector as soon as a decision is made.

47. MBIE will also develop a communications plan to publically announce the remaining initiatives.

## Proactive Release

48. As per paragraphs 46 and 47 above, we will develop a communications plan to announce these initiatives and therefore we will proactively release this Cabinet paper, minutes and key advice papers following these announcements.

49. I propose that this is a good reason to delay the release beyond 30 business days of Cabinet making final decisions.

## Recommendations

The Minister for Research, Science and Innovation (RSI) recommends that the Committee:

1. **Agree** to invest in the following initiatives to support RSI goals with reprioritised amounts from the RSI portfolio:
  - a. A space research initiative,
  - b. An international science partnership with Germany,
  - c. Diversity and engagement with science,
  - d. Supporting the Prime Minister's Chief Science Advisor
  - e. Advanced aviation technologies,
  - f. Technology incubators,
  - g. Callaghan Innovation HealthTech Activator,
  - h. Callaghan Innovation cost pressures.

## Operating Initiatives (Impact on Operating Balance)

Ref	Initiative	\$m – increase/(decrease)			
		2019/20	2020/21	2021/22	2022/23
<b>Vote Business, Science and Innovation</b>					
1.	Diversity and engagement with science	1.500	1.500	1.500	1.500
2.	Space research initiative	4.000	4.000	14.000	4.000
3.	International partnership programme with Germany	5.500	7.500	7.500	7.500
4.	Technology incubators	-	3.000	3.000	3.000
5.	Callaghan Innovation HealthTech Activator	0.500	0.500	0.500	0.500
6.	Supporting the Prime Minister's Chief Science Advisor	0.500	0.500	0.500	0.500
7.	Callaghan Innovation cost pressures	2.000	3.500	-	-
8.	Projected underspend from the Research and Development Growth Grants (MYA Expense) appropriation	(34.490)	-	-	(8.740)
9.	Projected unallocated funding from the Regional Research Institutes appropriation	(4.000)	(0.500)	-	-
10.	Projected underspend from the Partnered Research Fund appropriation	(1.910)	(6.000)	(7.000)	(8.260)
11.	Underspend from the Science and Innovation: Repayable Grants for Start Ups appropriation	(23.100)	-	-	-
12.	Additional cost of R&D tax incentive changes to be met from Growth Grant Appropriation	-	-	-	(57.000)
<b>Vote Transport</b>					
13.	Transport - Automatic Dependent Surveillance – Broadcast (ADS-B) transponders	4.250	4.125	4.125	-
14.	Civil Aviation Authority (CAA) capability to support drone integration work programme	0.700	0.700	0.700	-
15.	Ministry of Transport (MoT) capability to	0.300	0.300	0.300	-

	support drone integration work programme				
<b>Total Operating</b>		<b>(44.250)</b>	<b>19.125</b>	<b>25.125</b>	<b>(57.000)</b>

2. **Agree** to establish an ADS-B rebate scheme for the purpose of incentivising the uptake of ADS-B transponders for the owners of aircraft that operate in controlled airspace in New Zealand below flight level 24,500 feet;
3. **Agree** to establish the following new multi-year appropriation for the ADS-B rebate scheme to run from 01 August 2019 to 30 June 2022:

<b>Vote</b>	<b>Appropriation Minister</b>	<b>Title</b>	<b>Type</b>	<b>Scope</b>	<b>Vote</b>
Vote Transport	Minister of Transport	Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme (MYA)	Non-departmental Other Expense	This appropriation is limited to rebates for the Automatic Dependent Surveillance – Broadcast (ADS-B) transponders rebate scheme to aircraft operators required to fit such equipment.	Vote Transport

4. **Agree** to establish the following new appropriation for the administration of the ADS-B rebate scheme:

<b>Vote</b>	<b>Appropriation Minister</b>	<b>Title</b>	<b>Type</b>	<b>Scope</b>
Vote Transport	Minister of Transport	Administration of the Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme	Non-departmental Output Expense	This appropriation is limited to expenses incurred in the administration of the Automatic Dependent Surveillance – Broadcast transponders rebate scheme.

5. **Approve** the following changes to appropriations to give effect to the policy decision in recommendation 1 above, with no impact on the operating balance over the forecast period:

	\$m – increase/(decrease)			
	2019/20	2020/21	2021/22	2022/23
<b>Vote Business, Science and Innovation</b>				
<b>Minister for Research, Science and Innovation</b>				
<b>Non-departmental Output Expenses:</b> Research, Science and Innovation: Partnered Research Fund	(1.910)	(6.000)	(7.000)	(8.260)
Research and Development Growth Grants (MYA)	(34.490)	-	-	(65.74)
Science and Innovation: Repayable Grants for Start-Ups	(23.100)	3.000	3.000	3.000
<b>Non-departmental Other Expenses:</b> Research, Science and Innovation: Catalyst Fund	7.000	9.000	9.000	9.000
Research, Science and Innovation: Regional Research Institutes	(4.000)	(0.500)	-	-
<b>Multi-Category Expenses and Capital Expenditure:</b>				
Research, Science and Innovation: Callaghan Innovation – Operations MCA <i>Non-departmental Output Expense</i> Building Business Innovation	2.500	4.000	0.500	0.500
Research, Science and Innovation: Talent and Science Promotion MCA <i>Non-departmental Output Expense</i> Science in Society	2.000	2.000	2.000	2.000
Strategic Science Investment Fund (MCA) <i>Non-departmental Output Expense</i> Strategic Science Investment Fund – Infrastructure	2.000	2.000	12.000	2.000

<b>Vote Business, Science and Innovation</b>				
<b>Minister of Economic Development</b>				
<b>Multi-Category Expenses and Capital Expenditure:</b>				
Policy Advice and Related Outputs MCA <i>Departmental Output Expense</i> Policy Advice – Economic Development	0.500	0.500	0.500	0.500
<b>Vote Transport</b>				
<b>Minister of Transport</b>				
<b>Non-departmental Output Expenses</b>				
Administration of the Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme	0.250	0.125	0.125	-
<b>Non-departmental Other Expenses</b>				
Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme (MYA)	4.000	4.000	4.000	-
<b>Multi-Category Expenses and Capital Expenditure:</b>				
Policy Advice and Related Outputs MCA <i>Departmental Output Expense</i> Policy Advice  (funded by revenue Crown)	0.300	0.300	0.300	
Policy Advice and Related Outputs – Civil Aviation MCA  <i>Non-departmental Other Expense</i>  Improving Safety in the Aviation Sector	0.700	0.700	0.700	
<b>Total Operating</b>	<b>(44.250)</b>	<b>19.125</b>	<b>25.125</b>	<b>(57.000)</b>

6. **Note** that the multi-year appropriation Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme in Vote Transport is established at \$12.000 million;

7. **Note** that the profile for the multi-year appropriation Automatic Dependent Surveillance – Broadcast Transponders Rebate Scheme in Vote Transport in the appropriation table above at recommendation 5 is the indicative spending profile;
8. **Agree** that the Minister of Transport will be responsible for decisions on the form of a rebate scheme to support the transition to ADS-B, including eligibility criteria and how the scheme will operate;
9. **Note** the Minister of Transport and the Minister of Finance may, acting jointly, re-profile funding between the ADS-B Transponders Rebate Scheme appropriation and ADS-B Transponders Rebate Scheme Administration appropriation if required to ensure the scheme is administered appropriately;
10. **Agree** that the proposed changes to appropriations above be included in the 2019/20 Supplementary Estimates and that, in the interim, the increases be met from Imprest Supply; and
11. **Note** that this Cabinet paper, the associated Cabinet minute, and key advice papers will be released on the Ministry of Business, Innovation and Employment's, Inland Revenue's and Callaghan Innovation's websites following the public announcements of these initiatives.

Authorised for lodgement

Hon Megan Woods

Minister for Research, Science and Innovation



## Annex One: Sources of funds for reprioritisation

1. The underspend in the Growth Grant appropriation arises from a series of policy decisions taken during the development of the R&D Tax Incentive, and subsequent decisions with regards phasing out Growth Grants.
2. Budget 2018 provisioned \$1,370 million over five years to meet the cost of the R&D Tax Incentive. At this time, the full appropriation for Growth Grants (\$803 million over five years) was retained pending policy decisions on the future of that scheme and its interaction with the Tax Incentive. Those totals are shown in the table below.

	18/19 \$m	19/20 \$m	20/21 \$m	21/22 \$m	22/23 \$m	Total \$m
R&D Tax Incentive Budget 18 provision	\$70	\$280	\$320	\$350	\$350	<b>\$1,370</b>
Growth Grant existing appropriation	\$159	\$174	\$178	\$146	\$146	<b>\$803</b>
<b>Total</b>	<b>\$229</b>	<b>\$454</b>	<b>\$498</b>	<b>\$496</b>	<b>\$496</b>	<b>\$2,173</b>

3. Since these decisions were taken, subsequent policy decisions have been taken to:
  - 3.1. Increase the rate of the Tax Incentive from the proposed 12.5 percent to 15 percent.
  - 3.2. Allow a grand parenting period for current recipients of Growth Grants through to April 2021.
  - 3.3. Increase funding to Inland Revenue by up to \$6 million per year to implement the R&D Tax Incentive.
4. A new forecast presented at BEFU 2019 showed lower than budgeted expenditure in the early years of the Incentive, with an increase across the later years, and an overall outturn slightly lower than the Budget 2018 provision.

	18/19 \$m	19/20 \$m	20/21 \$m	21/22 \$m	22/23 \$m	Total \$m
R&D Tax Incentive Budget 19 provision	\$40	\$158	\$255	\$454	\$454	<b>\$1,361</b>

5. The outcome of these changes and policy decisions, and a further update in the forecast expenditure on the Tax Incentive and Growth Grants following the release of the results of the 2018 R&D Survey by Stats NZ, leads to a spending profile as follows. These are MBIE's latest estimates, and are different to those presented in BEFU. HYEUFU will represent the most up to date estimates.

	18/19 \$m	19/2 0	20/21 \$m	21/22 \$m	22/2 3	Total \$m

		\$m			\$m	
R&D Tax Incentive forecast expenditure	\$54	\$214	\$295	\$454	\$494	<b>\$1,511</b>
Growth Grant forecast expenditure	\$211	\$223	\$161			<b>\$595</b>
Inland Revenue admin costs	\$0	\$6	\$6	\$6	\$6	<b>\$24</b>
<b>Total</b>	<b>\$265</b>	<b>\$443</b>	<b>\$462</b>	<b>\$460</b>	<b>\$500</b>	<b>\$2,130</b>

6. This presents the opportunity for fiscally neutral expenditure within allowances set at Budget 2018. Cabinet has agreed that the cost of the increase in the rate of the Tax Incentive from the proposed 12.5 percent to 15 percent would be accounted for by a commensurate reduction in the amount appropriated for Growth Grants, where this cost could not be met from the Tax Incentive appropriation (DEV-18-MIN-0174 refers).
7. This means that the calls on the Growth Grants appropriation are, in order:
  - 7.1. Payment of outstanding Growth Grants,
  - 7.2. Rate change of the R&D Tax Incentive where required,
  - 7.3. Inland Revenue admin costs.
8. Underspends from the first three years of the Tax Incentive compared to the Budget 2018 allowance (a total of \$95 million) offset increased expenditure in 2021/22 and part of 2022/23, meaning that full calls on the Growth Grant appropriation to offset the cost of the Tax Incentive do not need to begin until 2023/24. Due to the nature of the Tax Incentive appropriation (it is a Benefit Or Related Expense) it is not necessary for us to make those transactions technically; rather I ask Cabinet to note that the proposals in this paper and our most recent expectations of Growth Grant and Tax Incentive expenditure are fiscally neutral compared to our Budget 2018 position.
9. From 2023/24 onwards, I expect the full cost of the rate change to be around \$82 million per year, which will be offset by a reduction in the Growth Grant appropriation.
10. On the most recent forecast, therefore, calls on the Growth Grant appropriation are as follows –

	18/19 \$m	19/20 \$m	20/21 \$m	21/22 \$m	22/23 \$m	Total \$m
Growth Grant forecast expenditure	\$211	\$223	\$161			<b>\$595</b>
Cost of rate change where greater than the Budget 18 provision					\$57	<b>\$57</b>
Inland Revenue admin costs		\$6	\$6	\$6	\$6	<b>\$24</b>
<b>Total</b>	<b>\$211</b>	<b>\$229</b>	<b>\$167</b>	<b>\$6</b>	<b>\$63</b>	<b>\$676</b>

11. Taking all of these movements together, this means that projected spending on direct R&D support (both Growth Grants and the Tax Incentive) is \$43 million less than forecast at Budget 2018 across the forecast period. The total cost of the new initiatives proposed in this paper therefore takes that \$43 million into account while remaining fiscally neutral to the Crown over the forecast period.
12. Past the forecast period, from 2023/24 onwards, new unspent funding will become available in the Growth Grant appropriation. I propose to consider a permanent use for this funding as part of my proposals for Budget 2020, once the incremental cost of the higher Tax Incentive rate has been taken into account. I note that the initiatives I propose in this paper are necessarily time-limited. I will therefore consider whether to fund any of those initiatives for longer than I propose in this paper, alongside other emerging pressures and opportunities.

PROACTIVELY RELEASED