



BRIEFING

Budget 2024: Science, Innovation and Technology summary portfolio information

Date:	2 February 2024	Priority:	High
Security classification:	Budget - Sensitive	Tracking number:	2324-1816

Action sought		
	Action sought	Deadline
Hon David Seymour Associate Minister of Finance	To inform your upcoming discussion	5 February 2024
Hon Judith Collins KC Minister of Science, Innovation and Technology	To inform your upcoming discussion	5 February 2024
Hon Melissa Lee Minister for Economic Development	For your information	

Contact for telephone discussion (if required)			
Name	Position	Telephone	1st contact
Robyn Henderson	Acting General Manager, Science, Innovation and International	Privacy of natural persons	
Privacy of natural persons	Policy Director, Science, Innovation and International	Privacy of natural persons	✓
Privacy of natural persons	Policy Director, Future Research System	Privacy of natural persons	

The following departments/agencies have been consulted

Minister's office to complete:

- | | |
|---|--|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Noted | <input type="checkbox"/> Needs change |
| <input type="checkbox"/> Seen | <input type="checkbox"/> Overtaken by Events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |

Comments



BRIEFING

Budget 2024: Science, Innovation and Technology summary portfolio information

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Purpose

To provide financial information about the Science Innovation and Technology portfolio for the upcoming discussion between Ministers Seymour and Collins.

Executive summary

The Minister of Finance has appointed the Hon David Seymour, in his capacity as associate Minister of Finance, to lead an initial baseline exercise for the Ministry of Business, Innovation and Employment (MBIE).

The exercise will contribute to the Budget 2024 and the fiscal sustainability programme agreed by Cabinet. Minister Seymour is responsible for coordinating across MBIE's portfolio Ministers. We have been asked to provide the information in this briefing to support a bilateral discussion between Ministers Seymour and Collins in the week starting 5 February.

This briefing provides information on historical expenditure in the SI&T portfolio and its predecessors since 2017, and also considers planned expenditure according to current estimates of appropriations following the October Baseline Update.

On current estimates, total expenditure in MBIE's SI&T appropriations in 2023/24 will consist of \$1.44 billion of non-departmental operating expenditure, \$226 million of planned capital expenditure, and \$32 million of departmental expenditure.

Our key observations of the historical and planned changes in expenditure are as follows:

- The largest movements in both operating and capital expenditure are attributable to one-off initiatives with a time-limited fiscal impact, rather than enduring baseline increases.
- Without these one-off initiatives, 'core' operating and departmental expenditure in MBIE's SI&T appropriations will have risen from around \$975 million in 2017 to \$1.2 billion in 2027/28. This is a nominal increase of around \$200 million, but a decrease in real terms.
- Departmental expenditure and FTEs have increased since 2017 due to new functions put in place by the previous Government, as well as increases to match additional work responsibilities.
- Significant capital expenditure of almost \$1 billion is planned for the next seven years. Minister Collins has indicated that she is willing to consider stopping these initiatives, easing pressure on the capital pipeline.

Recommended action

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

- a **Note** that the Minister of Finance has directed that Ministers must identify options to meet a 7.5% savings target from MBIE's eligible base for Budget 2024's Initial Baseline Exercise, equating to \$233.9 million per year across departmental and non-departmental appropriations.

Noted

- b **Note** that for the Science, Innovation and Technology portfolio, a 7.5% target for non-departmental appropriations equates to \$355 million across four years.

Noted

- c **Agree** to the following \$355 million non-departmental baseline savings for the Science, Innovation and Technology portfolio

Agree / Disagree

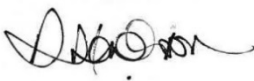
Non-departmental savings initiative	2024/25 \$ million	2025/26 \$ million	2026/27 \$ million	2027/28 \$ million	Total Savings \$ million
Contribution to 7.5% reduction in baseline					
Stop the in-year payment scheme for the Research and Development Tax Incentive (fair value write-down)	22.5	58.0	66.5	0.0	147.0* (requires rephasing)
Reduce funding currently appropriated for National Science Challenges	62.5	32.5	20.5	0.5	115.5
Reduce Strategic Science Investment Fund	0.0	0.0	0.0	Active consideration	
Reduce large contestable funds <i>Endeavour, Health Research, Marsden</i>	0.0	0.0	0.0	Active consideration	
One-off minor savings in 2024/25	8.0	0.0	0.0	0.0	8.0
TOTAL SAVINGS	93.0	90.0	87.0	85.0	355.0
Reprioritisation to fund other within-Vote initiatives					
Reduce National Science Challenges	6.5	20.5	19.5	19.5	66.0
TOTAL REPRIORITISATION	99.5	110.5	106.5	104.5	421.0

d **Note** that savings within the departmental baseline will be managed via the reduction in policy capability across the Ministry.

Noted

e **Note** material contained within this report on changes to the SI&T portfolio since 2017, including in Annex 1.

Noted



Robyn Henderson
Acting General Manager
Science, Innovation and International, MBIE

02 / 02 / 2024

Hon David Seymour
Associate Minister of Finance

..... / /

Hon Judith Collins KC
**Minister of Science, Innovation and
Technology Minister**

..... / /

Hon Melissa Lee
Minister for Economic Development

..... / /

Background

1. The Minister of Finance has appointed the Hon David Seymour, in his capacity as associate Minister of Finance, to lead an initial baseline exercise for the Ministry of Business, Innovation and Employment (MBIE). The exercise will contribute to the Budget 2024 and the fiscal sustainability programme agreed by Cabinet.
2. The Minister of Finance has asked Minister Seymour to focus on:
 - a. Low value programmes.
 - b. Programmes that do not align with the new Coalition Government's priorities.
 - c. Non-essential back-office functions including contractor and consultant spend.
3. Minister Seymour is responsible for coordinating across MBIE's portfolio Ministers. We have been asked to provide the information in this briefing to support a bilateral discussion between Ministers Seymour and Collins in the week starting 5 February.
4. The information includes the non-departmental savings package agreed by Minister Collins in late January [briefing 2324-1797].

Description of programmes

5. The Science, Innovation and Technology (SI&T) portfolio provides funding to support:
 - a. Science (\$950 million per year)
 - b. Callaghan Innovation's operations (\$86 million per year)
 - c. Business research and development, and innovation (\$286 million per year)
 - d. International collaborations (\$22 million per year)
 - e. Uptake and commercialisation of science (\$25 million per year).
6. The goal of the portfolio, and government investment in science, is the production and use of valuable new knowledge and technology, with the aim of growing New Zealand's economy, protecting its environment, and safeguarding the health of its people. In particular:
 - a. There is a proven connection between investment in science and technology and economic growth and productivity.
 - b. New Zealand's low levels of investment in R&D are the main actionable explanation for our weak economic growth and falling productivity.
7. In 2021, New Zealand spent 1.45% of GDP on R&D, compared to the OECD average of 2.71%. Most advanced economies are above, or have serious plans to get above, three per cent of GDP.
8. We are falling behind other advanced economies in our wealth, knowledge, technology, and competitiveness. MBIE's advice is that, while near term reductions in expenditure may be necessary to achieve fiscal stability, ongoing decreases in expenditure on R&D and technology will lead to further loss of productivity and wealth.

Science investments

9. Our science investments are managed through programmes designed to deliver on either one or both of the following types of outcomes:
- a. Sectoral. For example:
 - i. Lifting New Zealand’s ability to prepare for and respond to natural hazards
 - ii. Diversifying New Zealand’s economy
 - iii. Improving the economic and environmental performance of New Zealand’s primary sectors
 - iv. Improving health outcomes for New Zealanders.
 - b. Capability outcomes for the science, innovation and technology system. For example:
 - i. Attracting and retaining early career researchers
 - ii. Providing the infrastructure, such as high-performance computing, that underpins and enables research
 - iii. Growing our researcher talent in emerging disciplines, such as data science
 - iv. Supporting collaborations with international research and researchers
 - v. Increasing public engagement with science.
10. A description of our largest science funds including the types of outcomes sought from each, is provided below.

Fund	Indicative size \$ million per year	Description
Endeavour Fund	248	Supports research, science or technology with the potential to positively transform New Zealand’s economic, social and environmental performance. Excellence and impact. Diverse portfolio across sectors, disciplines, and stages of research. Contestable.
Marsden Fund	79	Supports excellence in science, engineering, maths, social sciences and the humanities. Weighted towards excellence. Diverse portfolio of science disciplines. Contestable.
Health Research Fund	125	Supports innovative, impactful, life-saving health research. Excellence and impact. Contestable.

Fund	Indicative size \$ million per year	Description
Strategic Science Investment Fund: programmes	278	<p>Substantive investments into people, facilities, information and knowledge that provide an ongoing science and innovation capability.</p> <p>Just under \$200 million supports Crown Research Institutes and their respective missions.</p> <p>Broad, diverse portfolio supporting research and capability across Government-set priorities around, for example:</p> <ul style="list-style-type: none"> • Advanced energy technologies • Human and environmental health • Climate change • Data science • Aquaculture • Agri-foods, horticulture and forestry • Geological hazards • Ribonucleic Acid (RNA) technologies • Enhanced land use
Strategic Science Investment Fund: Infrastructure	68	<p>Substantive investments in infrastructure with high national benefit to support excellent research. Examples include:</p> <ul style="list-style-type: none"> • Genomic and bioinformatic technologies • Geohazards monitoring • Research vessel, <i>Tangaroa</i> • Control centre to operate complex satellite missions • High-performance computers and support systems <p>Government set priorities. Bespoke funding and contracting approaches.</p>
National Research Challenges	79	<p>Substantive, long-term investments focused at tackling the biggest science-based issues and opportunities facing New Zealand around:</p> <ul style="list-style-type: none"> • Technological innovation • Natural hazards, climate change • Health, nutrition, homes and cities, • Oceans, biodiversity, and land and water use. <p>Government set priorities. Platforms of collaborative research.</p>
Commercialisation	25	Investments to increase the uptake and commercialisation of science.

Programmes to foster international connections

11. The Government directly invests in international science partnerships through the Catalyst Fund (\$22 million). The fund co-invests in science, and activities that leverage international science and innovation, for New Zealand's benefit.

Callaghan Innovation operations, business research and development, and innovation

12. Callaghan Innovation delivers several funding programmes to incentivise businesses to invest in R&D and support them to grow the size of their R&D programmes. It provides research and development (R&D) incentives, innovation support services, and access to facilities and networking services.
13. The Callaghan Innovation operating appropriation of \$86 million in 2023/24 funds a range of Building Business Innovation initiatives (\$35 million), its Research and Development Solutions arm (\$33 million), and the management of various business R&D and innovation support programmes (\$18 million). These managed programmes are funded separately and include the:
 - a. New to R&D Grant (\$22.5 million) co-funds the cost of building R&D capability within businesses that have not performed R&D before.
 - b. R&D Student Grant (\$15 million) co-funds the cost of employing a current or recently graduated student on a R&D project.
 - c. Arohia / Innovation Trailblazer Grant (\$25 million in 2023/24, rising to \$50 million in 2025/26) co-funds the cost of non-R&D innovation activities.

Research and Development Tax Incentive in-year payments

14. The Research and Development Tax Incentive (RDTI) is part of Vote Revenue and is therefore not covered in this briefing. However, a time-limited scheme to offer loans to businesses against future RDTI credits (the in-year payment scheme) is one of the larger items of expenditure in the SI&T portfolio and is discussed further below.

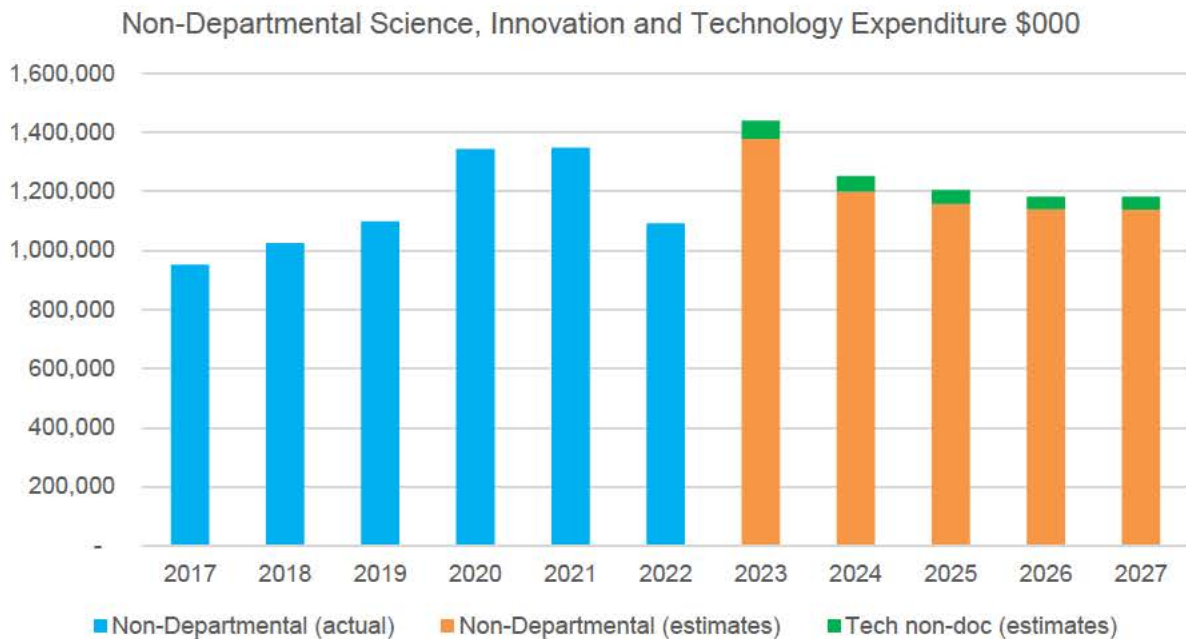
Targeted Business Support for Specific Sectors

15. Technology was added to the SI&T portfolio following the 2023 election. Digital Technology Sector programmes support the Game Development sector. The Game Development Sector rebate (\$40 million per year) targets mid-to-large scale game development studios with a 20% rebate on eligible expenditures. The programme has been piloted and is due to pay out first claims in June 2024.

Breakdown of expenditure and FTE growth since 2017

16. On current estimates, total expenditure in the SI&T portfolio in 2023/24 will consist of:
 - a. \$1.4 billion of non-departmental operating expenditure.
 - b. \$226 million of planned capital expenditure, the majority of which is appropriated for loans for in-year payment of the R&D Tax Incentive.
 - c. \$32 million of departmental expenditure.
17. The most significant items of ongoing expenditure in the portfolio are funding we provide to research organisations (mainly Universities and CRIs) and businesses to perform R&D; these are the research funding programmes described above. These items are captured in non-departmental operating expenses.
18. Capital expenditure, while large when it occurs, has a one-off impact, rather than being an enduring undertaking. It is dealt with separately in the capital section of this briefing. Departmental expenditure, while important, is a minor proportion of the portfolio and is dealt with below.

19. The chart below shows actual and forecast non-departmental operating expenditure administered by MBIE in the SI&T portfolio and its predecessors since 2017¹.



The biggest changes in the baseline are because of one-off initiatives, rather than enduring increases

20. The initial increases in the baseline, 2017-2019, are a set of phased increases which were put in place by the 2014-2017 government. These increases apply mostly to the ‘main’ competitive science funds – Endeavour, Marsden, and Health Research.
21. The larger increases seen in 2020 and 2021 are mainly attributable to time-limited initiatives in response to the COVID-19 pandemic. These included additional funding to CRIs to compensate for loss of commercial income, and a temporary business R&D loan to support businesses to continue R&D programmes during the pandemic.
22. The decrease observable in 2022/23 is mainly attributable to the end of the impact of those time-limited initiatives. Another factor is the closure of most of the large business R&D grants, to coincide with the implementation of the RDTI.
23. The forecast spike in 2023/24 is almost entirely attributable to the cost of the temporary scheme to make advance payments on the RDTI, in the form of loans to businesses. As Inland Revenue will take on this function at much lower cost from 2025 onwards, the loan scheme will close gradually and costs attributable to it will cease.
24. From 2023 onwards, expenditure is forecast to decrease steadily as some smaller time-limited initiatives end. The addition of technology to the SI&T portfolio from this year adds just under \$50 million per year baselined expenditure to this portfolio (shown in green above). This funding was previously managed in the Digital Economy and Communications portfolio, and therefore is a transfer rather than a real increase in expenditure.

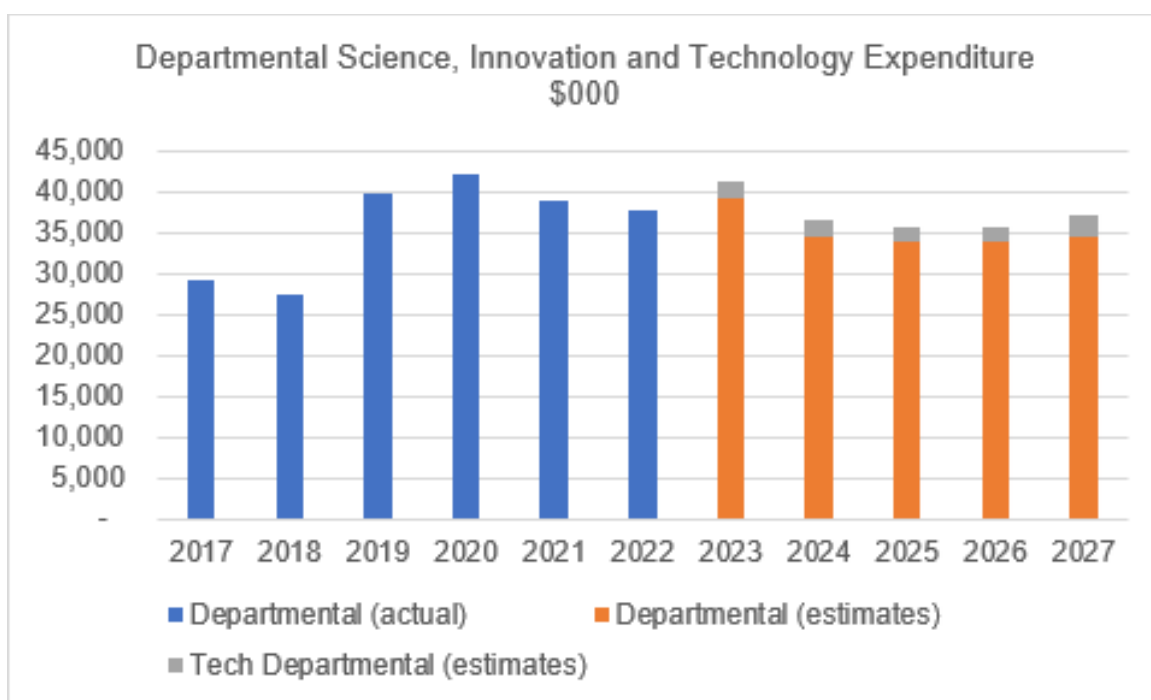
¹ Figures are sourced variously from supplementary estimates, main estimates, and OBU projections. They may not reconcile entirely due to the different accounting basis. Nominal figures are shown.

By the end of the forecast period, real expenditure will have fallen by 11%

25. By the end of the forecast period, SI&T non-departmental expenditure on a comparable basis is currently planned to be in a steady state of around \$1.14 billion per year, compared to \$0.95 billion in 2017. In nominal terms, this is an annual increase of just under \$200 million. In real terms², comparable expenditure will be around 11% lower than it was in 2017.

Departmental expenditure has risen since 2017

26. The chart below shows actual and forecast departmental operating expenditure administered by MBIE in the SI&T portfolio and its predecessors since 2017³. As above, the addition of the technology function into the SI&T portfolio is shown in grey.



27. Increased departmental expenditure between 2016/17 and 2023/24 can be attributed to:

- a. The Innovative Partnerships programme, an initiative that promotes research and development intensive businesses activity in New Zealand (from both domestic and international firms) and co-invests with international partners into New Zealand-based R&D.
- b. A software project intended to provide comprehensive, detailed data on New Zealand's SI&T investment to enable significantly improved evaluation of the relative effectiveness of SI&T investments.
- c. The Te Ara Paerangi programme, a policy reform programme supported by time-limited departmental funding that ends 30 June 2024.

² PREFU 23 CPI, real and forecast

³ Figures are sourced variously from supplementary estimates, main estimates, and OBU projections. They may not reconcile entirely due to the different accounting basis. Nominal figures are shown.

- d. Increases to recognise the increased scope and complexity of departmental work around managing investments and monitoring entities, for example, managing the in-year payment scheme for the Research and Development Tax Incentive.
- e. The portfolio's contribution to corporate initiatives, such as public sector pay adjustments and the renewal of MBIE's financial management information system.
28. A breakdown of initiatives funded in Budgets 2017 to 2023 is provided in Annex One.
29. Total departmental expenditure attributable to the SI&T portfolio is forecast to be \$41 million in 2023, and \$37 million in 2027, compared to expenditure of \$26 million in 2017. On a comparable basis, that is an increase of \$11 million in nominal terms, or around 4% in real terms⁴.

FTE growth since 2017

30. A summary of capability (by FTE) supporting the SI&T portfolio and its predecessors in 2016/17 and 2023/24 is provided in the table below. The figures:
- a. Do not include FTEs relating to technology / digital policy, which was included in the SI&T portfolio in late 2023.
- b. Are indicative given the changing shape of Ministerial portfolios and MBIE's internal structures and availability of source data.
- c. Do not provide a direct correlation with departmental expenses, as they do not include FTEs contributing to functions contributing to the overhead proportion of departmental expenses.

Function	Indicative FTE		Change
	2016/17	2023/24	
Policy	31	66	Increased to support new initiatives: <ul style="list-style-type: none"> • Future Pathways • Innovative Partnerships Incremental increases in other teams.
Operational			
<i>Investment management</i>	65	78	Increased size and number of funds and contracts to be managed. Some roles filled by contractors converted into permanent roles.
<i>Entity monitoring</i>	5	9	Increased number of boards and Crown companies to be either appointed or monitored.
<i>Data analysis</i>	11	10	
Total	112	163	

⁴ PREFU 23 CPI, real and forecast

31. The largest increases in departmental FTEs supporting the Science, Innovation and Technology portfolio (and its predecessors) between 2016/17 and 2023/24 are associated with:
- a. Policy. Temporary increases to support the previous Government's Te Ara Paerangi programme, and the permanent resources to support the establishment of the innovative partnerships function, as described in the section on departmental expenditure.
 - b. Investments management. An increase in the number, size, and complexity of non-departmental funds being invested and contracts being managed.
 - c. Entity monitoring. An increase in the number of boards to which appointments are made, and Crown companies to be monitored.

Alignment of current expenditure with Government priorities

Current expenditure could be better aligned with Government Priorities; work is underway to do so

32. Confidential advice to Government



34. Government science investment currently focuses on areas of traditional interest or economic strength. New Zealand's government funding for environmental and agricultural science is the highest in the OECD by proportion of total expenditure. Areas for future focused growth, such as advanced technology, Artificial Intelligence, quantum technology, and biotech are under-weighted in terms of investment.
35. In addition, our public science system suffers from some long-standing structural problems, including a lack of focus, fragmentation, poor integration, and wasteful or unnecessary competition.

We expect to make significant changes to the SI&T portfolio over the next three years

36. In terms of the problems and opportunities described, work has already begun in MBIE to establish the new Biotech regulator. The removal of unnecessary regulation around Biotech, and its replacement with a modern, enabling regulator, will enable much faster development of world-leading biotechnologies, and new areas of focus for our CRIs.
37. In addition, the Minister of SI&T has asked MBIE to convene an advisory group, chaired by Professor Sir Peter Gluckman, to provide initial advice on addressing systemic issues with the science system in May this year. A reform programme will follow shortly after.

38. As part of this programme, we expect to see:

Free and frank advice

[Redacted]

Revenue and expenditure options

Savings options

Identification of programmes that can be scaled or stopped

39. Minister Collins has signalled a preference to maintain the level of funding supporting business research and development, innovation and commercialisation. The proposed package of savings has, therefore, concentrated in funds supporting research typically undertaken by public research organisations such as Crown Research Institutions, universities and independent research organisations.
40. The impact on research organisations will be material. Most universities and Crown Research Institutes are already under considerable financial pressure given inflation, reduced commercial funding, reduced funding from other Government departments within the tertiary system.
41. The savings package is phased to provide time for organisations to prepare for the changes. We have done this by front-loading time-limited savings into the first three years of the forecast period.
42. The savings package is comprised of a 7.5% reduction to the indicative baseline for the non-departmental appropriations, which equates to \$355 over four years. The package includes:
- a. One-off savings from:
 - i. stopping our in-year payment scheme for the Research and Development Tax Incentive (\$147 million over four years).
 - ii. Other relatively small pockets of funding that will not be spent (\$8 million in 2024/25).
 - b. Enduring reductions totalling Confidential advice to Government over four years to the appropriations currently supporting the:
 - i. National Science Challenges Confidential advice to Government
 - ii. Endeavour, Health Research, and Marsden Funds Confidential advice to Government
 - iii. Strategic Science Investment Fund Confidential advice to Government
43. The proposed phasing for the non-departmental package of savings is provided in the table below. The figures are likely to change as discussions about MBIE's overall savings progress.

Non-departmental savings initiative	2024/25 \$ million	2025/26 \$ million	2026/27 \$ million	2027/28 \$ million	Total Savings \$ million	
Contribution to 7.5% reduction in baseline						
Stop the in-year payment scheme for the Research and Development Tax Incentive (fair value write-down)	Confidential advice to Government					
Reduce funding currently appropriated for National Science Challenges						
Reduce Strategic Science Investment Fund						
Reduce large contestable funds <i>Endeavour, Health Research, Marsden</i>						
One-off minor savings in 2024/25						
TOTAL SAVINGS						
Reprioritisation to fund other within-Vote initiatives						
Reduce National Science Challenges	Confidential advice to Government	Confidential advice to Government				
TOTAL REPRIORITISATION	Confidential advice to Government					

* The available funding in this appropriation is currently phased at \$83m in 2023/24; \$38m in 2024/25; \$26m in 2025/26. It therefore needs to be rephased to realise this savings profile across the four-year period.

44. In terms of the “reprioritisation to fund other” line above, Minister Collins has also agreed that the savings / reprioritisation exercise provides funding for a set of existing SI&T initiatives that align with Government priorities and are currently supported by time-limited funding that will end within the next two years. The initiatives contribute to:
45. Research to better prepare New Zealand to future pandemics of infectious diseases, and responding to natural events and disasters.
 - a. Commercialisation of science and technological research, such as medtech.
 - b. Streamlining of MBIE business processes for making and managing contracts within the SI&T portfolio.
46. Confidential advice to Government

47. Minister Collins has directed us to stop working on Te Ara Paerangi – Future Pathways, which included National Research Priorities. The departmental expenditure for that initiative was time-limited, ends 30 June 2024 and will not contribute to savings in 2024/25.
48. The Science System Advisory Group is being established to provide advice on opportunities to improve the efficiency and effectiveness of the SI&T system. The Group's first report is due in May and its second in October. We expect the recommendations of the Group will inform the priorities and other opportunities to reprioritise within the portfolio.

Savings on contractors, vacancies and overheads

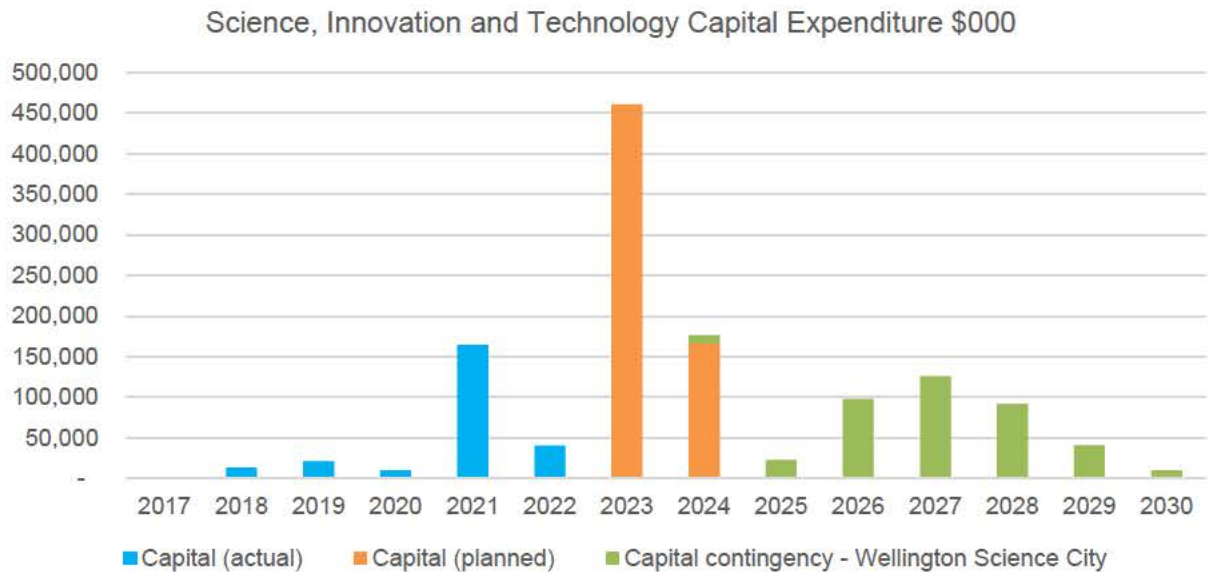
49. All policy and operational areas of MBIE are initially targeting the 7.5% savings from their baselines. They are on track to achieve the approximately \$45 million in savings that this represents. All corporate and technology functions are included in this work (HR, IT and other corporate functions).
50. A 15% target has been set for discretionary spending, for example travel, conferences, training and recruitment. Once Ministers have made final decisions, these corporate and technology functions will seek further operational efficiency savings to support these decisions. MBIE's departmental base (which is a portion of MBIE's eligible base) for the savings target has been reduced to approximately \$570 million as Immigration New Zealand and other functions were removed through the Treasury calculations.
51. For the parts of MBIE supporting the SI&T portfolio:
 - a. We are looking for 10% savings from our policy departmental expenditure, given the challenges of reducing our operational capacity when non-departmental funds are reduced – and still need to be serviced – rather than stopped.
 - b. Recruitment to fill vacancies contributing to policy roles has been on hold since late 2023. The vacant positions will be dis-established and the savings released to contribute to MBIE's overall targets for reducing its policy expenditure from 2024/25.
 - c. A high bar has been set, and will be retained, for engaging contractors. Currently have two contractors on our books. This is a significant reduction in number since 2016/17.

Revenue options

52. We have no revenue generating initiatives in the SI&T portfolio that contribute to MBIE's balance sheet. More broadly, initiatives to augment public expenditure include:
 - a. research organisations, such as Crown Research Institutions, do generate commercial revenue through their fee for service research
 - b. most business research and development grants require co-funding.
 - c. Minister Collins has directed us to investigate opportunities for public / private partnerships.

Capital investment pipeline options

53. Historical and planned capital investment in the SI&T portfolio is shown in the chart below:



54. Smaller historical items mainly relate to property developments, principally the development of the Gracefield site by Callaghan Innovation. The increase in 2021 relates to a short-term R&D loan scheme intended to assist R&D-performing businesses during the COVID-19 pandemic. That scheme has now ended.
55. The significant increase of over \$400 million in 2023 and \$165 million in 2024 is mainly the capital appropriation for the RDTI in-year payment scheme.
56. In addition, there is a capital contingency in the portfolio of \$400 million set aside for Wellington Science City, currently phased until 2030. Wellington Science City has been included in the Capital Investment Pipeline Review process.
57. Minister Collins has indicated her willingness to stop work on the RDTI in-year payment scheme, and Wellington Science City. These measures would generate savings of \$981 million capital over the period until 2030. Additional associated operating savings would also be realised.

Crown entity cash holdings

Commercial information

[Redacted]	[Redacted]
[Redacted]	[Redacted]
[Redacted]	[Redacted]
[Redacted]	[Redacted]
[Redacted]	[Redacted]

Confidential advice to Government

Future funding requirements

64. The SI&T portfolio has not been invited to submit new initiative or cost pressure bids for the Budget 2024 process.

Plans for future reprioritisation

Non-Departmental

65. We note above the intention to undertake a programme of reform of SI&T funding and institutions over the next three years. Confidential advice to Government

66. Confidential advice to Government

67. Even within the savings achieved through this initial baseline exercise, the overall result of reductions to SI&T funding will be that less science, innovation, and technology development will happen in New Zealand, leading to weaker economic growth and productivity improvements.

68. Capitalising on opportunities to produce more science with less money, for example, through new technologies such as AI or cloud-based high-performance computing, will still require up-front investment in those technologies and the people skilled to use them.
69. The Government also an opportunity to increase the effectiveness of our science investments by rationalising and aligning them to the most important goals within new organisations and investment structures. For example, our investments in forestry research represent a high level of subsidy to an industry which invests little itself. And some of our environmental research, such as that into fresh water, are spread across many research organisations and poorly coordinated.

Departmental

70. Our work programme is being developed to align with Ministerial priorities for the portfolio. We will follow with a process to ensure our workforce is sized and aligned to deliver on those priorities.
71. Our investment management operations are managing cost pressures associated with implementing a new IT system used to manage our investment processes and contracts. We expect the new system to realise efficiencies and associated savings in our business processes over the next two years. We have sought funding to cover the cost pressures for that period.

Next steps

72. We can provide further information to support your consideration of the SI&T portfolio as needed.

Annexes

Annex 1: New science, innovation and technology initiatives, Budgets 2017 to 2023

Annex 2: Crown Entity cash holdings

**Annex 1: New science, innovation and technology initiatives,
Budgets 2017 to 2023**

Refer attachment

Annex 2: Crown Entities Cash Holdings

Crown Entity	Type	Total Cash & Term Deposits as at 30 June 2023	Explanation for Level of Cash Held
AgResearch Limited (AgR)	CRI - Crown-owned Company	As at 30/6/23: \$72.9m As at 31/12/23: \$39.7m	<p>AgResearch has recently opened their Lincoln Workplace building, Tuhiraki Research Centre, in September 2023. Due to the complicated nature of the build, their laboratory wing of 3928 m² (total build is 7600 m²), containing both non-PC and PC2 laboratories, was completed in December 2023 with the Ancillary Buildings scheduled for completion in July 24.</p> <p>AgResearch's actual working capital is only \$7.1m as at 31 December 2023, after taking into account revenue in advance and residual payments owing for the Lincoln building construction.</p>
Institute of Environmental Science and Research Limited (ESR)	CRI - Crown-owned Company	As at 30/6/23: \$41.0m As at 31/12/23: \$41.6m	<p>ESR is undertaking a Commercial information to redevelop its Kenepuru facilities which are not fit for purpose and are functionally obsolete, following approval from shareholding Ministers, Minister Collins and Minister Willis, in mid-January 2024. This project will be financed as follows: \$25.0m capital injection from the Crown, Commercial information</p> <p>ESR's total cash and term deposits at 31 December 2023 of \$41.6m includes \$12.2m of Undern cash.</p> <p>In addition to this amount, ESR also has \$2.0m of investment cash held in an account to which it does not have access within 12 months, listed under non-current assets.</p>

Crown Entity	Type	Total Cash & Term Deposits as at 30 June 2023	Explanation for Level of Cash Held
Institute of Geological and Nuclear Sciences Limited (GNS Science)	CRI - Crown-owned Company	As at 30/6/23: \$27.2m As at 31/12/23: \$32.1m	<p>In the past 5 financial years GNS Science has recorded a close to break-even result, with losses in recent years and its cash balance has depleted over time. GNS Science has had its Single Stage Business Case approved for the replacement of its Healy building at its Wairakei site (provisional on an updated cost estimate being provided to officials at the end of the design phase). The most recent estimate for this redevelopment was Commercial information.</p> <p>GNS Science's facilities at Avalon, Gracefield and on its wider Wairakei site are also nearing end of life. The estimated costs of replacing these facilities is Commercial information.</p>
Landcare Research New Zealand Limited (MWLR)	CRI - Crown-owned Company	As at 30/6/23: \$53.1m As at 31/12/23: \$41.3m	<p>The cash balance as at 31 December 2023 can be broken down as follows: contracted and committed revenue in advance (\$32.0m) and the remainder for working capital.</p> <p>MWLR and PFR are considering a joint capital investment proposal for a new biological security research centre at PFR's Mount Albert site. The very early initial cost estimate range for this proposal is between Commercial information. A business case has not yet been produced for this proposal.</p>
National Institute of Water and Atmospheric Research Limited (NIWA)	CRI - Crown-owned Company	As at 30/6/23: \$9.0m As at 31/12/23: Cash and deposits: \$4.0m	<p>NIWA's Greta Point and Christchurch facilities Commercial information</p> <p>NIWA is in the final stages of constructing a new ocean-going research vessel at a shipyard in Spain. The cost of this vessel is \$32.6m with approximately \$8.0m remaining to be paid.</p>
New Zealand Institute for Plant & Food Research Limited (PFR)	CRI - Crown-owned Company	As at 30/6/23: \$11.7m As at 31/12/23: \$21.9m	<p>PFR was provided \$11m in new equity from Shareholding Ministers in June 2023 to secure their financial viability after the north island weather events severely impacted both its commercial and royalty revenue streams. The second tranche of this capital injection (\$17m) was received in the latter part of 2023. PFR must repay both injections once its financial conditions improve.</p>

Crown Entity	Type	Total Cash & Term Deposits as at 30 June 2023	Explanation for Level of Cash Held
New Zealand Forest Research Institute Limited (Scion)	CRI - Crown-owned Company	<p>As at 30/6/23: \$12.4m</p> <p>At 31/12/23: \$8.4m</p>	<p>Commercial information [REDACTED]</p> <p>Scion has a modest cash buffer to manage its operations and withstand shocks and its Commercial information [REDACTED]</p> <p>[REDACTED]</p>
Callaghan Innovation	Crown entity - Crown Agent	<p>As at 30/6/23: \$54.1m</p> <p>As at 31/12/23: \$52.3m</p>	<p>The cash balance at 31 December 2023 can be broken down as follows: working capital (\$11.1m), staff leave (\$3.3), FIN subs (\$2.9m), CAPEX commitments (\$5.8m), Gracefield Innovation Quarter (\$17.1m), SaaS and operational efficiency committed programmes (\$8.3m), Treasury policy liquidity (\$1.9m), [REDACTED]</p> <p>[REDACTED] Confidential advice to Government [REDACTED]</p> <p>Commercial information [REDACTED]</p>

Crown Entity	Type	Total Cash & Term Deposits as at 30 June 2023	Explanation for Level of Cash Held
Research and Education Advanced Network New Zealand Limited (REANNZ)	Schedule 4A Public Finance Act 1989 Company - Crown-owned	As at 30/6/23: \$30.6 m As at 31/12/23: \$31.4 m	<p>REANNZ's constitution provides that it must operate in a financially sustainable manner and manage foreseeable upgrades and increases in Advanced Network capacity through the accumulation of reserves. Commercial information</p> <p>[REDACTED]</p> <p>Confidential advice to Government</p> <p>[REDACTED]</p> <p>REANNZ received funding through Budget 2021 for its National Network upgrade. It has indicated that most or all of the third tranche of funding (\$6.1m available during 2023/24 financial year) will not be required, and REANNZ could return the underspend to the centre.</p>