

Endeavour Fund

Investment Plan

2019 to 2021



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

newzealand.govt.nz

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Minister's Foreword



The Government's vision for New Zealand puts the long-term wellbeing of people and the environment at its centre. This includes priorities of reducing child poverty, access to affordable, healthy homes, opportunities for meaningful work, and a just transition to a sustainable, low-emissions economy.

Research, science and innovation can contribute to these goals by helping us understand and tackle social, economic and environmental problems, improve the sustainable production of goods and services, and deliver effective public services. New ideas, skills and knowledge are also the key to generating options to transform the way we live, work and get value from natural resources.

The Endeavour Fund plays a unique role in the science system through an open, contestable process with a focus on both research excellence and a broad range of impacts. It encourages researchers to sample a diverse range of ideas and conduct excellent research, with transformational potential.

The Government is looking for opportunities to support a number of proposals with potentially transformational impacts for specific priorities of:

- > the transition to a low-emissions economy; and
- > creating and growing knowledge-intensive industries.

The Government believes that transformational change through new knowledge and innovation is a key way to make progress in these areas. The Endeavour Fund continues to support research with a broad range of economic, environmental and social impacts beyond these specific areas.

A handwritten signature in black ink, appearing to read 'M. Woods', written in a cursive style.

Hon Dr Megan Woods
Minister of Research, Science and Innovation
3 September 2018

Introduction

This investment plan covers the three annual Endeavour rounds which will award funding in 2019, 2020 and 2021.

The Endeavour Fund (the Fund) supports excellent research with the potential to positively transform New Zealand's economy, environment and society. The Fund uses an open, contestable mechanism to select excellent research proposals that will provide the highest potential impacts across a range of economic, environmental and societal objectives. The Science Board will allocate funds as set out in the Gazette Notice for each Endeavour Round in accordance with the investment signals and mix of investment set out in this investment plan.

This investment plan should be read in conjunction with the:

- > Gazette Notice for the relevant Endeavour round which sets out the assessment criteria and the amount of funding available.
- > Annual Call for Proposals which includes a description of the current portfolio of Endeavour projects and other information relevant to applicants.

These documents can be found on the MBIE website.

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The Endeavour Funding Process

Applications to the Endeavour Fund will be assessed for their scientific excellence, potential impact, and alignment with the Investment Signals in this Investment Plan.

The Gazette Notice provides the criteria used to make these assessments and the Science Board's approach to decision-making.

The Funding Mechanisms Available

Researchers can apply for funding from two different investment mechanisms; Smart Ideas and Research Programmes.

- > Smart Ideas provide for smaller investments intended to catalyse and rapidly test promising, innovative research.
- > Research Programmes provide for larger investments intended to support ambitious, excellent and well-defined research ideas.

The Funding Available

The Gazette Notice shows the value and duration of investments available under Smart Ideas and Research Programmes. Funding of individual Smart Ideas proposals is capped and although there is no maximum value for Research Programmes investment, the largest Research Programmes proposals will be subject to additional scrutiny by the Science Board because of their size.

Research Programmes Impact Categories

Research impact is hard to predict, especially where the objective is transformational change. Transformational change is not the same as large impact. Transformation involves higher risk, and makes it particularly challenging to quantify potential benefits or provide plausible pathways to impact. As such, it is not appropriate to assess high-risk, transformational proposals alongside proposals with lower risk and more certain outcomes.

To allow funding for research with transformational impact, applications to Research Programmes can be made under two categories, as defined in the Gazette Notice:

1. **Research Programmes: Protect and Add Value**
2. **Research Programmes: Transform**

The table on the following page presents examples of the types of impact expected under the Fund across the different categories and the Fund's objectives.

RESEARCH PROGRAMMES IMPACT CATEGORIES		THE FUND'S OBJECTIVES		
		Economic	Environmental	Society
PROTECT AND ADD VALUE	Immediate Impact	<ul style="list-style-type: none"> > Improved products and services, or > New products or services which fit in existing categories, or > Improved or more sustainable production and other business processes. 	<ul style="list-style-type: none"> > Better environmental management, regulation, conservation or restoration activity. 	<ul style="list-style-type: none"> > Improved techniques for delivery of public services, or > Better evidence for public policy design, or > Better understanding of and resilience to risk.
	Ultimate Impact	<p>leading to...</p> <ul style="list-style-type: none"> > Growth of existing sectors, or > Greater value derived from natural resources, or > Less pollution. 	<p>leading to...</p> <ul style="list-style-type: none"> > Better environmental quality or reduced risks to the environment, or > Less pollution. 	<p>leading to...</p> <ul style="list-style-type: none"> > More effective or efficient public service delivery, or > Better life outcomes for individuals.
TRANSFORM	Immediate Impact	<ul style="list-style-type: none"> > Entirely new category of good or service, or > Technology or practice with order of magnitude improvement in performance or entirely new capability(ies). 	<ul style="list-style-type: none"> > New technique for environmental management, conservation or restoration. 	<ul style="list-style-type: none"> > New ways of living or organising communities and society, or > New mode of delivering public services or new category of policy intervention.
	Ultimate Impact	<p>leading to...</p> <ul style="list-style-type: none"> > Creation of, or growth in, an economic activity which is new for New Zealand, or > Disruption of an existing economic sector, or > Entering or creating new market, or > New types of work, or > New sustainable use or eliminated use of a natural resource. 	<p>leading to...</p> <ul style="list-style-type: none"> > Elimination (virtual or complete) of a pest or the damage it causes, or > Dramatic improvement in state of the environment, or > Elimination of a pollution stream. 	<p>leading to...</p> <ul style="list-style-type: none"> > Total change in the character and magnitude of risks or opportunities people face, or > Order of magnitude improvement in policy efficiency or effectiveness.

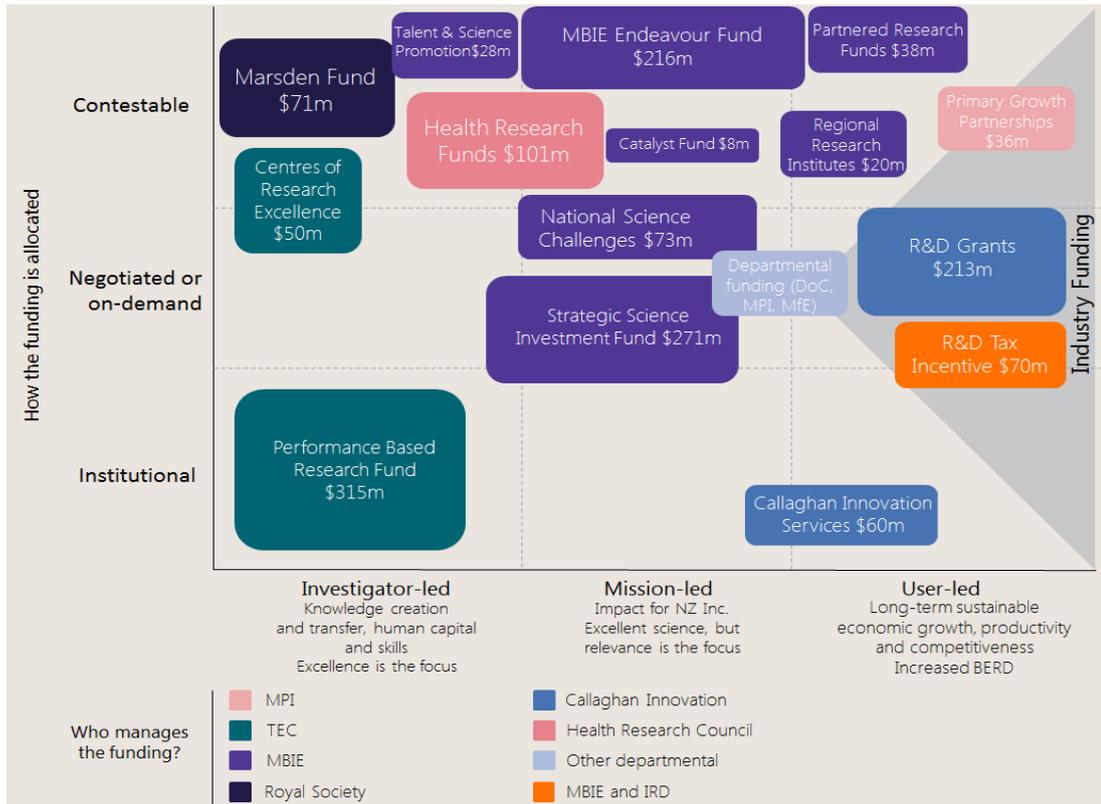
Examples of the types of impact expected under the Fund across the Research Programmes Impact categories and the Endeavour Fund's objectives

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Positioning the Endeavour Fund in the Science Funding System

The Endeavour Fund is the largest contestable, mission-led research fund in New Zealand, and is also distinct from other funds in the breadth, duration and/or type of research supported.

The diagram below indicates how the Endeavour Fund is situated in relation to other government-funded science and innovation investments, by allocation method and type of investment.



Public support for science and innovation per 2018/19 estimates of appropriations

Other Contestable Funds

The Health Research Council of New Zealand funds research with the primary objective of health outcomes, unlike the Endeavour Fund. The Partnerships Fund (within the Partnered Research Fund) and Regional Research Institutes are industry-led and involve significant industry co-funding. The Marsden Fund and Centres of Research Excellence are investigator-led funds.

Other Mission-led Funds

The Government uses the Strategic Science Investment Fund and the National Science Challenges to make significant, stable, longer-term investments targeting particular missions.

Vision Mātauranga

The Vision Mātauranga policy aims to enable a distinctive contribution to New Zealand by Māori through their engagement with research, science and innovation. Vision Mātauranga research involves any combination of Māori knowledge, resources, and people that generates distinctive contributions to research, science and innovation. The policy applies across and is integrated within all MBIE science investment mechanisms.

Giving effect to the Vision Mātauranga policy provides an opportunity to incorporate Māori perspectives into research and development activities. This could mean research may be conducted in new and unique ways. Vision Mātauranga encourages partnership and is designed to inspire researchers to find innovative responses and solutions to the opportunities, issues and needs facing New Zealand.

This could provide opportunities for Māori, individually or collectively, to derive benefit from leading, developing or co-developing, participating or partnering in the research and its implementation. It could also provide opportunities for Māori to fund, take up or leverage off the research.

Vision Mātauranga research may contribute to any or all of the following impacts for New Zealand:

- > enhancing productivity and performance of Māori and non-Māori enterprise through new products, processes and services;
- > achieving environmental sustainability by exploring distinctive Māori relationships with the environment;
- > improving health¹ and social wellbeing for Māori; and
- > generating new knowledge at the interface between indigenous knowledge and science and technology.

THE ENDEAVOUR FUND'S OBJECTIVES IN RELATION TO VISION MĀTAURANGA		
Economic	Environmental	Society
Indigenous innovation: economic growth through distinctive R&D.	Taiao: Sustainability through iwi and hapū relationships with land and sea.	Hauora/Oranga: improved health ¹ and societal wellbeing.
Examples of how Vision Mātauranga research may contribute to the Fund's objectives		

¹ The Endeavour Fund does not fund research with the primary objective of health outcomes but will support this as a secondary objective.



Investment Signals for 2019 to 2021

Through these investment signals the Government seeks to grow and change Endeavour Fund investment through to 2021. They highlight the areas considered to be key to the future prosperity and wellbeing of New Zealand and New Zealanders, while providing sufficient flexibility to allow for the emergence of new and challenging ideas.

General Signals

Applicants should note the following general signals and the implications for their proposals.

G1. Excellent research, with high potential impact in areas of future value, growth or critical need for New Zealand

The Endeavour Fund seeks proposals that demonstrate impact in an area of future value, growth or critical need for New Zealand. As the Endeavour Fund is an open, contestable fund, it will support proposals in a wide range of impact areas.

G2. Leverage wider investment and knowledge, in New Zealand and overseas

Proposals should be well-positioned in the wider domestic and international research context, and leverage additional value from the wider research community.

G3. Give effect to Vision Mātauranga

Proposals should consider opportunities presented by Māori knowledge and, if relevant, identify and respond to these. This includes Māori issues, needs, contributions or innovation that are relevant to the research, its implementation and uptake.

G4. Take account of broader Government policy and strategy documents

Proposals should relate to what is presented in the appropriate Government policy, strategy and roadmap documents and consider how their research is relevant. Alignment with such documents is one way to help demonstrate future value, growth or critical need.

Future Value, Growth or Critical Need Signals

Some specific areas of future value, growth or critical need for New Zealand are listed below. This is not an exhaustive list and it is expected that the Science Board will fund proposals across a much broader range of impact areas than shown here.

When making funding decisions, the Science Board will aim to avoid duplication or excessive concentration of research in any given area, within the Fund or broader science system.

S1. Creating and growing knowledge-intensive industries

The Endeavour Fund is an open, contestable fund so proposals will be considered in any industry sector but the Science Board will aim to increase the proportion invested in knowledge-intensive industries over time.

Some indicators of knowledge-intensity are:

- > above average R&D intensity
- > intellectual property being the basis for business, and
- > significant share of highly skilled employees.

S2. Supporting the transition to a low-emissions economy

The Science Board will look for opportunities to fund research proposals whose primary objective is to create economic value with a radically reduced greenhouse gas emissions footprint.

Funding Targets for the Endeavour Fund Portfolio and New Investment

Funding targets are a mechanism to help the Endeavour Fund achieve its objective. There are two targets; portfolio and new investments.

- > **New investment targets** apply to the make-up of the new contracts awarded in a given funding round.
- > **Portfolio targets** apply to all active contracts receiving Endeavour funding in a given year. This will include both new investment made in the most recent funding round and existing contracts.

As Endeavour contracts are several years long, around one-quarter of the total funding is available for new investment each year. This means it can take many years to achieve a portfolio target. Portfolio targets provide long-term direction, while new investment targets indicate what researchers can expect in funding rounds covered by this Investment Plan.

The annual Gazette Notice provides the total amount of new investment available under the annual Call for Proposals. The targets are:

- > Flexible, so that the Science Board has ability to change the proportion invested in each category in any given round, depending on the number and quality of proposals received.
- > Expressed in terms of the annual (not total) contract value and will be considered independently.

NEW INVESTMENT TARGETS: RESEARCH PROGRAMMES			
IMPACT CATEGORY	INVESTMENT ROUND		
	2019	2020	2021
Protect and Add Value	70%	60%	50%
Transform	30%	40%	50%

The indicative trajectory of new investment over the next three funding rounds.
The proportion of new investment in the Transform Impact category will shift gradually to allow time for sector adjustment.

PORTFOLIO TARGETS: ALL ACTIVE RESEARCH PROGRAMMES		
IMPACT CATEGORY	MEDIUM-TERM (2021/22)	LONG-TERM (2024/25)
Protect and Add Value	70%	50%
Transform	30%	50%

PORTFOLIO TARGETS: RESEARCH OBJECTIVES	
OBJECTIVE	PROPORTION OF PORTFOLIO (annual contract value)
Economic	70%
Environmental	25%
Society	5%

The economic, environmental and society objectives are not individual funds.
Any given proposal may address more than one objective.

PORTFOLIO TARGETS: INVESTMENT MECHANISM MEDIUM-TERM (2021/22)	
	PROPORTION OF PORTFOLIO (annual contract value)
Smart Ideas	20%
Research Programmes	80%



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