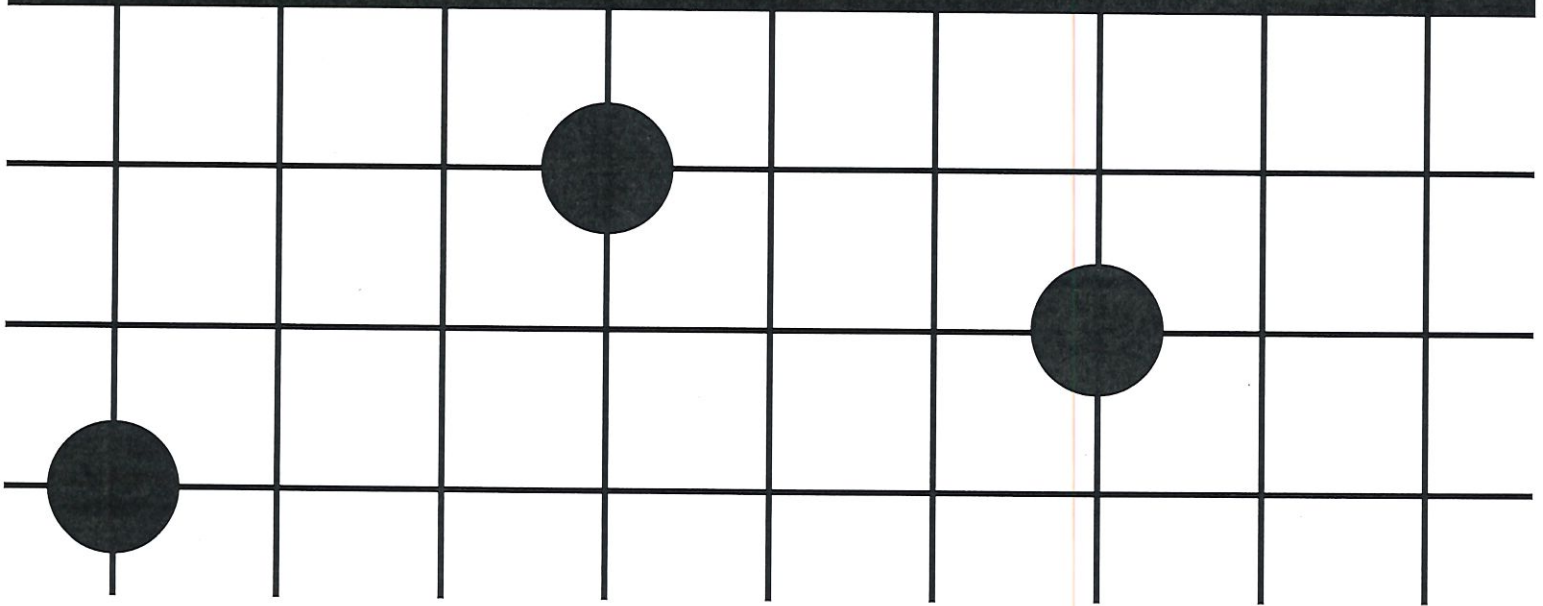


MISSION AOTEAROA

McGuinness Institute,
Mission Aotearoa:
Mapping our Future (2021)

MAPPING OUR FUTURE

→ Discussion Paper 2021/01
McGuinness Institute



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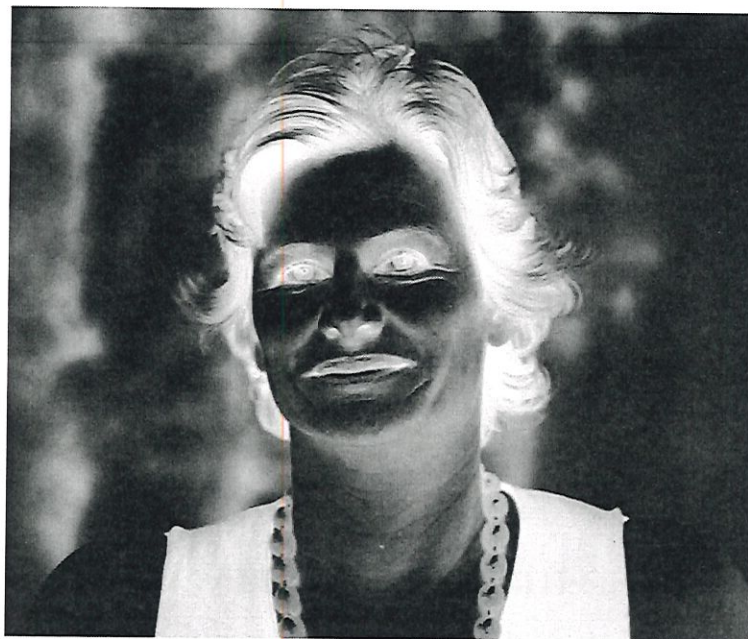
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Foreword

Mariana Mazzucato



Professor Mariana Mazzucato

There has been a lot of talk about the need for economies to be focused not just on the rate of growth, but on the direction. New Zealand is one of a small number of countries that is clearly working hard to create a broader and more considered direction through the lens of initiatives such as the wellbeing budget and Treasury's living standards framework. However, the battle to change direction seems fraught with unforeseen forces beyond our control. It is as though the status quo quietly reconfigures itself behind us while we strive gallantly and loudly into the future.

New Zealand is not unique in this way. Real change is extremely hard to bring about, let alone retain. Therefore, if the goal of government is to tilt the playing field in a direction that is good for society as a whole, the reality is that some members of society who currently benefit from the status quo are likely to work hard to retain the existing system – to secure existing advantages. Hence, trying to make small incremental steps is unlikely to bring about major long-term change.

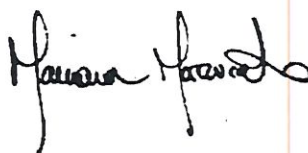
Mission-oriented strategies, and their focus on solving a shared problem, often with the collaboration of the willing, is one way I believe we can not only tilt the platform but ensure the tilt remains in place. This is because the energy released during a mission creates both the momentum for change and the glue to build a more flexible, integrated and resilient system.

However, to garner enough momentum to tilt the platform, a mission must be fearless. It must be bold in order to activate innovation across sectors, across actors and across disciplines – embracing bottom-up

solutions and experimentation. It can be a new way to think of industrial strategy, away from a list of sectors towards a concrete set of challenges that require all sectors to invest and innovate towards. This means public grants and loans should have conditionalities attached, to make sure public-private partnerships are more dynamic and symbiotic.

Missions are not a fun new tool but an exciting new way to frame how we might do capitalism differently. It is therefore terrific to work with New Zealand because you really are at the forefront. People talk about New Zealand as a country that is absolutely trying to transform its economy in a fundamentally different way. These new ways of framing old problems require new approaches to structuring government tools like procurement, grants, loans and prizes to catalyse transformation. While we are keen to bring to New Zealand lessons we have learned while working with different governments, we are especially keen to learn from you. Thank you for inviting both Rowan Conway, Head of Mission Oriented Innovation Network, IIPP, and myself to share our thoughts and ideas.

Best wishes,



Mariana Mazzucato

University College Professor and Director of the UCL Institute for Innovation and Public Purpose (IIPP)

StrategyNZ: Mapping our future – Ten years on

Wendy McGuinness

‘One hundred inspired New Zealand entrepreneurs can turn this country around. That is the challenge for us all.’

– Sir Paul Callaghan (1947–2012)

Twelve speakers congregated virtually on 30 March 2021 to discuss the long-term future of New Zealand and the strategies and innovations that New Zealanders can use to bring about change. The COVID-19 pandemic has necessitated a widespread shift towards the use of digital communication and *Mission Aotearoa: Mapping our future* was no exception. The platform on which the webinar took place is a form of innovation that reflects the global times. It was orchestrated over the digital teleconferencing app Zoom, which facilitated a wide-ranging conversation about strategy, innovation and technology across multiple time zones and countries.¹

Background

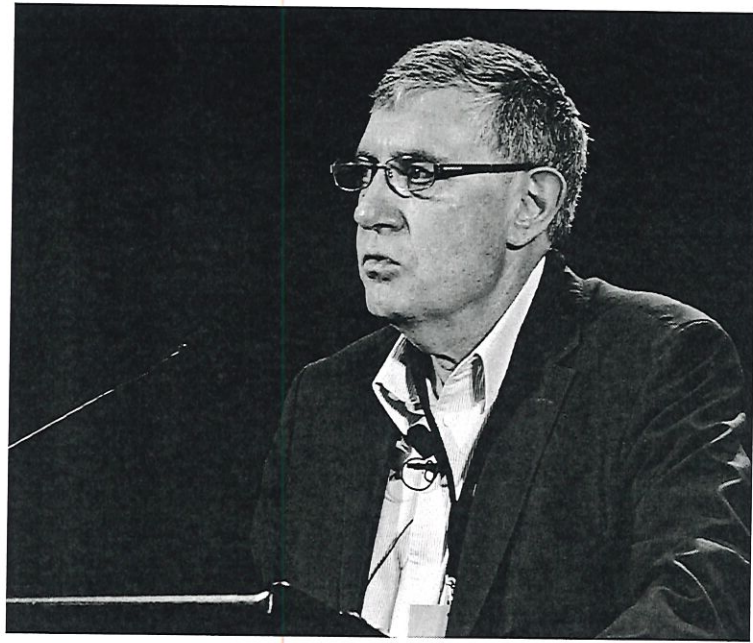
In 2008, while returning from my first World Futures Conference, the idea of a strategy workshop on New Zealand’s long-term future was born. This became the 2011 *StrategyNZ: Mapping our future* workshop. While flying over the Pacific Ocean, I wrote my tentative list of potential keynote speakers and then spent the next few years travelling around New Zealand listening to each of them. It became very clear that Paul Callaghan (later the 2011 Kiwibank New Zealander of the Year) had the traits I was looking for. By then, he had become quite unwell and was initially unsure if he would be able to contribute, but, miraculously, he confirmed while on a sabbatical in Cambridge. He said that he had prepared his presentation and he had a message to share.

Mission Aotearoa: Mapping our future marked the tenth anniversary of Sir Paul Callaghan’s 2011 keynote address at *StrategyNZ: Mapping our future*, where he challenged New Zealanders to think about the type of country we might like Aotearoa to become. Sir Paul’s 20-minute address identified and busted key myths, then suggested the country should focus on creating ‘a place where talent wants to live’.

In this talk,² he put forward his unique strategy. ‘Creative and talented people have a choice where they live in the world,’ he said, so the goal is to make New Zealand ‘a place where talent wants to live.’ From his perspective, this meant creating a low-carbon, sustainable economy that not only had a minimal impact on the environment but worked to strengthen the environment for future generations. Sir Paul said:

I am not interested in a \$60 billion one off at the cost of all we hold dear. I want \$40 billion a year, sustainably, for the future, in a way that doesn’t damage all that is important to this country and is why we love it and why it’s where we want to be.

This is perhaps illustrated best by the topic of his last public event in early 2012, where he spoke about another goal: to make New Zealand predator-free by 2050.³



Sir Paul Callaghan at StrategyNZ: *Mapping our future* on 30 March 2011

Ten years on

In late 2020, the work and thinking of economist Mariana Mazzucato, from the UCL Institute for Innovation and Public Purpose (IIPP), began coming up in conversations and in the academic literature. So, while the Institute began looking at ways to commemorate the 2011 *StrategyNZ: Mapping our future* workshop and, in particular, Sir Paul's keynote, it became increasingly apparent that there were common threads between Mariana's work and Sir Paul's vision.

I was initially wondering if it was a mere coincidence, but Rowan Conway, Head of Mission Oriented Innovation Network at IIPP and speaker at *Mission Aotearoa: Mapping our future*, independently confirmed that Sir Paul's 2011 speech and the work of the IIPP were very aligned. For example, Sir Paul was proposing New Zealanders should join him on a 'public purpose mission', in this case to make New Zealand a place where talent wants to live. *Missions: A Beginners Guide* (2019),⁴ a paper written by Mariana Mazzucato and Dr George Dibb, explained it this way:

We use the concept of public value as a way to think about which direction innovation and industrial policy takes. Public value is value that is created collectively for a public purpose – this requires citizens to engage in defining purpose, nurturing capabilities and capacities, assess the value created, and ensure that societal value is distributed equitably.

Sir Paul's speech and the IIPP's work were also aligned in that they advocated a strategy that was not based on fluff, fantasy or myths, but on trusted data, reliable information and well-considered knowledge. Sir Paul spent the first half of his talk busting myths. The Mazzucato and Dibb paper said that one of the key criteria was to: 'Set a clear direction – targeted, measurable, and time-bound: Missions need to be very clearly framed while enabling long-term investments, they need a specific target that can either be formulated in binary ways (as clearly as whether humans have reached the Moon and returned safely) or quantified (as clearly as whether a certain percentage reduction in carbon emissions against a baseline has been reached across manufacturing)'.

The Mazzucato and Dibb paper went on to note that missions are not new – 'they have been used to inspire and direct action throughout history. A generation of missions in the 1960s were technological – such as NASA's Apollo mission of putting a man on the Moon by the end of the decade.' Sir Paul told a story that challenged New Zealanders to be ambitious for our country and invited a collaboration of the willing to create a talent-based economy. Similarly, in 1962 US President John F. Kennedy had told a story that challenged US citizens to be ambitious for their country and invited a collaboration of the willing to create a scientific and engineering-based economy.

President Kennedy said:

We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.⁵

Lastly, Sir Paul said, this work will be fun. A public purpose becomes stronger and more dynamic when couched in terms of building creative and durable relationships, learning lessons by doing, and being of service to others (including those you may never meet). Such an approach not only unites us but also sets us free to explore, fail fast and try again. Mazzucato and Dibb's paper emphasised this by stating it is essential to: 'Encourage cross-disciplinary, cross-sectoral, and cross-actor innovation: Missions should be framed in such a way as to spark activity across, and among, multiple scientific disciplines (including social sciences and humanities), across different industrial sectors (e.g. transport, nutrition, health, services), and different types of actors (public, private, third sector, civil society organisations).'

The Mission Aotearoa webinar

This collaboration between the IIPP and the Institute led to the *Mission Aotearoa: Mapping our future* webinar. Callaghan Innovation (which was named after Sir Paul) embraced the idea, along with a diverse range of speakers. Over 400 people joined us live and, as we go to print, over 500 more have viewed the video on YouTube.

Catherine Callaghan, Sir Paul's daughter, shared her observations of her father's keynote address, and Rowan Conway (UK) shared her observations on this new theory of change – a mission-based approach. This was followed by what we called the four 'originals' who had spoken at the 2011 *StrategyNZ: Mapping our future* workshop: Dennis Bushnell (US), Aaron Maniam (Singapore), Sam Morgan (NZ) and Alex Fala (NZ). They shared their observations of the last ten years.

Sir Paul was extremely curious and was always making space to listen and learn from others, especially Māori: he learned te reo, read vigorously to try and understand Aotearoa's complex history, and sought out Indigenous knowledge and new ways of looking at the world. He would have been particularly honoured to hear Sacha McMeeking (Ngāi Tahu) and Jamie Newth (Ngāpuhi) share their thoughts and ideas on the more tested theories of change being practised by iwi and hapū over the centuries and the new and innovative approaches driving the Māori economy in 2021.

In the final session, Donna Purdue, chief economist at MBIE, shared her observations on mission-oriented strategies and her thoughts on the type of change we need. Vic Crone, chief executive of Callaghan Innovation, shared her thoughts on next steps and her ambitions for Callaghan Innovation going forward.

Te Wai Coulston (see page 23) brought the webinar to an end by asking each of the remaining speakers a final question. Given that a number of questions remained, the Institute, with the support of Michelle Pawson (see page 23), attempted to answer these additional questions on pages 18–22.

A special thanks must go to the speakers, including my co-host Te Wai Coulston. Together they are an amazing team, committed to making the world a better place. Julian Andrews, Vision Storyteller at Callaghan Innovation, was my key contact. Most importantly, I would also like to acknowledge Michelle Pawson, who introduced me to Rowan Conway and provided critical guidance as the webinar took shape.

Lastly, thank you to all of you who provided feedback after the event. It was invigorating to hear your thoughts and know that together we were able to provide a useful webinar that gave so many of you time to pause, reflect and reconsider how we might bring about the type of change that is necessary to address the grand challenges we collectively face.

This booklet aims to share the thoughts of the speakers, the thoughts of the audience and the Institute's thoughts on the next steps. Enjoy!



Wendy McGuinness

Chief Executive

McGuinness Institute Te Hononga Waka

- 1 McGuinness Institute Te Hononga Waka. (2021). *Mission Aotearoa: Mapping our Future* (30 March 2021) [Video]. YouTube. Retrieved 21 May 2021 from www.youtube.com/watch?v=9NyobeQ3lbo
- 2 McGuinness Institute Te Hononga Waka. (2011). *Sir Paul Callaghan – StrategyNZ: Mapping our Future – March 2011* [Video]. YouTube. Retrieved 21 May 2021 from www.youtube.com/watch?v=OhCAvllnXY
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- 5 Kennedy, J.K. (1962). *John F. Kennedy Moon Speech – Rice Stadium* [Text]. Retrieved 21 May 2021 from er.jsc.nasa.gov/seh/ricetalk.htm



Catherine Callaghan QC

Barrister at
Blackstone Chambers and
daughter of the late
Sir Paul Callaghan, UK

Catherine is the daughter of Sir Paul Callaghan. In 1996, she left New Zealand for the UK to undertake her Masters in Law at the University of Cambridge. Following a two-year stint as a solicitor in the London office of Clifford Chance, she transferred to the English bar, where she has built up a successful practice as a barrister at Blackstone Chambers, specialising in public and regulatory law. In 2018, Catherine was appointed a Queen's Counsel, becoming the first New Zealand woman barrister to receive this honour. Catherine wrote the foreword for and helped edit *Luminous Moments*, a Bridget Williams Books collection of her father's essays and speeches. She is proud to be a shareholder in Magritek, a successful advanced technology company founded by her father.

It was ten years ago today that my father Paul Callaghan laid out his vision for New Zealand's future as a country with a sustainable, knowledge-based economy. Paul understood that New Zealand's future prosperity could be secured with just a hundred more technology companies, producing 40 billion dollars a year in exports. He also saw that it was important to make New Zealand a country where talent wants to live. This could happen through the creation of a business strategy that prioritises the development of sustainable economic growth, while protecting the environment, addressing inequality and improving quality

of life in New Zealand. Paul's address was taboo-breaking and myth-tackling, and it challenged New Zealanders' concept of their place in their own country and in the world.

There was a multifaceted impetus behind the address; my father frequently challenged conventional wisdom and liked to apply scientific-based thought to statecraft. My father was a passionate New Zealander, who cared about New Zealand's future, and cared about what would happen to the country long after he had gone. There was also a personal dimension for him. When he delivered that address ten years ago, he knew he didn't have long to live. In fact, he died of metastatic cancer almost a year later. My father felt a sense of urgency to communicate his vision for New Zealand while he still could.

His two children went on to build their own lives away from the country he loved. For this reason, he had a personal interest in ensuring that New Zealand became a place to which talented expatriate New Zealanders might return. By continuing to talk about my father and his ideas, we enable him to keep talking to us and sharing his enthusiasm for working together to create a better country and a better world for current and future generations.

My father was a passionate New Zealander, who cared about New Zealand's future, and cared about what would happen to the country long after he had gone.

Final question: Paul was an incredible storyteller – was he always like this? And is storytelling an effective mode of calling people to action?

Paul Callaghan was always a storyteller. Growing up with this man, we would sit around the dinner table every night and talk, and he would tell stories about his childhood, his ancestors, world history and current events here and abroad. Storytelling is very powerful – if New Zealand is going to go in a different direction, we have to think about the stories we have told ourselves over the last 20 to 50 years and think whether those same stories will get us to where we want to be in the next 20 to 50 years. If not, we have to start thinking about new stories that we want to tell and look at ourselves in a new way. New Zealanders are not just people who are good with a bit of number eight wire; we are creative and intelligent and can foot it with the best on the world stage.



Rowan Conway

Head of Mission Oriented Innovation Network at University College London (UCL), UK

Rowan leads the Mission Oriented Innovation Network (MOIN) at UCL's Institute for Innovation and Public Purpose (IIPP). Since 2019, Rowan has led MOIN to build on the seminal work that the IIPP has done with the European Commission, government departments, institutions and innovation agencies. Prior to joining UCL, Rowan was Director of Innovation at the Royal Society of Arts (RSA) where she set up the RSA Lab. She holds an MSc in Responsibility and Business Practice from the University of Bath and is a PhD Candidate at IIPP.

My role here is to share some thoughts with you from my work at UCL's Institute for Innovation and Public Purpose. I am going to offer some ideas and insights into what mission-oriented innovation is, based on the work of my colleague Professor Mariana Mazzucato.

Her long-running work looks into the concepts of public purpose-driven innovation and considers how to change how innovation is imagined, practised and evaluated. This work seeks to shift public policy development so that innovation has a distinct direction. See Figures 1 and 2 below.¹

Missions also provide a highly visible and explicit invitation to innovate, without which a challenge such as climate change might otherwise seem too large or existential to tackle.

In my role as director of Mission Oriented Innovation Network, we work with public agencies to bring about revived notions of public value that place public purpose at the centre. Value in the modern world is currently dictated by market ideals of efficiency and cost reduction. With a mission-based approach, the aim is to broaden the concept of public value for future leaders.

Intersecting political, technological and social issues accompany modern problems. The targeted mission-based approach should set a series of challenges and micro-challenges to address this. The challenges will require a collaborative effort from multiple actors and they will create a portfolio of projects. Missions should be bold, cross-sectoral, realistic and clear in direction and measurability.

Figure 1: The predominant approach

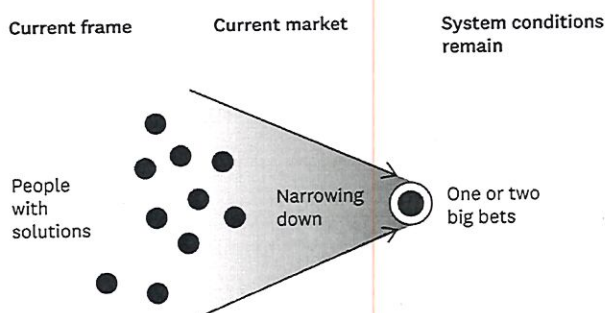
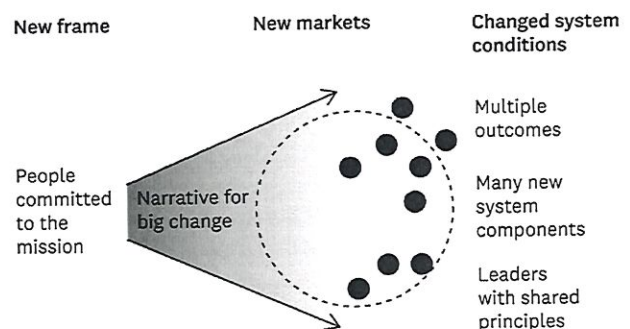


Figure 2: The mission approach



¹ Conway, R., Leadbeater, C. & Winhall, J. (2019). *The Impact Entrepreneur: Building a New Platform for Economic Security in Work* (pp. 14–15). Royal Society for the Encouragement of Arts, Manufacture and Commerce. Retrieved 24 May 2021 from www.thersa.org/reports/impact-entrepreneur-economic-security-work

A statement that we use a lot at the IIPP is 'Innovation is political.' This can be explained by two main issues in mission development. The first is the decision on whose vision should determine the mission's course. The second is the imbalance in perception and support of mission types. Technological missions may receive widespread approval and institutional support because of their perceived neutrality. In contrast, missions that focus on climate change are viewed as inherently political and therefore may receive more resistance in their implementation.

We need mission-oriented innovation as we need a middle ground between the macro of the sustainable development goals and the micro of start-up actions. This mezzo-action has both public buy-in and the support of a clear policy framework. We have reached

a global consensus on our need to address the climate crisis, yet efforts to translate this into direct and effective action, thus far, have been insufficient.

Governments and organisations globally have recognised the need to convert this public consensus into action. Missions aid the conversion by setting a clear and targeted direction. Missions also provide a highly visible and explicit invitation to innovate, without which a challenge such as climate change might otherwise seem too large or existential to tackle.

Countries and institutions worldwide such as the EU, Australia, Denmark and Pakistan have deployed missions. However, there is no one-size-fits-all mission as they are unique to the conditions of the institutions and societies that produce them.

A new model for innovation is required for future missions. The current frame directs resources, investments and people down a narrow path towards one or two big bets. In contrast, missions should set a target and from there let innovation take its course and expand outwards, enabling multiple outcomes, markets and system components to emerge.

There is a bold political mandate in New Zealand towards climate action: you know what needs to be done; you have capital and capacity; and you have the Treaty of Waitangi as a foundational agreement to implement this mission in partnership.

Systemic challenges are potentially windows through which we can access our ingenuity.

Final question: Are systemic challenges and systemic opportunities the same?

Challenges present opportunities, and the pandemic has created huge opportunities. Systemic challenges are potentially windows through which we can access our ingenuity. However, all challenges don't turn into opportunities and that's why you need directionality and purpose to take on the challenge. This is how opportunities arise. Until you break them down into manageable and practical entry points these crises can seem existential and abstract. The pandemic response has been different all over the world and has been broken down into different issues such as contact tracing, vaccinations and travel. This is an iterative way of identifying opportunities within the large and emergent systemic crisis. We don't 100% know where it is going, opportunities have been taken already, and some have succeeded while others have failed. You're able to travel outside your country, while I'm not able to travel outside my bedroom, so this is how these systemic challenges are different around the world.



Dennis Bushnell

Chief Scientist,
NASA Langley Research
Center, USA

Dennis is chief scientist at NASA Langley Research Center. Dennis is responsible for technical oversight and advanced programme formulation. His work is focused mainly on new approaches to environmental issues, in particular climate issues. During his 52-year career as a research scientist, section head, branch head, associate division chief and chief scientist, Dennis has authored over 250 publications and/or major presentations. He has received numerous awards for his work, and has been the recipient of many NASA medals for outstanding scientific achievement and leadership. Dennis is a member of the U.S. National Academy of Engineering.

New Zealand is a superb place to live with environmental and institutional advantages that boost your sizeable tourist industry. However, I am going to suggest another place where you can capitalise on all of this good living. The adoption of digital technology and digital reality could become a new element of New Zealand's national arsenal to attract talent from outside of the country.

In a modern economy, we create wealth by inventing things. The current New Zealand economy is still largely industrial-age and generates wealth through the extraction of natural resource.

It should instead be replaced with a modernised economy that focuses on intellectual capital.

People that invent the future and create the wealth through inventions can live, interact and operate from anywhere in the world. So their decision comes down to where is a wonderful place to live and raise a family – and that, worldwide, is New Zealand.

New Zealand could become a worldwide Silicon Valley, and it could develop similar productivity and profit to the original Silicon Valley. New Zealand should use the connectivity provided by low-Earth-orbit satellites in its favour in order to ensure that people can operate and interact all over the world. The country should import talented people and export ideas and inventions, and enable this through the use of high-quality internet and digital services. New Zealand could become the preferred place to live and operate from for folks that invent, ideate and create the future.

New Zealand should use the connectivity provided by low-Earth-orbit satellites in its favour in order to ensure that people can operate and interact all over the world.

Excerpts from slides

New Zealand has:

- Clean air
- Superb landscape
- Excellent climate
- Wonderful food
- Good healthcare
- It is a safe society, with a friendly population

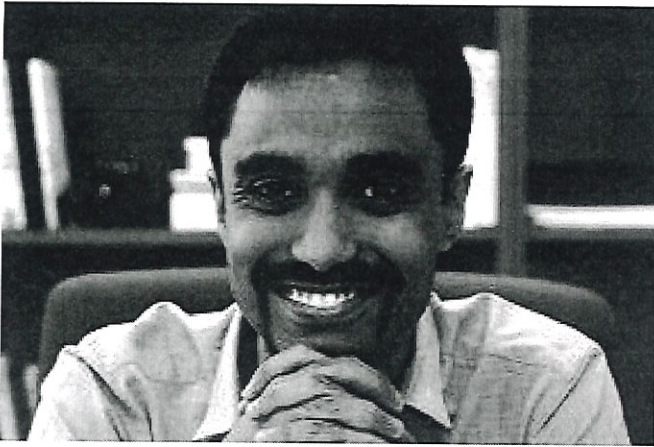
So – a suggested new industry for New Zealand:

Become the preferred place to live and operate from, for folks that ideate, invent, create the future – a worldwide Silicon Valley.

The approximately 50,000 low-Earth-orbit satellites going up will provide superb connectivity, exploiting the 'Death of Distance', so people can work, interact and operate from anywhere in the world. The decision comes down to a wonderful place to live, raise a family – that is, worldwide, New Zealand.

New Zealand imports superb, inventive talent and exports ideas and inventions.

Serious real estate value increases, new needs arise for high-quality services, there are intellectual atmosphere improvements, there is potential Demonstration and Validation (DEMVAl), and there are initial manufacturing opportunities.



Aaron Maniam

Deputy Secretary, Industry & Information, Ministry of Communications and Information (MCI), Singapore

Aaron was the first Head of Singapore's Centre for Strategic Futures (CSF) and organised Singapore's first 'Foresight Conference' in 2011. He later served as Senior Director at Singapore's Ministry of Trade and Industry, coordinating policy on manufacturing, services, tourism and economic transformation. Aaron is currently the Deputy Secretary of Industry & Information at the Ministry of Communications and Information (MCI), Singapore. He coordinates policy on various aspects of digitalisation, including digital transformation of the economy; regulation of telcos, data, AI and other digital infrastructure; digital inclusion and access in social policy; and digital diplomacy. He holds a BA in Philosophy, Politics and Economics (double first class honours) from Oxford, an MA in International and Development Economics from Yale, and a Masters in Public Policy (with distinction) from Oxford's Blavatnik School of Government. He is currently completing a PhD comparing the digital transformation efforts by the governments of Estonia, New Zealand and Singapore at the Blavatnik School.

Looking back on 2011, I want to share one thought on what has stayed the same and two thoughts on how things have changed. In 2011, I discussed how Singapore had implemented scenario planning and other future-thinking methodologies to help prepare the country for the future in a systematic and structured way. The need for this has remained and, in fact, intensified as the geopolitical environment has become more complex.

These strategies have become increasingly relevant in 2021 as the geopolitical system is multi-actor and polyarchy¹ and operates in new dimensions such as technology.

In terms of what is different in 2021, it is clear we now live in a world where some resources have become increasingly generative and reproductive through technological development. Data is one example, as it grows through use instead of becoming depleted.

The exploration of data, knowledge, insight and wisdom will lead to a range of new opportunities in the future, but only if people learn to harness the potential. However, the ability to access those resources is not shared equally.

This leads me to my second major observation: we are increasingly seeing the introduction of new inequalities within society on a state and international level that could not have been imagined ten years ago.

This has come about as a result of the uneven distribution of access to these kinds of newly developed and generative resources.

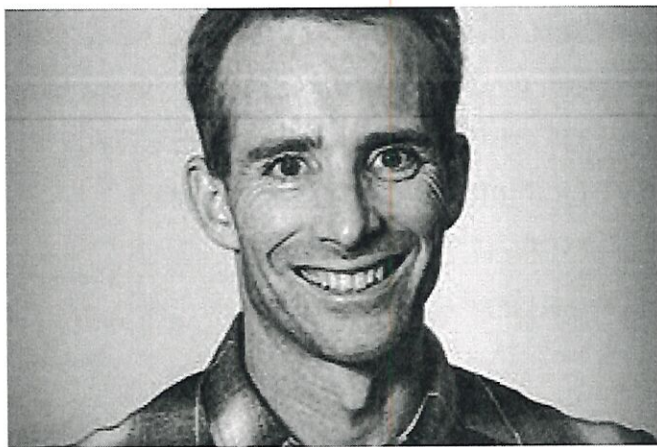
Those without access lack the technological infrastructure, the skills and the financial resources necessary to utilise these resources.

This imbalance is creating pernicious inequalities within societies and between countries.

We need to see ourselves as operating much more in a moral ecosystem than ever before... because we are fundamentally interconnected and interdependent.

In 2021, we need to see ourselves as operating much more in a moral ecosystem than ever before... because we are fundamentally interconnected and interdependent. Within a moral ecosystem, we are not only connected through ideas and interests, but we are also morally culpable for each other. This morality should be harnessed to direct action and enable active participation and engagement globally.

¹ In political science, the term polyarchy is used to describe a form of government in which power is invested in multiple people rather than a dictatorship or a democracy.



Sam Morgan

Entrepreneur,
Founder of Trade Me
and Jasmine Social
Investments, NZ

Sam is an entrepreneur best known as the founder of Trade Me, New Zealand's largest online auction site. The sale of Trade Me enabled Morgan to spend more time within new ventures as an investor and advisor. He uses his company Jasmine Investments to invest in tech companies, mainly early-stage software start-ups. Sam is also the founder and chair of Jasmine Social Investments.

Since 2011, I have observed two major areas that have undergone significant change. The first is technology. In 2011, it was limited by its expense and relative rarity, and by the infancy of technology companies. Over the last ten years, the development and financial success of technology-based businesses has accelerated dramatically. For example, technologies such as solar power are now around 90% cheaper while others, like drones and virtual reality, have become more accessible.

Technology companies are now reigning supreme in the world of business, taking over from the previous giants of retail and oil. In 2020, the future seemed to arrive all at once, with certain technologies – such as worldwide digital communication (like texting) – becoming a commodity service. In the past, many of these technological resources would have been unevenly distributed, but, due to the pandemic, a number have become more evenly distributed.

The second area to have undergone change is money. Mortgage rates have dropped, returns for savers are lower and, on many types of investment, people have to take a lot more risk to get a high return. Borrowing has become increasingly cheap, so New Zealanders have excelled at a core competency of buying and selling houses to each other at ever increasing prices. House prices in New Zealand have increased significantly and have become more expensive than in other major international cities. The combination of low interest rates and the state of real estate mean that buying and selling houses has become, for some New Zealanders, the most effective form of investment.

Those with access to assets and the ability to innovate are obtaining the highest returns, whereas those without these assets are falling behind. For example, technology companies have become significantly more profitable in the

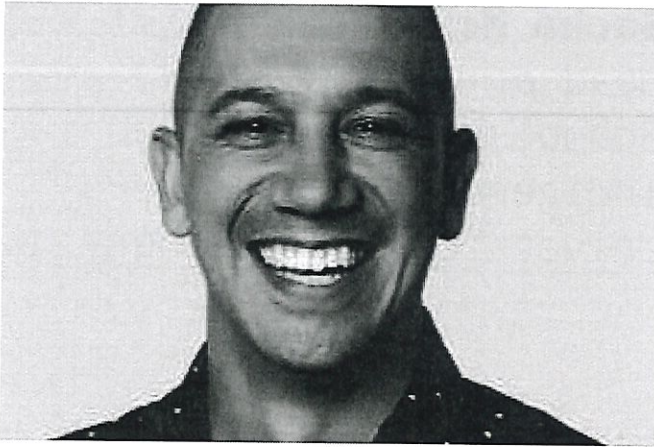
past ten years, as they are able to raise significantly more venture capital today than, say, ten years ago.

There has been a widespread globalisation of businesses through the use of technology. You can now start a business in your bedroom ... and then all of a sudden you're the global business. This has led to a massive accumulation of wealth for a small number of people and the monopolisation of talent by a small number of global companies. Therefore, the ability of a business to acquire and then retain talent is a significant determinant of success, as is the ability to use capital effectively.

New Zealanders have excelled at a core competency of buying and selling houses to each other at ever increasing prices.

Final question: What is the one thing you would do?

I think a lot about how innovation happens in the private sector and how we might influence that. It's not having a lot of meetings with government people and sharing ideas; I think government should set the policy frameworks and then the innovation will happen. In my view, the current tax system is one of the largest impediments we have to actually unleashing innovation. We have seen tax increases in New Zealand for middle-income people, but we have not done anything yet that has reorientated people away from housing, from too much debt, from investing in land. Banks are only lending for people to buy residential property, which is problematic. There is no capital gains tax in New Zealand. For example, wealthy people are able to invest in a company which an entrepreneur sets up. The chief executive gets staff options while investors have shares and enjoy gains of hundreds of millions of dollars with no tax, however, the chief executive only pays 39% marginal tax from the staff option schemes. If I had a magic wand, I would reorientate the tax system to build – not hinder – a productive economy. A capital gains tax of 10, 15 or 20% won't stop investment in technology companies.



Alex Fala

Chief Executive Officer,
Syft Technologies, NZ

Alex is CEO at Syft Technologies. He has deep experience as a leader in some of New Zealand's best-known growth companies, particularly in the technology sector. Prior roles include CEO at Vend, executive roles at Les Mills International, Orion Health and Trade Me, and management consultant at McKinsey & Company. Alex attended Oxford University as a Rhodes Scholar.

I vividly remember Paul Callaghan's talk from ten years ago. His point that New Zealand's expertise in agriculture does not guarantee that we will be inherently good at biotech was compelling and also confronting for me, as I had attended highbrow strategy conversations where someone had made the biotech argument and we had all nodded our heads. Over the last ten years, I have spent my career at the front line of building Kiwi companies on the global stage and, in many ways, I have been able to live through the opportunities Paul Callaghan spoke about. From these experiences, I will discuss six major findings about the world of business.

The first major point is that businesses need to do weird stuff in order to create a diverse and successful economy. New Zealand entrepreneurs in the past decade have succeeded with businesses in varying industries: accounting software, rockets, church payments, respiratory care products and dairy.

Secondly, that we should focus on the weird stuff. Businesses need to invest in weird people who are exceptional and obsessive about their particular entrepreneurial passion, and who don't factor in the government's view on the most attractive markets.

Thirdly, businesses also need to focus on unified efforts from their entire workforce. It takes more than a great entrepreneur or CEO to build a company, as all action happens through the people who are brought onto the team.

Next, New Zealand has massive talent gaps and needs to expand its abilities in areas such as product management and marketing. Many companies only operate in our small, relatively uncompetitive domestic market, which does not prepare them for the challenges of the global market. We need more leaders and mentors in these areas in order to multiply opportunities for entrepreneurs. New Zealand currently has a highly positive global image, which it has not been capitalising on. The window of opportunity to use this positive perception is closing and

New Zealand needs to extend its efforts to bring in talented people.

My fifth point is that the current appeal of New Zealand's standards of governance and environment is at odds with its existing infrastructure issues such as the cost of housing and living. These could deter potential investors in the country's long-term future.

Lastly, young, creative entrepreneurial New Zealanders face significant push factors of radically rising house prices and other inequalities that previous generations did not. It is highly important for New Zealand to address these internal issues in order to retain New Zealand talent as well as boost its global appeal.

After ten years, Sir Paul's vision of a place where talent wants to live rings even more true. It captures our goals and also gives us a clear policy direction through which to achieve them. COVID-19 has gifted us an opportunity to reset, to rediscover the taonga of Aotearoa and to relaunch ourselves into the world, so New Zealanders should be bold and commit to that mission.

Final question: What is the one thing you would do?

House prices need to go down. It is about social mobility. House prices are the biggest barrier to social mobility; this compounds inequality over time and entrenches society into social classes. This goes against what Aotearoa New Zealand is about: people came here for the opportunity to create something. I live in Auckland – it is increasingly a segregated city, which is not a popular thing to say. Middle-class Aucklanders go home and look at how they can leverage their equity and expensive house into a more expensive house or into a beach house in Mangawhai. This is compounding problems. House prices are the most obvious problem in the country and the most direct lever that we can push to bring about positive change.



Sacha McMeeking

Head of Aotahi –
School of Māori and
Indigenous Studies,
University of Canterbury, NZ

Sacha (Ngāi Tahu) is the Head of Aotahi – School of Māori and Indigenous Studies at the University of Canterbury (UC). Before coming to UC, Sacha was the director of a boutique consultancy working with iwi Māori in strategy development, kaupapa Māori asset management and innovation, as well as the General Manager Strategy and influence at Te Rūnanga o Ngāi Tahu, responsible for government relations on behalf of the iwi.

There are a range of potential approaches that could be taken in response to the grand challenges Aotearoa New Zealand faces. One such approach involves applying the lens of the Treaty of Waitangi. Using the Treaty partnership lens to solve problems can frequently lead to the creation of new frames of reference and mental models which, in turn, might mean that new ways of thinking, types of action and even key players are identified.

In addition to the Treaty partnership approach, there is also what is frequently termed the 'Māori way'. Using this method, the problem tends to be focused on non-linear and grassroots action. This approach is characterised by the principles of ground-up, community-level solution building (which is in line with Māori social structures) and the creation of change through stealth mechanisms.

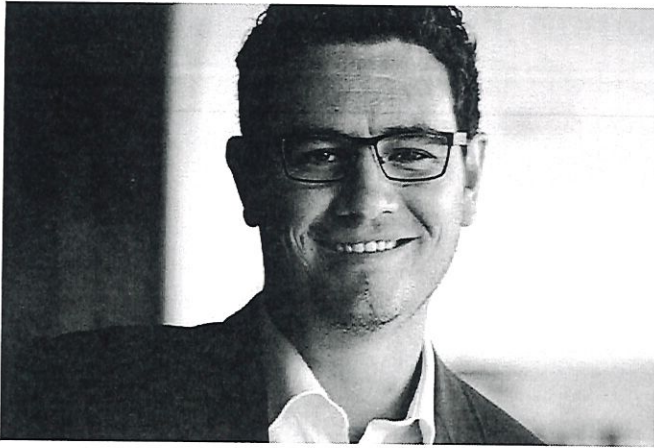
For example, when a kaumātua suggests that a young person should take on a specific role, what the young person sees is the immediate opportunity, and what the kaumātua sees is what that leads to. This could be the creation of a new social role or the creation of confidence, skills and community focus in the young person.

There is potential to utilise the organic, serendipitous approach that mirrors wider Māori culture as a reservoir of precedents for approaching social challenges and social transformation.

Final question: The Māori economy has grown to just under \$69 billion in assets this year, but assets are not the best measure of wellbeing – one could argue that impact is. Where do you see the opportunities for the Māori economy, thinking about where it is now and where it could be in the next ten years?

For the Māori economy, there are a couple of important principles to acknowledge first. What is the definition of an economy? At the moment we are describing the entities that are majority-owned by Māori, and that is a sector within our economy, but not an economy proper. Economies have institutions like shared norms and give effect to that in their economic endeavour. The most important challenge for the Māori economy in the next decade is to genuinely become an economy. At the moment there is a performance gap between the rhetoric and what we do. Entities have predominantly adopted a Western model of corporate governance and are still journeying through approaches for values-based innovation and economic endeavour. There are some leading lights operating their enterprises for traditions-based values, but there are entities that are stepping into the courageous zone of being values-led.

As an example, even though Ngāi Tahu bought Go Bus because it had an adequate ROI for distribution purposes, this was not an asset that was deeply aligned with our social and cultural values or our aspirations as a community. The ability for Māori entities to step into genuine values-based innovation will be a litmus test. There have only been 20 years for Ngāi Tahu to be wealthy; there were a prior seven generations of dire impoverishment. The first challenge with receiving a settlement is to not 'stuff it up'. The goal must be to ensure the economic inheritance exists in perpetuity, so it is appropriate to be conservative in the short term. Increasingly, patience is running out in our community over values-based alignment. While New Zealand has a general societal push to transform our economy, to live within planetary boundaries, to contribute to more positive social and environmental outcomes, there is about to be a crisis of legitimacy in the Māori economy that will accelerate experimentation but may weaken our social licence.



Jamie Newth

Lecturer at University of Auckland and CEO at Soul Capital, NZ

Jamie (Ngāpuhi) is the Director and CEO of impact investment firm Soul Capital. He is currently a lecturer at the University of Auckland Business School and a member of the National Advisory Board for Impact Investment. His research looks at social innovation and entrepreneurship, as well as impact investing. His teaching focuses on experiential learning for start-up entrepreneurship.

I have worked hard to understand the current parameters of innovation and the actions that need to take place in order for true change to occur. Although the quality of life has improved over time because of innovations and reductions in global poverty in the last decade, societal inequality and environmental degradation remain. Therefore, improving our ability to innovate appropriately is essential if we want to address the issues facing our modern world.

However, the institutional gravity of the status quo is so powerful, more powerful than the gravity that held us to the planet, and we need to get used to the idea that the institutional change that is required to meet these grand challenges is going to be really uncomfortable. We need to innovate to solve these grand challenges; we should politicise this innovation because we need governments to create new contexts so that these types of innovation can take place. This means we must privilege these new contexts over those that reinforce and perpetuate the power structures of the status quo.

The change required to deliver a sustainable economy is going to be uncomfortable for those currently benefitting from current institutional arrangements – yes, this is about power and that's why its inherently political. We have to accept this discomfort as a consequence of this shift towards a more sustainable and productive economy. New Zealand has a unique opportunity to do this through the Treaty of Waitangi given it provides a legal and moral basis for radical action and change.

Therefore, I support Rowan Conway's concept that innovation is political and thus the playing field – that is the entrepreneurial ecosystem we are already very intentionally creating – needs to be tilted towards the types of innovations and firms that will directly improve the sustainability of our economy, and not just its rate of growth.

New Zealand's entrepreneurial ecosystem needs a purpose, not just acceleration, in order to drive sustainable growth and a different type of development. To help make this happen, investors need to challenge the status quo and seek out the kind of investments New Zealand should foster. For example, should New Zealanders prioritise and fund those who are actively targeting social and environmental issues, rather than dealing with them as ancillary? A reprioritisation of this kind would mean a revitalisation of the core conception of company purposes to consider morals as part of the overall purpose and a new understanding of the type of social licences the community gives businesses.

A change in perspective is necessary in order to view these new ventures as key engines of change, which is not just about speed, but direction.

Final question: What is the one thing you would do?

Entrepreneurs are actors who work within a structure, and the government can shape that structure and create those markets. This means we cannot just let a thousand flowers bloom; we have to think intentionally about the structure we create for entrepreneurs. I think if we could wave a magic wand and apply it to what Sacha McMeeking was talking about in terms of the Māori economy, then perhaps we would think more broadly about value – answering questions such as, 'What kind of value we are creating and for whom?' The reason this question resonates with the Māori economy and Indigenous enterprise is that the separation between societal wellbeing and commerce has never truly happened. And, arguably, their attempted separation in recent years has created the grand challenges we face today. To solve our current problems, we need to either revisit past Indigenous tools or seek out new policy tools that are likely to deliver on the values and society we are trying to create. What is clear is that we cannot use the current policy tools that created the grand challenges in the first place.



Donna Purdue
Chief Economist,
MBIE, NZ

Donna is the Chief Economist at the Ministry of Business, Innovation and Employment (MBIE). Donna has a first class honours degree in economics from the University of Waikato. She started out as an economist at Ord Minnett Securities in Auckland. Since then, she has worked with the British High Commission, the New Zealand Institute of Economic Research, Westpac, and as Chief Economist at Kiwibank. She joined MBIE from New Zealand Treasury in 2016. Donna works to grow understanding of the impact of business practices and productivity in New Zealand.

What I am going to share is my personal perspective, coming from the private sector into the public sector. In my view, the policy environment is changing and we need new ways of developing policy in order for the government to 'walk the talk' in terms of pivoting and transitioning to a wellbeing economy. In the last few years there has been a shift in what New Zealanders have deemed important – as evidenced through the election of the 2017 coalition government and the 2020 majority Labour government.

What has risen is a modern economic strategy that is not focused only on GDP growth but also on additional factors such as sustainability, productivity and inclusivity.

This new strategy is a fundamental shift because you are no longer talking about just achieving a *rate* of growth; you are talking about achieving a certain *type* of growth.

Growth at the expense of the environment and communities is no longer seen as acceptable, sufficient or valuable. However, despite this strategic shift, current policy tools still primarily focus on growth rather than other factors. We therefore need to revisit and upgrade existing tools and seek out new tools to align with these new values and objectives.

This shift away from GDP can be attributed to the work of multiple economists and thinkers, as well as multinational economic organisations, who are promoting different ways of thinking about business and innovation. One such example is Mariana Mazzucato, but there are many more. Together, these economic thought leaders are challenging entrenched policy

tools, reassessing the value of societal assumptions and designing new tools for emerging challenges. This nuanced approach is much more reflective of the complexity of economic systems, as it is not focused solely on output and, instead, considers many related factors – such as processes and a much longer policy horizon.

This new thinking enables true cross-sectoral work and co-benefits in governance and policy development. The government, therefore, needs to bring this thinking in from the periphery and into the centre of their policy-making processes. This means working very hard to become more experimental, testing policy tools, and, in some cases, being prepared to fail – ideally, fast. We need to reconfigure current approaches in order to pivot the country to a focus on wellbeing. New Zealand, with our wellbeing budget, is a world leader in this regard, but we need to ensure we are also a leader in the policy tools that will deliver on the vision. This means reviewing existing tools, rejecting some and adapting others, and clearly seeking out new tools to deliver fair and dynamic change.

Final question: What is the one thing you would do?

I would have to say government procurement. I think we have huge opportunities through our supply chain networks to influence how we do things differently and our border outcomes and frameworks that have been introduced and the new rules. This gives us the opportunity to lean into that space and drive change.



Vic Crone

Chief Executive Officer,
Callaghan Innovation, NZ

Vic has significant executive and governance experience in technology and innovation. She brings a strong customer focus and a track record of leading and implementing strategy, as well as building organisational culture. Vic was previously the Managing Director of Xero, NZ, and New Markets, following executive roles at Chorus and Telecom New Zealand. She is Chair of the Stats NZ Advisory Board and Figure.NZ Board. She has also been an Independent Director on the Boards of a number of companies and organisations in the technology sector, including RedShield, Creative HQ and the Hi-Tech Trust.

Prior to 2020, this country had struggled to make progress towards the vision of the future that Paul Callaghan had for it. The challenge of COVID-19 has brought New Zealand closer to achieving the goal than ever before. This is due to the devastation wrought by the lockdown and ongoing border closures on one of our least 'productive' sectors: Tourism.

Callaghan Innovation considers the present situation to be a huge opportunity to shift the dial. We believe there's never been a better time to involve all New Zealanders, regardless of their place in the hierarchy, in the formation of a shared national vision and a shared national strategy.

Such a strategy could result in a 'raranga' or weaving of Government policy, regulation and legislation, of cross-sector work, of private business, of Iwi, and of other communities and interests.

This raranga is similar to the concept of missions: By binding together our collective ambition, experience, skills and assets, we New Zealanders will put ourselves in the best place to solve today's challenges.

But it doesn't stop there. Our raranga will be needed to overcome issues this country will face in the future, such as an aging population and the rising tide of automation. And consider this: With New Zealand currently enjoying its highest ever levels of international attention and appeal, our raranga could become an exemplar for the whole world.

By binding together our collective ambition, experience, skills and assets, we New Zealanders will put ourselves in the best place to solve today's challenges.

Final question: What is the one thing you would do?

I want to follow up on Jamie Newth's question, 'Are we too comfortable? Are we not feeling the pain of COVID-19 enough?' The concern I have is our lack of resilience. The upside is that, in New Zealand, we have a reasonably normal life. The downside is that the rest of the world is doing it very hard, but the resilience they are building into their thinking and systems will be very valuable in the longer term. Picking up on Jamie Newth's and Sam Morgan's points, in terms of supporting entrepreneurs, where I see a massive gap, with Māori as well, is in procurement. Our biggest parts of the economy – the government and corporates – are not procuring innovative entrepreneurial services and they are not procuring for diversity.

Types of problems

Wendy McGuinness

Wendy McGuinness is the founder and chief executive of the McGuinness Institute Te Hononga Waka. She is a Fellow Chartered Accountant specialising in risk management and future studies. In 2004 she established the Institute as a way of contributing to New Zealand's long-term future.

In the late 1940s, when reviewing the challenges all societies have faced and may face, American scientist Warren Weaver argued that all problems could be sorted into three types: problems of simplicity, problems of organised complexity and problems of disorganised complexity.¹ See Figure 3.

The first were problems where cause and effect could easily be understood and resolved because there was only a small number of variables. Where a larger number of variables existed, he called this middle ground organised complexity. The third and final category, disorganised complexity, was where many variables existed. Scientists learned to make sense of this third group of problems through the creation and application of probability and statistical analysis.



American scientist Warren Weaver

Weaver argued that problems in the first group – those of simplicity – were largely resolved in the 17th, 18th and 19th centuries, while problems in the third category – those of disorganised complexity – were generally resolved at the beginning of the 20th century. Weaver identified the challenge for society as developing ways to resolve problems of organised complexity, where a number of variables exist in an interrelated and complicated manner.

He said that problems of organised complexity all 'involve dealing simultaneously with a sizable number of factors which are interrelated into an organic whole'. He went on to note that the future of the world:

[r]equires science to make a third great advance, an advance that must be even greater than the nineteenth-century conquest of problems of simplicity or the twentieth-century victory over problems of disorganised complexity. Science must, over the next 50 years, learn to deal with these problems of organised complexity.

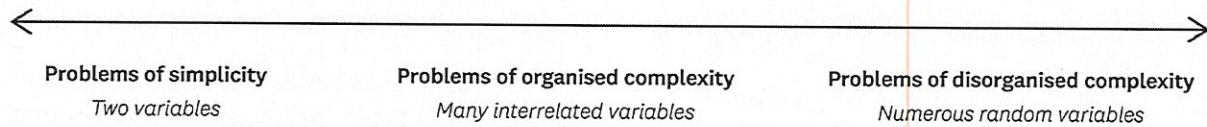
As we stand in 2021, it should not be a surprise that the grand challenges we face today all share characteristics of organised complexity.

Weaver identified two emerging tools that might help solve the problems of organised complexity – computing and the mixed team approach. Interestingly, both were developed as effective tools of war. He said:

[T]hese mixed teams pooled their resources and focused all their different insights on the common problems. It was found, in spite of the modern tendencies toward intense scientific specialization, that members of such diverse groups could work together and could form a unit which was much greater than the mere sum of its parts. It was shown that these groups could tackle certain problems of organised complexity, and get useful answers.

Weaver argued that there was still a place for the lone scientist working in isolation ('for whom intellectual freedom is necessarily a private affair'), but he believed the mixed team collaborative approach was likely to be instrumental in solving problems of organised complexity in the last half of the 20th century.

Figure 3: The types of problems²



Arguably problems of organised complexity became more generally known as wicked problems in the 1970s.³ However, the idea that some problems are simply too complex to solve (too wicked) has not been helpful for those trying to solve them.

A 2007 Australian Public Service Commission policy paper, *Tackling Wicked Problems: A Public Policy Perspective*, provides an excellent overview:

The terminology was originally proposed by H. W. J. Rittel and M. M. Webber, both urban planners at the University of California, Berkeley, USA in 1973. In a landmark article, the authors observed that there is a whole realm of social planning problems that cannot be successfully treated with traditional linear, analytical approaches. They called these issues wicked problems and contrasted them with 'tame' problems. Tame problems are not necessarily simple – they can be very technically complex – but the problem can be tightly defined and a solution fairly readily identified or worked through. The original focus of the wicked problem literature was on systems design at a more 'micro' level, but the concept has gradually been applied to broader social and economic policy problems.⁴

The policy paper also sets out a number of common characteristics that wicked problems share:

- Wicked problems are difficult to clearly define.
- Wicked problems have many interdependencies and are often multi-causal.
- Attempts to address wicked problems often lead to unforeseen consequences.
- Wicked problems are often not stable.
- Wicked problems usually have no clear solution.
- Wicked problems are socially complex.
- Wicked problems hardly ever sit conveniently within the responsibility of any one organisation.
- Wicked problems involve changing behaviour.
- Some wicked problems are characterised by chronic policy failure.

Today, the United Nations Sustainable Development Goals (SDGs) could be described as problems of organised complexity that have become increasingly wicked. In December 2020, Mariana Mazzucato explained it this way:

The 21st century is increasingly being defined by the need to respond to major social, environmental and economic challenges. Sometimes referred to as 'grand challenges', these include the climate crisis, demographic challenges and promotion of health and well-being. Behind them lie the difficulties of generating sustainable and inclusive growth. These problems are 'wicked' in the sense that they are complex, systemic, interconnected and urgent, and require insights from many perspectives. Poverty, for example, cannot be tackled without attention to the interconnections between nutrition, health, infrastructure and education, as well as redistributive tax policy.⁵

What is clear is that problems of organised complexity (our preferred term), if left unresolved, deliver significant problems for future generations. In the mid-20th century, Weaver observed that societies must learn to deal with problems of organised complexity in the next 50 years (i.e. by the year 2000). It is therefore concerning that 70 years later, we are still struggling to understand how to solve problems of organised complexity. A mission-based approach could be the solution.

- 1 Weaver, W. (1948). 'Science and Complexity'. *American Scientist*, 36(4), 536–544 (pp. 539–540, 542). Retrieved 14 May 2021 from www.jstor.org/stable/27826254
- 2 McGuinness, W. (2015). 'The Future of Scientific Thought'. *Journal of the Royal Society of New Zealand*, 45(2), 95–100, DOI: 10.1080/03036758.2015.1013142. Retrieved 21 May 2021 from www.tandfonline.com/doi/full/10.1080/03036758.2015.1013142
- 3 Rittel, H. & Webber, M. (1973). 'Dilemmas in a General Theory of Planning'. *Policy Sciences*, 4(2), 155–169. Retrieved 14 May 2021 from www.jstor.org/stable/4531523
- 4 Australian Public Service Commission. (2007). *Tackling Wicked Problems: A Public Policy Perspective* (pp. 3–5). [Archived]. Retrieved 21 May 2021 from legacy.apsc.gov.au/tackling-wicked-problems-public-policy-perspective
- 5 Mazzucato, M. (2020). 'Covid-19 and the Green New Deal'. SDG Blog, United Nations Department of Economic and Social Affairs. Retrieved 14 May 2021 from www.un.org/development/desa/undesavoice/more-from-undesavoice/2020/12/50538.html

What is a mission-based approach?

Michelle Pawson

Michelle Pawson is a recent patron of the McGuinness Institute Te Hononga Waka. She has been Principal Advisor, Office of the Chief Executive, Ministry for the Environment, over the last few years driving the organisation's policy innovation and strategy work.

The world is a complex place comprising a plethora of natural and human-devised systems and daily interactions. This leads to the realisation that the world can be described as a series of past, present and future interactions, and understanding those interactions is becoming increasingly urgent.

Complexity brings risk. What we find is that public policy decisions often target the symptoms, focusing on particular interventions, rather than the problem itself. As a result, there is a growing sense of frustration that the status quo is likely to prevail because we are unable to bring about any fundamental shift in direction.

Today we are faced with a number of grand challenges that go to the heart of civil society – poverty/inequality, environmental degradation and climate change. Learning from the past means that continuing failed policy approaches are no longer an option. Albert Einstein summed this up best when he said: 'We can't solve problems by using the same kind of thinking we used when we created them.'

A mission-based approach to innovation policy seeks to look at these grand challenges through a new lens, redefining how we think and how we apply our collective efforts and resources to deliver positive outcomes. This new thinking is championed by Mariana Mazzucato and Rowan Conway from the Institute for Innovation and Public Purpose (IIPP).

1. What is a mission?

Mariana Mazzucato speaks to the fact that 'missions' are not new; they have been used to inspire and direct action throughout history.¹ The Apollo Moonshot or Mission to put a human on the moon is an example of a mission-based approach that represents the successful coordination of public and private sectors on a massive scale and the coming together of the willing to innovate – welcoming uncertainty with boldness, experimentation and ambition.²

Mazzucato and the IIPP define a mission as 'a concrete target, achievable step towards a grand challenge that contextualises projects' or policy programmes that sit beneath it.³

More pragmatically, missions are systematic interventions for addressing difficult but important society-wide systems problems that have no 'silver bullet' solution (often referred to as 'grand challenges').

A key aspect of IIPP's Mission Framework is using value to rethink these challenges and setting direction for innovation and industrial policy.⁴ To achieve this, Mazzucato argues we must rethink the capacities and role of government within the economy and society, and, above all, the sense of public purpose to solve the grand challenges humanity faces.⁵

2. Why do we need a mission-based approach?

A core assumption held in mission-based innovation policy is the acceptance that nothing is static or fixed, that change occurs with varying time and pace, and our institutions and systems need to be dynamic to face this evolution or change, be it incremental or dramatic.

COVID-19 is one recent example. It has exposed and reinforced existing inequalities, and increased a shared acceptance that global systemic risks and responsibilities must be addressed collectively, at scale and at pace. The increasing number and nexus of social, economic and environmental challenges have led to a global rethink of the role of public policy in setting the direction and purpose of the economy – not only pushing countries to rethink their institutional structures and social contracts, but also to revisit the binary distinctions that currently exist between the roles of the public and private spheres.⁶ Hence, the theory of change at the heart of Mazzucato's mission-based approach is to reinvigorate the debate about value, in particular, the need to differentiate between 'value creation' and 'value extraction'. By better understanding the interconnectedness of public and private spheres, she argues, it is possible to address market failures, by purposely shaping markets and co-creating the future.

Making space to listen and learn from others is critical to reimagining value. Economist and philosopher Wilfred Dolfsma⁷ argues that defining social value requires that we accept people's preferences, desires or cultural

1 Mazzucato, M. & Dobb, G. (2019). *Missions: A Beginners Guide*. UCL Institute for Innovation and Public Purpose. Policy Brief Series (IIPP PB 09) (pp. 1, 2, 4, 9). Retrieved 24 May 2021 from www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp_policy_brief_09_missions_a_beginners_guide.pdf

2 Mazzucato, M. (2021). *Mission Economy: A Moonshot Guide to Changing Capitalism*. Cornwall (UK): Penguin.

3 See footnote 1 above.

4 See footnote 1 above.

5 See footnote 2 above.

factors as moving parts, and not assume they operate in isolation or are independently given, which arguably mainstream thinking perceives them to be.

3. What can we learn from others?

A February 2021 OECD report analysed mission-oriented innovation policies (MOIPs) across 20 missions in four countries. Given the early stage of this new policy approach, the author did note it is too early to draw firm conclusions but the more successful MOIPs shared some similar characteristics:

- high-level political commitment to mission-based public policy
- an open and non-prescriptive approach whereby they ‘pick a problem, not solutions’
- setting objectives that embody mission characteristics, such as (i) clear, bold and inspirational, (ii) with wide societal relevance, (iii) ambitious but realistic, (iv) targeted and measurable, (v) time-bound and (vi) solution neutral (see list on right)
- understanding that a mission is not often pre-determined at the start of a process but is set as a result of an inclusive process
- putting preconditions in place (such as ensuring capacity is built into the process so that lessons can be learned from these MOIP experiments).⁸

4. How to step into a mission-oriented innovation policy (MOIP) space?

It is one thing to understand the need for a shift in mindset, but it is quite another to realise this change through action.⁹ What is needed is a commitment to step beyond the reactive and responsive churn that public policy finds itself in, and focus on resolving intra- and inter-generational inequalities by prioritising long-term decision making.

6 Andreoni, A. & Frayman, D. (2020, July 30). ‘Rethinking the purpose of government and the public sphere in the time of COVID-19’. UCL Institute for Innovation and Public Purpose Blog. Retrieved 21 May 2021 from medium.com/iipp-blog/rethinking-the-purpose-of-government-and-the-public-sphere-in-the-time-of-covid-19-1f24fcec0022

7 Dolsoma, W. (1997). ‘The social construction of value: Value theories and John Locke’s framework of qualities’. *European Journal of the History of Economic Thought*, 4(3), 400–416.

8 Larrue, P. (2021). *The design and implementation of mission orientated innovation policies: A new systematic policy approach to address societal challenges*. OECD Science, Technology and Industry Policy Papers No. 100. Paris: OECD Publishing. (pp. 9–10).

9 For example: (i) Berentson-Shaw, J. (2018). *A Matter of Fact: Talking truth in a Post-Truth world*. Wellington: Bridget Williams Books; (ii) Sharpe, S. (2019). ‘Telling the boiling frog what he needs to know: why climate change risks should be plotted as probability over time’.

A mission-based approach is a new tool that could be utilised to resolve the grand challenges. It requires not only a political will but a desire by every one of us, not as members of an audience, consumers or customers – but as citizens, parents, friends and more – because we want a fairer, more robust Aotearoa New Zealand.

Five criteria for developing missions

1. **Be bold and inspirational with wide societal relevance:** Missions should engage the public. They should make clear that through ambitious, bold action, solutions will be developed that will have an impact on people’s daily lives.
2. **Set a clear direction – targeted, measurable and time-bound:** Missions need to be very clearly framed. While enabling long-term investments, they need a specific target that can either be formulated in binary ways (as clearly as whether man has reached the Moon and returned back safely) or quantified (as clearly as whether a certain percentage reduction in carbon emissions against a baseline has been reached across manufacturing).
3. **Be ambitious but realistic:** Mission objectives should be set in an ambitious manner (taking risks), centred on research and innovation activities across the entire innovation chain, including the feedback effects between basic and applied research.
4. **Encourage cross-disciplinary, cross-sectoral and cross-actor innovation:** Missions should be framed in such a way as to spark activity across, and among, multiple scientific disciplines (including social sciences and humanities), across different industrial sectors (e.g. transport, nutrition, health, services), and by different types of actors (e.g. public, private, third sector, civil society organisations).
5. **Involve multiple, bottom-up solutions:** Missions should not be achievable by a single development path, or by a single technology. They must be open to being addressed by different types of solutions.¹⁰

Geoscience Communication, 2, 95–100. Retrieved 21 May 2021 from gc.copernicus.org/articles/2/95/2019/; and (iii) Kattel, R. (2019, February 1). ‘Innovation as an ethical dilemma’. Open Innovation Team Blog. Retrieved 21 May 2021 from openinnovation.blog.gov.uk/2019/02/01/innovation-as-an-ethical-dilemma

See footnote 1 on page 20.

Other questions from webinar participants

Below are the Institute's attempts to answer the remaining questions.

1. Can you have 'mission projects' without a 'mission'?

No, as defined by IIPP, mission projects must nest within a wider 'mission' or agreed grand challenge, and certain criteria must be met. A 'mission' must: be bold and inspirational (with wide societal relevance); have clear direction that is targeted, measurable and time bound; be ambitious but realistic; encourage cross-disciplinary, cross-sectoral and cross-actor innovation; and involve multiple bottom-up solutions. In particular, mission projects enable design conditions to come together to jointly solve a grand challenge, and open the space to experiment and develop transformative narratives.¹

2. Are there currently any 'missions' in operation in New Zealand?

No; while we have a number of important projects that set ambitious mission statements (like Predator Free NZ), New Zealand does not currently have a programme of work that meets the mission criteria set by IIPP (see page 21). Possibly the closest are the National Science Challenges.² These were established in 2014 with the aim of tackling the biggest science-based issues and opportunities facing New Zealand. The 11 challenges bring together scientists to work collaboratively across disciplines, institutions and borders to achieve strategic objectives.³ This platform could be rethought to address a mission-based approach.

3. How will New Zealand's 'grand challenges' and associated 'missions' be identified?

Missions are partly about accepting that the world is dynamic and complex. In New Zealand we tend to treat the economy as static rather than dynamic, meaning we often underestimate the need to create space for experimentation, and underappreciate the roles government and innovation have in creating value. New Zealand faces many of the same grand challenges other countries face, but a number of unique challenges also exist (such as specific biodiversity and climate change adaptation). Agreeing on the grand challenges we face, and the missions that we set to address them, is something that needs to be developed in partnership with iwi/Māori, government, private sector, communities and young people. Unfortunately the voices of young people are often lost or absent in public policy debates. Diversity of perspective and thought is what is needed to collectively co-create the dynamic bridge that takes us forward.

4. Who in New Zealand could go about setting up a 'mission-oriented strategy'?

Missions are typically collaborations between the public service, private sector, researchers, communities and the wider public. In the recent 2021 OECD policy paper, the author highlighted that political buy-in and dynamic governance structures were required to support experimentation.⁶

What would be required in New Zealand is partnership between government, iwi/Māori, our research community and the general public, and, most importantly, a genuine commitment by all political parties to learn the lessons of such a process.⁷

5. What are the implications for industry transformation plans and regional development?

Mission-oriented innovation policies (MOIPs) and IIPP's associated policy frameworks present an exciting opportunity for New Zealand to think differently about industry strategy and regional development.

6. How can change makers in vulnerable communities find opportunities to work with thought leaders to create impactful change?

It is important to recognise the need for uniquely New Zealand solutions. Mariana Mazzucato and IIPP recognise Indigenous approaches to solving problems. Hence, putting te ao Māori values at the centre, alongside co-design and co-creation, is likely to be critically important if we wish to bring about fair and inclusive change.

1 Mazzucato, M. & Dibb, G. (2019). *Missions: A Beginners Guide*. UCL Institute for Innovation and Public Purpose. Policy Brief Series (IIPP PB 09). Retrieved 24 May 2021 from www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp_policy_brief_09_missions_a_beginners_guide.pdf

2 A discussion on wicked problems and a list of potential challenges is contained in Appendix 5 of the following report: McGuinness Institute Te Hononga Waka. (2012). *Science Embraced: Government-funded Science under the Microscope*. Retrieved 21 May 2021 from www.mcguinnessinstitute.org/publications/project-2058 The Institute concluded, 'Moving towards a science policy system that rejects myths, embraces values and pursues strategy will require both the engagement of the public and the "will" of the science community. Now that the recent changes to the institutional framework are largely complete, we hope to see a persuasive strategy developed and communicated. One of the key findings of this report is the need for greater engagement between scientists and the New Zealand public. This research represents our commitment to a wider debate on the contribution that science can make to the well-being of New Zealanders, now and in the future.'

3 MBIE. National Science Challenges. Retrieved 21 May 2021 from www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/national-science-challenges/

Final thoughts

Wendy McGuinness

The Institute recently completed a climate-change analysis of government department strategies.⁸ This analysis showed that the current state of government department strategy work is not going to be sufficient to deliver on New Zealand's climate-change targets and pledges.

In our view, New Zealand is yet to achieve widespread systems thinking and deliver systems change solutions. Furthermore, the existing policy-making frameworks and current decision-making processes are likely to deliver additional inequality and risk to future generations.

The need to bring innovation, public policy, iwi/Māori, private sectors and local communities together to identify missions is something that the Institute feels strongly about. The Institute is exploring hosting a public policy workshop to discuss how we might contribute to a more integrated mission-based approach later this year. We welcome others to join us in exploring this space.

Sharpening our gaze on the future could be progressed through having more clarity over answers to the following questions:

1. What missions should New Zealand progress, how should they be selected and who should manage them?
2. How can we ensure government strategies (and their underlying assumptions) are sufficiently transparent to enable them to be assessed, to drive debate and garner support, and to ensure lessons are learned quickly so that policy is responsive to emerging needs and wants?
3. How could the Long-term Insights Briefings (LTIBs) by Chief Executives be designed to provide more durable and effective public policy?⁹
4. How do we develop integrated climate-change solutions that have positive outcomes for societal challenges, such as reducing inequity, alleviating poverty and making the economy more sustainable, durable and resilient for future generations?
5. What does a true intergenerational commitment to climate change look like from an economic strategy perspective?

To address the grand challenges, the government would need to (a) acknowledge the magnitude of the grand challenges we face and the urgency for change; (b) exercise leadership by showing a willingness to make courageous decisions and to accept the concept of learning by doing (such as experimentation and fast-fails); and (c) have a vision about what we want to achieve and clarity over the values that will get us there. This will not be easy, but it will be exciting, dynamic and energising.

About us

The Institute



Michelle Pawson is a recent patron of the McGuinness Institute Te Hononga Waka. She has been Principal Advisor, Office of the Chief Executive, Ministry for the Environment, over the last few years driving the organisation's policy innovation and strategy work.



Te Wai Coulston attended the 2015 *TacklingPovertyNZ: Exploring ways to reduce poverty in New Zealand* workshop hosted by the Institute. The Institute regularly undertakes public policy workshops with young people aged 18–25. Te Wai recently completed a BA/BCom conjoint from University of Auckland with a quadruple major in Politics, Māori Studies, International Business and Economics, and is currently Service Coordinator for the International Growth Fund at New Zealand Trade and Enterprise.



Wendy McGuinness is the founder and chief executive of the McGuinness Institute Te Hononga Waka. She is a Fellow Chartered Accountant specialising in risk management and future studies. In 2004 she established the Institute as a way of contributing to New Zealand's long-term future.

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4 Larrue, P. (2021). *The design and implementation of mission orientated innovation policies: A new systematic policy approach to address societal challenges*. OECD Science, Technology and Industry Policy Papers No. 100. Paris: OECD Publishing. (pp. 9–10).

5 See footnote 1 on page 22.

6 See footnote 3 on page 22.

7 See footnote 3 on page 22.

8 McGuinness Institute Te Hononga Waka. (2021). *Working paper 2021/10a – Climate change analysis of Government Department Strategies in operation as at 31 December 2020*. Retrieved 21 May 2021 from www.mcguinnessinstitute.org/publications/working-papers. At the time of writing, this working paper is out for consultation.

9 Sections 8 and 9 in Schedule 6 of the Public Service Act 2020. The Act sets out that a 'chief executive of a department must give a long-term insights briefing to the appropriate Minister at least once every 3 years and must do so independently of Ministers [and the] purpose of a briefing is to make available into the public domain— (a) information about medium- and long-term trends, risks, and opportunities that affect or may affect New Zealand and New Zealand society; (b) information and impartial analysis, including policy options for responding to matters in the categories referred to in paragraph (a).' Retrieved 21 May 2021 from www.legislation.govt.nz/act/public/2020/0040/latest/LMS356994.html

Mission-oriented thinking cannot be based on the status quo. The mission attitude is not about picking individual sectors to support but about identifying problems that can catalyse collaboration between many different sectors. It is not about handing out money to firms because they are small or because they are in need, but structuring policies that can crowd in different solutions (projects) by multiple types of organizations. It is not about fixing markets but creating markets. It is not about de-risking but sharing risks. It is not about picking winners but picking the willing. And it is not simply about setting the 'rules of the game' but about changing the game itself so that a new direction can foster change.

Mariana Mazzucato

Mission Economy: A Moonshot Guide to Changing Capitalism (2021, p. 159)

