

Evaluation of the Provincial Growth Fund




Final evaluation plan

12 March 2021



ALLEN+CLARKE

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Glossary

CI	Confidence Interval
CIP	Crown Infrastructure Partners
EDA	Economic Development Agency
EOI	Expressions of Interest
KEQs	Key evaluation questions
LINZ	Land Information New Zealand
MBIE	Ministry for Business Innovation & Employment
MOT	Ministry of Transport
MPI	Ministry of Primary Industries
MPP	Ministry for Pacific Peoples
NEET	Not in employment, education or training
NZTA	New Zealand Transport Agency
PGF	Provincial Growth Fund
PDU	Provincial Development Unit
SFA	Stochastic Frontier Analysis
TIF	Tourism Infrastructure Fund
TPK	Te Puni Kōkiri

1. BACKGROUND TO THE EVALUATION

1.1. Introduction

The Provincial Growth Fund (PGF) was established in December 2017 to invest \$1 billion per annum over three years (2018 to 2020) into investments intended to raise the productivity potential of regional New Zealand. In August 2018, Cabinet noted that it will be at least 2-3 years following investment before improvements in regional outcomes will be observable. Subsequently, the evaluation objectives identified for the short term (to 2020) are to:

- understand how the PGF operates and contributes to regional outcomes
- identify the early markers of success, and
- identify opportunities on how the PGF can better achieve its outcomes.¹

This evaluation plan outlines the scope and methods required to meet the broad objectives of the evaluation. The timing of the evaluation at a relatively early point in the fund distribution means the evaluation will focus on PGF activities, outputs and early markers of success, including some early outcomes rather than medium to long term outcomes, such as economic outcomes.

The methodology outlined in this document builds on a draft evaluation plan developed prior to *Allen + Clarke* coming on board.² Key scoping tasks undertaken by *Allen + Clarke* in Phase one (i.e. to further develop the final evaluation plan) included interviews with 24 key informants³ from the Provincial Development Unit (PDU), Ministry for Business Innovation & Employment (MBIE), Ministry of Primary Industries (MPI) and Te Puni Kōkiri (TPK) and a feasibility analysis of PDU administrative data and a review of relevant documents. The final plan provides operational detail about the proposed methods for collecting and analysing evidence against the agreed evaluation criteria.

1.2. The Provincial Growth Fund

1.2.1. Overview of the Provincial Growth Fund

Three approved Cabinet papers (December 2017, February 2018 and July 2018) set out the background to the PGF, including its establishment, objectives and measures of success. The papers are publicly available in the MBIE website document library.⁴

The objectives of the PGF were agreed by Cabinet in December 2017. The overall objective of the PGF is to lift the productivity potential in the regions, and it was also agreed that the PGF should support:

- **Social inclusion and participation:** investments support increased social inclusion through effective training, work preparation and support that enables more people to fully participate in work and society.

¹ <https://www.growregions.govt.nz/assets/content/public-information/assessing-impacts-provincial-growth-fund-june-2019.pdf>

² MBIE (2020). Provincial Growth Fund Evaluation Plan Draft

³ As at 26 February 2021

⁴ <https://www.mbie.govt.nz/document-library/>

- **Māori development:** investments enable Māori to realise their aspirations through greater participation in all aspects of the economy.
- **Climate change and environmental sustainability:** investments support opportunities to achieve New Zealand’s climate change commitments and encourage more sustainable and productive use of land, water and other resources.
- **Resilience:** investments increase regional and national resilience by improving critical infrastructure and focusing on opportunities to grow and diversify our economy.

Over time, the PGF is expected to contribute to a range of improved outcomes. These were agreed to by Cabinet in February 2018, and are:

- increased regional economic output, greater economic activity in the sectors where the PGF has invested, and in related sectors;
- enhanced utilisation and returns for Māori from their assets;
increased productivity, with stronger growth in higher productivity businesses in the sectors invested in (and related sectors);
- increased employment (and reduced unemployment) and wages, in general, and for Māori particularly;
- lower rates of young people not in employment, education and training, and a reduced proportion of this group being Māori;
- improved digital communications (e.g., a reduced “digital divide”);
- improved resilience and sustainability of transport infrastructure, supporting improved connections within and between regions (e.g., reduced travel times, increased throughput of passengers and freight);
- contribute to mitigating or adapting to climate change; and
- more investments that ensure sustainable use of regions’ natural assets.

An additional outcome is noted on Expression of Interest and Application for Funding forms was to enhance wellbeing, within and/or between regions.

1.2.2. Implications for the evaluation of the PGF

The PGF is in its third year of delivery. Outcomes sought are long term and are not expected to be seen for five to 10 years after the PGF has been fully allocated and projects have been implemented. The evaluation design recognises this by focusing on identifying early markers of success, which are on the pathway to the long-term outcomes sought.

The size and scope of the PGF adds to the complexity of the evaluation. For example:

- The organisational scope of the PGF includes the PDU, and partner agencies, with staff in Wellington as well as in regions (Auckland, Wellington and Christchurch are excluded).
- The PGF involves three types of investment:
 - **Regional:** support of economic development projects, capability building and feasibility studies.
 - **Sectors:** initiatives targeted at priority and/or high value sector opportunities. This includes the One Billion Trees Programme.

- **Infrastructure:** regional infrastructure projects that enable regions to be well connected from an economic and social perspective, including rail, roads, ports, digital communications.
- The PGF has three tiers of funding:
 - less than \$1 million;
 - \$1 to \$20 million; and
 - greater than \$20 million as grants, debt underwriting or equity.
- The investments can support non-commercial, quasi-commercial and commercial projects.

2. EVALUATING THE PROVINCIAL GROWTH FUND

2.1. Purpose of the evaluation

In line with the objectives of the PGF, the purpose of the evaluation is to:

- understand how the PGF operates and contributes to regional outcomes;
- identify the early markers of success; and
- identify opportunities on how the PGF fund or similar interventions can better achieve their outcomes.

2.2. Evaluation scope

This section outlines what is in scope and out of scope for the evaluation of the PGF.

2.2.1. In scope

The evaluation includes a focus on all funding that was approved as of 31 March 2020.

2.2.2. Out of scope

Funding committed prior to 1 April 2020 and then subsequently approved after 31 March 2020 is not included in the evaluation scope. Funding committed prior to 1 April 2020 that remains unapproved, is also not included in the evaluation scope.

Approximately \$600 million (i.e., 20%) of PGF funding was reprioritised in response to COVID-19. In May 2020, Cabinet approved new outcomes and investment principles for projects funded under this reset. The different objectives for these projects mean that much of the evaluation criteria identified for this evaluation would not be relevant. Projects funded under the reprioritisation are therefore excluded from the evaluation outlined in this plan. Considering this, the scope will therefore not include applications received and/or administered after 4 May 2020 in response to COVID-19.

Further, the following applications are not part of the evaluation scope:

- Te Uru Rakau/ One Billion Trees⁵
- Projects where funding is directly transferred to another agency where that agency then receives applications themselves for consideration e.g. TIF and CIP where the final recipient of funding is far removed from PGF processes⁶
- Projects where funding is approved by the PDU then transferred to another agency and this funding is further sub-contracted e.g. LINZ, Predator Free (DOC) and Pacific Skills (MPP) funding⁷.

⁵ A separate evaluation of the 1BT programme (of which the PGF is only a part-funder) is being undertaken by MPI. Key findings from the IBT evaluation that inform KEQ 2.9 and 2.10 will be included in the PGF evaluation report if available from MPI within the evaluation timeframe outlined in Table 1.

⁶ Collated reporting by relevant agencies will be included if it is available to the evaluators in the timeframe outlined in Table 1.

⁷ As noted previously, collated reporting by relevant agencies will be included if it is available to the evaluators in the timeframe outlined in Table 1.

Indicators of increased economic activity, such as regional GDP growth, are not easily identified during the first three years of the fund and are therefore outside the scope of the evaluation. Economic evaluation is best undertaken when projects have reached a level of maturity, and direct, indirect, and induced economic effects will be more easily assessed. However, more advanced modelling to test for some early effects of the PGF on regional economic activity may be possible and will be assessed once all the secondary data has been collated and a recommendation as to the best approach will be made.

Evaluating medium to long term (three to 10 years) outcomes for projects, sectors, regions, or tiers is also out of scope. However, indicators developed for the evaluation along with PDU and partner agency reporting requirements for monitoring purposes, such as job numbers, will provide baseline data for medium to long term evaluation.

2.3. Intended users of the evaluation

Cabinet requested the evaluation to inform Ministers. The evaluation is being undertaken to provide early indicators of the impact of the PGF, which will be useful for future decision makers (Cabinet and Ministers), implementers (government agencies), and regional players (local and regional councils, Māori, and businesses). It will provide information for the Provincial Development Unit (PDU) and other partner agencies about how the PGF can better achieve its outcomes. The evaluation may also inform future programmes and work in regional development. Alongside users of the evaluation there are a wide range of audiences who will have an interest in the evaluation, including taxpayers.

2.4. Modelling the logic of PGF for the evaluation

As part of the co-design process, MBIE developed an intervention logic for the PGF evaluation with support from the evaluation consultants as outlined in Section 2.4.⁸ The intervention logic (Appendix 1) captures the high-level intentions of the PGF's operation, and the outputs and early outcomes that are expected if it is successfully implemented. It also identifies the ultimate, long term outcomes to which the PGF is expected to contribute.

Evaluation activities outlined in Section 5 are designed to address key questions about components of the intervention logic, which also includes the purpose of, and key assumptions about, the PGF.

2.5. Evaluation questions

The key evaluation questions (KEQs) were developed by an external evaluation provider working with staff from MBIE's Evidence and Insights Branch and the PDU.⁹ The KEQs are also informed by indicators of effectiveness agreed by Cabinet.¹⁰

There was agreement that the evaluation was an important opportunity to understand the link between the following:

⁸ The intervention does not include the perspectives of regional stakeholders, nor refinements required due to COVID-19.

⁹ Provincial Growth Fund Evaluation Plan draft (MBIE 2020).

¹⁰ Success measures for the PGF are set out in a Cabinet paper dated February 2018.

- **Design:** the design and implementation of activities at the various stages of pre-application, application and assessment, advice, contracting and management. The design refers to the activities to operationalise the Cabinet intent.
- **Approach:** the way people behave to support the implementation. This refers to the ways of working adopted by stakeholders such as collaboration, the focus on relationships, cross government working, flexibility of funding etc.
- **Outputs:** are the products of the activities that reach people who are recipients of the PGF, e.g., funding, feasibility studies, infrastructure developed and ‘soft outputs’ such as partnering, engagement and information.
- **Outcomes:** are the difference or change derived from the outputs for stakeholders e.g., the short-term outcome of digital infrastructure is enhanced regional digital connectivity.

There are two KEQs, each with sub-questions:¹¹

1. How well is the design and approach being actioned to maximise the changes needed to achieve the desired impacts?
 - a. How well does the design and approach align with the policy intent, objectives, and underlying principles of the PGF?
 - b. To what extent, and in what ways, is the approach working for regional communities, Māori, and Government?
 - c. How well have the needs, strengths and unique circumstances in each region been understood and considered so they are able to encourage the right mix of investments?
 - d. To what extent and in what ways has the approach been successful in responding to regional strengths, needs, barriers and opportunities?
 - e. How effectively is the PGF coming across as a joined-up approach to funding regions? (i.e. do people in the regions see the PGF as coherent, linked up with other regional development activities?)
2. How valuable are the early outcomes of the PGF approach to regional communities, Māori, and Government?
 - a. To what extent is progress occurring in the desired areas – from the perspective of different stakeholders?
 - b. What has been the impact, to date, of COVID-19 on PGF funded projects?
 - c. How could the PGF achieve a more valuable and sustained impact?

2.6. Evaluation criteria

The evaluation criteria specify the dimensions of PGF performance that will be assessed in the evaluation. They focus on determining whether the design and approach have facilitated progress towards the early outcomes across a range of investments (including those specified within the indicators of effectiveness) rather than assessing every investment outcome. The innovative and

¹¹ The KEQs and sub questions include all those outlined in MBIE (2020). One additional question has been included about the impact of COVID-19 (KEQ 2b).

complex nature of the PGF means that additional dimensions of effectiveness may emerge or be updated during the evaluation. The current evaluation criteria are included in Appendix 2.

2.7. Tikanga Māori principles underpinning the evaluation

The evaluation methodology is underpinned by the application of the three articles of Te Tiriti o Waitangi and key tikanga Māori principles to operationalise a Kaupapa Māori approach (Māori focused, collective impact, transformative). Three tikanga Māori principles – mahi tahi, manaaki and whanaungatanga – will guide our engagement across the course of the evaluation. Appendix 3 provides examples of how we intend to enact Te Tiriti o Waitangi articles and tikanga principles throughout the evaluation.

2.7.1. Engagement with Māori

The impact of the PGF on Māori development and aspirations is an essential component of this evaluation. As such, it is vital that Māori voices and perspectives are effectively represented throughout the evaluation process. Two members of the evaluation team have long-established relationships within Māori business and regional communities and will draw on their existing relationships and networks to support engagement with Māori stakeholders. Additionally, both have a sound understanding of te reo me ona tikanga and will seek the assistance of kaitiaki to help navigate each individual rohe (area) and ensure that all tikanga and kawa are upheld.

The evaluation must be suitable for, and responsive to, Māori participants. It is not intended to be presented as ‘kaupapa Māori’, as described in Te Ara Tika¹². However, respect for kaupapa Māori values extends to use and presentation of data. Our intention is to work with key Māori organisations to assist with the appointment of local kaitiaki to the case study site teams. Further information about the role and process of appointing kaitiaki is included in Section 5.4.1.2.

2.8. Ethical conduct of the evaluation

The evaluation involves access to confidential and sensitive information. As such, it will be designed, conducted, and reported in a manner that respects the rights and privacy of those affected by and contributing to the evaluation.

Five principles will be upheld by all involved in this evaluation. They draw on the Australasian Evaluation Society’s Code of Ethics, Guidelines for Ethical Conduct of Evaluations¹³ and the Aotearoa New Zealand Evaluation Association’s Evaluation Standards for Aotearoa New Zealand, and are as follows:¹⁴

- Respectful, meaningful relationships are built, nurtured, and maintained over time. Engagement between commissioners, evaluators, participants, and users is negotiated, respectful of differences, mutually beneficial and occurs in culturally appropriate ways.

¹² <https://www.hrc.govt.nz/resources/te-ara-tika-guidelines-maori-research-ethics-0>

¹³ <https://aes.asn.au/ethical-guidelines>

¹⁴ ANZEA. (2015). Evaluation Standards for Aotearoa New Zealand. Retrieved from <https://www.anzea.org.nz/app/uploads/2019/04/ANZEA-Superu-Evaluation-standards-final-020415.pdf>

- Kindness, respect, humanity, and reciprocity are extended to all involved. Care is taken to ensure that the dignity of everyone is enhanced. Indigenous and other cultural worldviews, concepts and protocols are valued. Cultural sensitivity, safety and inclusion occur.
- The methodology and methods are culturally responsive and appropriate for the context, and 'fit for purpose. Evaluation findings, judgments and conclusions are credible, trustworthy, and contextually and culturally meaningful.
- Information gathered from Māori participants (whānau, Māori businesses or organisations, mana whenua, hapū, and iwi) is their property and will only be used with their permission.
- The evaluation is well-managed and undertaken by people with the appropriate professional, contextual and cultural competencies. The evaluation is planned, designed, and implemented to ensure use, and produces information that is useful.

The specific ethical issues that will be addressed in the evaluation include:

- **Informed consent:** participants will be informed of the purpose of the evaluation and how their information will be used. Informed consent will be obtained from all participants in the evaluation.
- **Anonymity:** data will be anonymised, and the evaluators will not request any identifying information, and any data sets provided to PDU/MBIE will be aggregated.
- **Confidentiality:** where it is not possible to protect participants confidentiality (e.g., where people's roles are easily identifiable), participants will be told at the earliest opportunity.
- **Relationships and trust:** to inform learning the evaluation will seek information about what went wrong as well as successes. The relationships and trust between participants and the evaluators will be important to obtaining a true representation of the PGF. Care will be needed in case studies where there have been challenges.
- **Tikanga:** Group interviews will be implemented with appropriate tikanga, including koha.
- **Storage and transfer of information:** data will be kept in a secure location.

3. EVALUATION TIMEFRAME AND KEY TASKS

Table 1 outlines the high-level tasks and completion dates. The draft evaluation report outline will be submitted to the MBIE contract manager for review and feedback on Commercial Information. This will show the high-level approach to the report. We expect MBIE to provide collated feedback by Comme

Commercial Information

Table 1 Timeframe and key tasks

Key tasks	Completed by
Data collection starts	Commercial Information
Data collection completed	Commercial Information
Assessment of economic analytical approach	Commercial Information
Analysis of individual data sets	Commercial Information

Key tasks	Completed by
Draft synthesis	Commercial Information
Sense-making workshop with key regional stakeholders	Commercial Information
Sense-making workshop with PDU staff and partner agency stakeholders	Commercial Information
High level report outline	Commercial Information
Draft report provided by <i>Allen + Clarke</i>	Commercial Information
MBIE to provide collated feedback on draft report	Commercial Information
Final report	Commercial Information

5. DATA COLLECTION AND ANALYSIS

5.1. Introduction

This section outlines the methods that will be used to collect and analyse data on PGF performance and outcomes, and our approach to assessing the evidence against agreed criteria. An overview is included in Figure 1.

Figure 1: Overview of evaluation data collection methods and rationale

Method	Participants and data sources		Rationale for inclusion
Case studies	Three place-based case studies Interviews <ul style="list-style-type: none"> Up to 11 interviews per case study, including funded and non-funded applicants; regionally-based Partner Agencies; councils; rohe/iwi/hapū; Trusts, business/private sector Document Review and secondary data <ul style="list-style-type: none"> Regional Strategy and/or Economic Plan(s); (Latest) CIP Report(s) PGF Application(s); Progress Reports (for Funded Projects) Analysis of PGF projects from Pipedrive 		Depth: Understanding the value of early outcomes through the lens of a community where people live and work
Interviews	National stakeholders <ul style="list-style-type: none"> PDU and MBIE more generally the national offices of Partner Agencies, such as TPK, NZTA, DoC, MoT, MPI 		Depth: Gain a national perspective on PGF design and implementation and the value of early outcomes
Surveys	Regional stakeholders Across all 15 regions	PGF applicants Funded Non-funded	Breadth: gain a regional perspective on PGF design and implementation and the value of early outcomes.
Secondary data	Analyse the datasets <ul style="list-style-type: none"> PipeDrive Outcome Indicators Dashboard PDU Payment data PDU Monthly Reports CIP Reports Linked employer-employee data (LEED) 		To provide budget allocation information by region/tier/sector and complement findings from the survey and provide contextual information about who is gaining value from PGF.

5.2. Contextual information

We will collect a range of information to inform a broader understanding of the context in which PGF has been implemented. This information has been grouped into seven elements (Table 2) that will be used to guide the design of specific data collection tools and to inform the analysis.

Table 2: Contextual elements for guiding data collection and analysis

Contextual element	Focus
Individual elements	<ul style="list-style-type: none"> • Key individuals who have engaged with PGF (applicants, non-applicants; national, regional, and local stakeholders)
Collective human elements	<ul style="list-style-type: none"> • Relationships between central government and regional organisations • Relationships between partner agencies • Relationships within region • Applicant profile (Māori, local government, other government agency, private sector, community trust)
Non-human elements	<ul style="list-style-type: none"> • Surge or non-surge region • PGF project stage (in progress, closed) • Design and implementation of PGF (what was intended/what has occurred in practice) • PGF funding tiers
Political/economic elements	<ul style="list-style-type: none"> • Treaty relationship (settled, non-settled) in case study sites • Central government regional economic development initiatives & strategies that have informed the PGF (e.g., Business Growth Agenda, Regional Growth Programme) • Current labour market • Other large scale/government interventions
Social cultural elements	<p>Case study sites only:</p> <ul style="list-style-type: none"> • Rohe boundary • Regional priorities • Areas of deprivation
Temporal elements	<p>Case study sites only:</p> <ul style="list-style-type: none"> • Historical, seasonal crises e.g., floods/water shortages, other natural disasters • Remoteness • Regional strengths (e.g., access to national parks, existing infrastructure such as ports, railway) <p>All areas:</p> <ul style="list-style-type: none"> • COVID-19 impact on PGF projects (innovations and challenges) • COVID-19 impact on local economy
Spatial elements	<p>Case study sites only:</p> <ul style="list-style-type: none"> • Neighbouring regions/infrastructure (new or existing) • Linkages between PGF funded projects in case study site or connected to site

5.3. Applicant and regional stakeholder surveys

Two online surveys will be undertaken to provide a regional-level perspective of PGF. These are intended to capture data from a wider audience base than can be undertaken in individual or group interviews.

5.3.1. Applicant survey

The first, which we refer to as the ‘applicant survey, will target all applicants who had PGF funding approved (‘funded applicants’¹⁵) or were not successful with their PGF application (‘non-funded applicants’¹⁶) as of 31 March 2020¹⁷. Survey responses will inform a range of criteria as outlined in Appendix 2. Table 3 outlines which criteria will be addressed by funded and non-funded applicants.

Table 3: Applicant survey

KEQ	Link to evaluative criteria	Funded applicants	Non-funded applicants
KEQ 1	Experience of the application process, including whether applicants say they had access to the resources they needed to develop proposals	x	x
	PDU and partner agencies have influenced improved collaboration between local government, applicants and iwi	x	x
	Capacity is lifted	x	x
	Communication with PDU was clear, timely, consistent, comprehensive	x	x
	Extent to which criteria were sufficiently flexible to enable applicants to respond to region’s priorities.	x	x
	Extent to which Māori applicants believe their views are valued and acknowledged	x	x
	Clear, consistent, timely, and comprehensive communication between Wellington PDU and regions regarding criteria and funding decisions	x	x
	Extent to which applicants believe communication with PDU and partners is transparent.	x	x
	Creation of much stronger connections between regional government agencies and the community.	x	

¹⁵ As at 30 March 2020 approximately 500 proposals had been successful (Numbers to be confirmed by PDU.)

¹⁶ As at 30 March 2020 approximately 1500 proposals had either been withdrawn, were not successful or were still pending decisions. (Numbers to be confirmed by PDU.)

¹⁷ Based on the following Pipedrive variables: ‘Deal - Stage’, ‘Deal - 3. Approved Date’, ‘Deal - 3. Date of Withdrawal / Unsupported Letter Delivery’, and ‘Deal - 3. Declined Date’.

	Sound relationships between PDU, partner agencies and applicants are formed and/or strengthened	x	
KEQ 2	Value of approved funding is visible to communities	x	
	Community members say they are more hopeful for the future of their region as a result of involvement in funded PGF projects (14) Note: we will include a question about the impact of COVID-19 that will provide context for responses to this area of inquiry.	x	
	Non-funded projects proceed regardless of PGF, i.e., with funding from elsewhere? (<i>no direct alignment with evaluation criteria</i>)		x

The applicant survey will be sent to both funded and non-funded applicants. Applicants will be identified from the PDU's administrative database (Pipedrive). For comparison purposes, the survey will include contextual questions common to the two groups. These include response time from initial application, region, the community of interest such as Māori, and young people (15-24 years-old). All question sets will be designed in consultation with the PDU. Advanced survey logic will be used to ensure the respondent only answers relevant questions (reducing burden).

We will create two datasets (Table 4) drawn from the Pipedrive data from applicants within the scope of this evaluation (up to and including 31 March 2020). An Excel spreadsheet for PDU to use in disseminating the survey to applicants and a second containing the survey ID, contextual variables to track response rates while the survey is live and as part of the statistical analysis. Each applicant will receive an email reiterating the purposes of the study, a statement stating that participation in the survey implies consent, assurance of anonymity, and a clickable weblink leading to the survey.

Table 4: Applicant survey population datasets

Variable	Excel sheet for PDU use	Survey analysis dataset
PDU ID		
Name	x	
Email	x	
Weblink ¹⁸	x	
Survey ID ¹⁹	x	x
Region		x
Stage		x
Sector		x
Business Case or Feasibility Study		x

¹⁸ 'Clickable' weblink linking survey response to survey ID.

¹⁹ ^bID generated by survey platform used to prevent linking of responses to contact details.

Variable	Excel sheet for PDU use	Survey analysis dataset
Application / EOI Submission Date		x
Investment tier		x
Funding Sought		x
Survey responses		x

Once the survey has been designed and a questionnaire link is available on the platform for respondents to access, the PDU team will send an email to all applicants with the wording Allen + Clarke prepare, along with the link itself. The email would include lines that direct the respondent to wording Allen + Clarke for questions and queries to prevent them from coming to the PDU team for information because the PDU will not have access to the survey information.

It should be noted that there is no guarantee the contact details of non-funded applicants are current as the PDU team does not have an ongoing relationship unless they have been successful with future applications. However, it is expected that this will not limit the examination of the significant difference between funded and non-funded views. An analysis of administrative data indicates there are up to 1500 non-funded and 500 funded (i.e., successful) applications. Therefore, even a low response rate of 30 percent would result in 450 responses from non-funded applicants. This is sufficient to allow bivariate comparisons (e.g., Māori population focus x funding success) and statistical significance calculated.

5.3.2. Stakeholder survey

A second survey, which we refer to as the 'stakeholder survey' will target regional stakeholders who have been actively engaged with the PDU or PGF projects. Survey responses will inform a range of criteria as outlined in Appendix 2. The regional stakeholder survey will focus on PDU staff, partner agencies, iwi, and other regional stakeholders.

PDU staff in each region will supply *Allen + Clarke* with a list of key stakeholders to be invited to participate in the regional stakeholder survey. Prior to being sent a web link to the regional survey, MBIE will send a pre-notification email to stakeholders providing information about the purposes of the study, a statement stating that participation in the survey implies consent, assurance of anonymity.

An additional stage to the stakeholder survey may be undertaken to boost the stakeholder sample size if it is too small to allow for more robust statistical analyses. This will be based on a respondent-driven sampling design²⁰ where the respondents in the first stage of the survey will be sent a second email asking that they forward the email onto anybody else in government who has been part of the PGF. This will be the same survey as that received by the stakeholders but will differ in that multiple responses can be collected for each stakeholder-linked clickable weblink and will include a 'filter' question asking if they have filled out this survey previously (if they have, the survey thanks them and terminates the survey). The email will reiterate the purpose of the study, ask that they forward the email to others in government who have been part

²⁰ Heckathorn, D. (2011). Snowball versus respondent-driven sampling. *Sociological methodology*, 41(1), 355-366. Doi:10.1111/j.1467-9531.2011.01244.x

of the PGF, give a statement stating that participation in the survey implies consent and an assurance of anonymity, and a clickable weblink leading to the survey.

5.3.3. Survey exclusions

We have excluded specific measures (as outlined in the MBIE PGF draft evaluation plan²¹) from the applicant and stakeholder surveys. The reasons for this are outlined in Table 5.

Table 5 Measures that will be excluded from the surveys

KEQ	Measure	Rational to exclude
1.4	The PDU and partner agencies are engaging and partnering with Māori in the regions, ensuring that funded projects align with development aspirations of Māori	It is unclear how the stakeholders will know how the applicant defines Māori development aspirations. We will have an idea of the amount/quality of partnering between PDU/partner agencies, but we cannot draw a clear link between Māori aspirations (as they will also differ between iwi and hapū) and what projects are funded.
2.3	More people, including Māori and youth, are employment ready and more confident about joining the workforce.	Asking stakeholders or applicants to answer on behalf of Māori and young people could potentially bias the findings. While excluded from the survey, we will analyse relevant data from the Outcome Indicators Dashboard and LEED. This measure will also be explored in case study interviews with iwi.
2.13	More people including Māori and youth are engaged in employment.	Like 2.3, asking stakeholders or applicants to answer on behalf of Māori and young people could potentially bias the findings. We expect to obtain more accurate information from the administrative data.

5.3.4. Data preparation plan

To support a good response rate for both surveys, we will inform potential respondents about the purpose of the survey and our approach to ensuring anonymity. In addition, we will encourage participation by sending a gentle reminder to complete the survey once a week over the four-week period that the survey is open.

²¹ MBIE (2020)

Surveys tend to achieve the best response rates when the survey questionnaire is concise.²² We propose that the base survey take no longer than 20 minutes to complete. Use of advanced survey logic will enable us to target question sets to the diverse types of respondents. This means that the survey length will be marginally longer for a small proportion of respondents. To boost response rates in the applicant survey, we propose employing an incentive with one prize draw.²³

The survey questionnaire will be scripted into an online survey platform. The survey will be piloted with a range of staff from *Allen + Clarke* and the PDU who bring a diverse array of skills and critique, including survey questionnaire design; this will include testing whether the correct questions are being asked, whether the questions are easily understood, checking the flow of the questionnaire, and obtaining an indication of the time required to complete the survey. The survey questionnaire design will also be shared with the Ministry for feedback.

Any information collected in the survey that could be used to identify individuals will be anonymised to ensure confidentiality. Before the analysis commences, our team will complete the following steps:

- Undertaking data verification and cleaning to ensure that the range of responses are valid, and that data is coded accurately and consistently.
- Establishing a data dictionary and recording of variables where required. This will include completing information to define each variable, such as variable names, descriptive variable labels, type of variable and value labels. Some recording of variables will occur when response categories are grouped, to ensure the results are meaningful.
- The construction of scales and multiple item variables.

5.3.5. Survey data analysis plan

We will use Stata statistical software to conduct the analysis of both surveys. We will calculate descriptive statistics including percentages and 95 percent Confidence Intervals (95% CIs). Where possible, the multinomial logistic regression model will be performed to detect a significant difference between subgroups of interest. For example, we could implement the multinomial logistic regression analysis to examine a difference between non-funded applicants against funded applicants regarding their PGF experience. Multinomial logistic regression is a simple extension of binary logistic regression that allows for more than two categories of the outcome variable. In this case, the outcome refers to the degree of agreement obtained from each measure (agreed, neither nor, and disagree)

The percentages are estimates of the proportion of the target groups that have a particular characteristic. Tables also include the number of participants who reported each of the different response for a given question and the total number of participants who answered the item excluding those who refused to answer a particular question or who responded with 'don't know'. The number of participants answering each question will be varied because of the questionnaire's routing nature, and the inclusion of 'refused' and 'don't know' options.

The 95% CIs indicate the estimate's precision by providing an interval in which the true proportion is likely to lie. The wider the confidence interval is an indication of a less precise

²² Rolstad, S., Adler, J., & Rydén, A. (2011). Response burden and questionnaire length: is shorter better? A review and meta-analysis. *Value in Health*, 14(8), 1101-1108.

²³ Winners of the prize draw can select from one of the following: a set of Bose wireless noise-cancelling headphones, an iPad Pro 10.5-inch display with 64G, or a \$1000 supermarket voucher.

estimate. Data in the report text will be rounded to the nearest whole number. We will round the numbers to one decimal place in tables and graphs. The rounding to one decimal place will mean percentages may not necessarily add precisely to 100%. Meanwhile, multiple responses have been allowed, and percentages can total to more than 100%.

5.4. Place-based case studies

The evaluation needs to understand the value of early outcomes of the PGF approach to regional communities, Māori, and the Government. We also want to explore the interaction between projects. To do this, the evaluation will include three²⁴ case studies that each have a place-based focus, i.e. PGF will be examined through the lens of a community where people live, work and where a cluster of funded PGF projects are well underway.

The case studies will enable a deeper understanding of a community's priorities and how these are being addressed through PGF funded projects that are well underway. Our focus will not be on individual projects, but on understanding the connection between projects and their collective impact, as experienced by community members, including for Māori. This is outlined in Table 6. The contextual elements outlined in Table 2 (e.g., the impact of COVID-19) will provide a further lens through which to explore what is occurring in specific locations.

Table 6: Overview of case studies

Data sources	Case study foci
<p>Interviews:</p> <ul style="list-style-type: none"> • Funded applicants in a cluster • Non-funded applicants • PDU staff • Relevant government agencies • Local council • Regional council iwi • Other relevant local stakeholders <p>Documents:</p> <ul style="list-style-type: none"> • Regional economic development plan • Application forms <p>Administrative data:</p> <ul style="list-style-type: none"> • Pipedrive 	<ul style="list-style-type: none"> • Intended, emergent and the unintended outcomes of funded projects. • Inter relationship of projects within a region • Wider system impact of the PDU • Outcomes for Māori. • Evidence of co-design and co-funding, and the value derived from this. • Impacts of sector investment, enabling infrastructure, and regional investment. • Engagement and relationships between project leaders and central and regional PDU staff. • Level of partnering between regions and central government agencies. • Capture organisations banding together (trusts, applicants/organisations working together).

At each location we will undertake interviews with key community members and gather documents relevant to the cluster of projects in the site. Further information about the planned process for undertaking interviews is included in Section 5.5. Matters relating to managing anonymity in how the cases are reported will be discussed further and worked through with MBIE.

²⁴ The number of case studies has been determined by the evaluation budget.

5.4.1. Proposed Case Study Sites

The selection of the final case study sites will consider location, the nature of the projects (e.g., number, type, value), and project stage; ensuring there is a selection of project types and is representative of the diverse Māori and non-Māori population, economic/business profiles, and socio-economic characteristics of Aotearoa New Zealand. While a regional focus is useful as a considerable proportion of economic, political, and social activity occurs within regional boundaries, iwi boundaries mirror collective Māori activities, resources, and whakapapa. As current Māori economic activities and wellbeing initiatives reflect key drivers such as te Tiriti o Waitangi settlement progress, and hapū level coordination and resourcing, we propose that we further 'zoom' into projects occurring within iwi boundaries (rohe) within each region. This iwi rohe focus will not mean a 'hard' project boundary however, just as iwi have whakapapa links to neighbouring iwi, projects that fall outside of iwi rohe, but are a natural cluster of projects that mostly fall inside of the iwi boundary will be included. Further nuancing of the case study site selection will occur after consultation with senior PDU and partner agency regional staff.

At the inception meeting and from interviews with key informants, it became clear that Northland was unique in the PGF funding portfolio due to its diversity, size, maturity, and value. There was unanimous agreement that one of the case studies be in Northland. Several other regions were also proposed as being good fits with the criteria as outlined in Table 7. They were Bay of Plenty and Hawkes Bay, Otago, Southland, and the West Coast.

Selection of the case study sites will follow a similar approach to that recommended in Table 7 of the MBIE PGF evaluation plan and has been updated based on findings from the Phase one key informant interviews. The key informant interviews and rapid analysis of the PDU data have been used to determine which communities will be included as case studies in Phase two. These within-region communities are dependent on the nature of the region and the mix of projects and could be the catchment area of a small city/town or a more dispersed cluster of rural centres and marae.

To support the compressed timeframe for the evaluation, selection of case study sites has followed a pragmatic convergence method. This has been achieved through the following steps:

1. Selecting potential case study regions based on early discussions with key PDU personal in the evaluation inception meeting.
2. Asking key informants their perspective of the proposed case study regions and identifying additional regions where they did not agree.
3. Considering each proposed region against the set of criteria (see Table 7) and converting to a score (high, moderate, low alignment with case study criteria), where:
 - a. project count is the number of projects dedicated to that region (i.e. exclude multi-region projects);
 - b. focus areas is the presence of key areas of focus as identified in the key stakeholder interviews: whenua Māori, Marae, infrastructure, tourism, aquaculture, transition economy (e.g., away from sunset industries like oil or coal), and big infrastructure projects (e.g., port development, Tier 3 investment)
 - c. Key informant perspective – The proportion of PDU and partner agency staff who supported this region when asked during Phase 1 key informant interviews. Responses were converted to a score: high (full agreement across key informants) = 3; moderate (pros and cons identified with a particular region) = 2; low (do not believe this is a good region) = 1

d. Deprivation based on the NZ Deprivation 2018 decile score.

4. Consultation with senior PDU staff to identify if there was a natural cluster of projects at a community level. We also utilised Pipedrive to characterise several communities within each case study region based on stakeholder interviews and any clustering of projects noted from the descriptive analyses.

The short-list of five regions was then discussed at an evaluation project management meeting attended by staff from MBIE, PDU and *Allen + Clarke*. To achieve maximum variation and the right balance of foci across the case studies, it was agreed that the following regions be included: Te Tai Tokerau, Te Moana a Toi te Huatahi and Te Tai Poutini. The evaluators will consult with PDU regional staff about specific rohe/locations to include in a case study.

Table 7: Case Study Region Criteria Scoring

Case Study	Region	Project count	Focus areas	Stakeholder preference	Deprivation ²⁵	Total
1	Te Tai Tokerau Northland ²⁶	419: High (3)	High (3): Whenua Māori, Marae, infrastructure, tourism	High (3)	7 (3)	12
2	Toi-te-Huatahi Bay of Plenty ²⁷	258: Moderate (2)	High (3): Whenua Māori, Marae, infrastructure, tourism	Low (2)	6 (2)	9
	Te Matau-a-Māui Hawkes Bay	223: Moderate (2)	High (3): Whenua Māori, Marae, infrastructure, tourism	Moderate (2)	6 (2)	9
3	Murihiku Southland	110: Low (1)	Moderate (2): Aquaculture, big infrastructure, transition, Marae	Moderate (2)	6 (2)	7
	Te Tai Poutini West Coast	109: Low (1)	Moderate (2): Tourism, transition	Low (2)	7 (3)	8

5.4.2. Engaging with case study stakeholders

Once we have finalised the case study regions and identified the project clusters, the evaluators will reach out to the relevant PDU regional advisors for assistance and guidance about the appropriate Māori organisation to work with in appointing local kaitiaki to the team.

Kaitiaki

At the earliest possible point, we will approach selected communities seeking their help to identify kaitiaki (one from each region) to support, guide, and advise the evaluation team as we work with their community. We are confident in identifying kaitiaki with the support of the community we are engaging with. However, our contingency will be to use our personal networks to approach kaitiaki who whakapapa to the iwi of that region to accompany and provide support in the same manner detailed in the proposal. We will work with PDU regional advisors and our regionally

²⁵ Population weighted average of NZ Dep 2018 decile score and converted to a rating where 5=1, 6=2, and 7=3.

²⁶ Kaipara to Kaikohe region is favoured by key informants interviewed in Phase one. Our next step is to look at Pipedrive data to narrow the location

²⁷ Opotiki is a potential case study location identified by key informants as it includes a variety of investments, infrastructure projects and a community that has a high level of deprivation.

based kaitiaki to identify and approach groups and individuals to participate in locally based interviews.

To recognise their expert roles, the kaitiaki will be remunerated as senior consultants for their time spent with us. This may be paid as a koha to their organisation, marae or to them personally as sub-contractors. The degree to which they will be involved in the evaluation will be negotiated with them but will include bringing us on to the marae and tikanga Māori spaces, connecting the team to that space (through whakapapa links, mahi, and values), and advising us on the kawa and tikanga of the mana whenua. If possible, they will be included as facilitators or participants in any group interview work and in reviewing our analysis of the findings for their community.

The Kaitiaki role will be dependent on the kaitiaki themselves (negotiated with them beforehand) but will include bringing us on to tikanga Māori spaces and advising the attending project team about the appropriate kawa and tikanga. We hope kaitiaki will also be part of the group work and have budgeted for a day to work with them on analysing the initial findings for that community. All of this will be clearly communicated with the kaitiaki when we first engage with them and further clarified when the project team arrive in their community.

The kaitiaki will be part of the evaluation team. They will participate in the preliminary analysis of their community findings and their insights will feed into the total findings. Where our assessment differs from theirs, we will workshop differing interpretations and highlight both commonalities and differences in the final report. They will have the opportunity to review the draft evaluation report, along with other evaluation team members.

5.5. Interviews

The evaluation will include face-to-face and video- interviews with a range of stakeholders (Table 8) at national, regional, and local levels. The purpose of these interviews is to collect in-depth information related to the design and implementation of the PGF (KEQ 1) and early outcomes (KEQ 2).

Interview topic guides will be tailored to the different stakeholder groups to ensure interviews cover all relevant topic areas and be finalised with input from MBIE. All potential respondents will be provided with an information sheet outlining the purpose of the evaluation and the process for informed consent and use of data.

In each case study location, we will conduct approximately 13 group and individual interviews. Most will be undertaken face-to-face during the evaluation team's visit to the sites; however, some may be scheduled via videoconference or telephone to suit respondents' availability. We are experienced in the use of interviewing and running hui remotely and can adapt our engagement process to suit this eventuality. Engagement in all tikanga Māori spaces will occur alongside the community kaitiaki who will guide us in our engagement. We anticipate that each iwi/hapū hui will be up to four hours. Other individual and group interviews will take between one hour and one and a half hours.

Table 8: Key stakeholder interviews

Stakeholder description		No. of interviews
	Iwi/hapu (hui)	1
	Funded and non-funded applicants	7

Regional and locally based stakeholders	Other community participants e.g., business leaders, community organisations	
	Key regional staff, e.g., regional council, local council, EDA, agencies involved in PGF projects in case study site	5
National stakeholders	PDU, MPI, TPK, New Zealand Transport Agency (NZTA), and Ministry of Transport (MOT)	10

5.5.1.1. *Analysis of interview data*

We will upload the interview notes into Nvivo Pro software. The notes will be coded and themes and sub themes will be identified. Respondent characteristics will also be uploaded. This will allow the analysis to be conducted in a variety of ways. For example, experiences and perspectives can be analysed from the perspective of partner agencies, applicants, iwi and by region.

5.6. Administrative data

Administrative data will be used to complement findings from primary data collection through surveys and interviews. The advantages of using administrative datasets include the comprehensiveness, large sample size, and a more extended period, which is usually sometimes challenging to achieve financially through any survey method. They could be used to provide data on applicants who may not respond to the survey.

Despite the advantages, greater caution and care are required to use secondary data as it is often not purpose-designed to address questions under investigation. The disadvantages are related to the reliability of data (e.g., administrative systems are reliant on input from multiple people), the lack of adequate control variables, the lack of any documentation and information about the quality of the data. There is no data dictionary. It is therefore important that data parameters do not change from year to year so comparisons can be made. Definitions within PDU have changed over time due to different measurement priorities, and changes to wider classifications and standards used across government. For the evaluation, data definitions will be those used as of 31 March 2020.

Secondary data analysis will be through data collected by the PDU, often for monitoring purposes (referred to as 'administrative data'), as well as relevant PGF documents. These are outlined in Table 9.

Table 9: Administrative data sources and assessment

Data source	Description	Focus of analysis
Pipedrive	Contains information on the PGF approved projects and other projects e.g., approved date, approved by, email address of applicants	<ul style="list-style-type: none"> Identify whether applicants received PGF funding. Job numbers.
PDU payment	Contains information of approved projects, i.e., payment amount; project stage; due date; and completed date	<ul style="list-style-type: none"> Funded projects conditions are on track (achieved progress against planned progress).

PDU reporting data	Contains track records of the process of approved projects e.g., contract signed date, contract start date, contract end date, and funding committed.	<ul style="list-style-type: none"> • Output allocation - investment is spread appropriately across sectors, regions, tiers, Māori.
Outcome indicator dashboard	The outcome indicators collected by various organisations such as Stats NZ, MOT, NZTA e.g., GDP economic activity, Māori assets - employee share, productivity, employment, and NEET rate.	<ul style="list-style-type: none"> • Number of the labour force. • participation by Māori and youth. • Number trained (NEETs and others). • Number considered employable (NEETs and other). • Numbers subsequently employed for 6 months or more (NEETs and other).
CIP reports	There are 12 Crown Infrastructure Partners (CIP) monthly reports: one report from Dec 2019, and 11 reports from the period of February to December 2020. These are word documents which provide an update for the following programmes: Marae, Regional Digital Hubs and Digital Literacy Training, and West Coast/Milford Fibre Links.	<ul style="list-style-type: none"> • Digital connectivity i.e. amount of fibre laid, number of business able to be connected and quality of connection. • Number of Marae connected and quality of connection. • The coverage of broadband and mobile. • Number of digital hubs.
Annual linked employer-employee data (LEED)	This is available in infoshare from Stats NZ. It provides person-level statistics for the March year about New Zealanders' interaction with the labour market and their income sources.	<ul style="list-style-type: none"> • Number of job for each quarter by regions. • Mean earning – new hires. • Mean earning – continue.
Transport agency data	To be discussed with relevant agencies (NZTA, Kiwirail, MOT) to identify what data will be available in the evaluation timeframe.	<ul style="list-style-type: none"> • Potential data on outcomes related to enabling infrastructure, i.e., improved key routes for business, the general public, and tourists; establishment of new freight and distribution hubs; acceleration of investment in infrastructure.

Other secondary data the evaluation will draw on includes documents, such as the Auditor-General's (2020) report 'Managing the Provincial Growth Fund', that are relevant to the PGF. These provide contextual information and insights into KEQ 1 and 2 that we can further probe in the current evaluation.

5.6.1. Economic Analyses

An assessment of the secondary data will be carried out to assess whether suitable data is being collected to support economic analysis at a later date when long-term outcomes should become

observable. Advice about additional data and/or improvements to current data collection will be given, and examples of possible analytical techniques provided.

Ultimately, we are interested in identifying the economic difference generated by the PGF and the impact that projects had on the economic performance of targeted regions. In practice it might take several years for the full economic impacts to materialise. In addition, the impacts of the PGF do not take place in a bubble – there are many other factors that will be influencing economic outcomes at the same time as the PGF impacts. The counterfactual, what would have happened in the absence of PGF projects, is never observed. Economic evaluation is unlikely to generate a categorical and unchallengeable assessment of PGF projects. But econometric techniques can be undertaken that will shed light on the economic implications of the PGF. We propose two approaches:

1. Evaluating the growth spillover potential of PGF selections
2. Using stochastic frontier analysis to evaluate the impact of PGF projects on local economic performance

Both proposed approaches will utilise the administrative data identified in Table 9. The key difference in approach is that the first approach can be undertaken now with existing data, while the second approach will require a delay until economic outcomes feed through into available data. The two approaches address two slightly different evaluation questions; the first is aimed at examining the quality of the project selection process, given available information when funding decisions were made, the second aims at identifying the regional economy consequences of PGF funding. Below we present details about the methods underpinning each of these approaches.

Evaluating growth spillover potentials

A spillover can occur for several reasons, but at heart the value to the community is greater than the return to the investor. This occurs because the investor will capture only a proportion of the returns from an activity. For example, the promoter of a festival will obtain a return from ticket sales but will not share in the ancillary increase in sales for the hospitality industry. At the margins, the return on risk for private investors will not justify investment in projects that would provide a net benefit for the community as a whole. The implication is that there may be opportunities for welfare enhancing interventions by public agencies.

Spillover industries are defined here as those where an expansion in output is likely to be associated with a greater than proportional impact for the region as a whole. The inference is that funding is likely to make a bigger difference for a region if it is directed towards industries or activities that will stimulate or enable growth in other industries. Otherwise, the risk is that much of the funded activity simply displaces activity that would have happened in other parts of the local economy anyway. The general approach we will use is to investigate the correlation of potential inputs to the historical performance of the outcome measure (e.g industrial output with regional gross production). The general format of the analysis is:

$$\ln(Q_t) = \beta_0 + \sum_{i=1}^n \beta_i \ln(q_{i,t}) + \mu$$

That is, the region's output, Q , is a function of all the n sub industries, q_i . The estimation is undertaken in log level format so that the estimated parameters β_i can be interpreted as elasticities. In essence if q_i were to double in size then we would expect regional per capita gross production to increase by β_i %.

An issue with this equation structure is that we would rarely expect the individual industries to grow independently of each other. For example, an increase in agricultural production is likely to coincide with an increase in food processing.

This problem can be circumvented with the use of principal component analysis to cluster co-movements in output in different industries and then regress the time component associated with each principal component with the measure of economic activity. The clustering process can then be reversed to generate β estimates for each individual industry.

As noted, the elasticities $\hat{\beta}_i$ can be interpreted as indicating the extent that the region's production will increase from a doubling in the size of the individual industry. This implies that one can compare the industry elasticity estimate with the industry's actual share of the region's economy to gauge the extent that overall growth is sensitive to the performance of the individual industry. For industries that have a β estimate that is larger than the industry's share, this is a sign of spillover potential from the industry.

Ideally the size of all industries will not be statistically different from their β estimates. But in practice this is unlikely to be the case. Instead, there will be degrees of over and under investment. This may be because of physical constraints (eg fishing quotas), central government policies (eg health spending decisions), commercial realities (eg the importance of locating some manufacturing industries close to large markets), or it could be because of spillover effects. Identifying where spillover effects are present is the key aim as this may suggest areas where activities by local agencies could potentially have their greatest influence on economic outcomes.

As the previous paragraph intimates, one cannot be categorical about the true presence or absence of spillovers, but the proposed analysis provides a mechanism for investigating the extent that PGF funding projects conform with the potential for spillovers. The extent that β estimates exceed actual industry size provides circumstantial evidence of the possible presence of spillover investment opportunities.

Econometric evaluation of impact of PGF funding

Once sufficient time has elapsed econometric analysis can be used to isolate the impact of PGF funding on local economic performance. Our suggested approach would be to use stochastic frontier analysis (SFA), which is a parametric approach for estimating production possibility frontiers. SFA is usually used to analyse the relative efficiency of different firms or organisations. The approach is useful here for disentangling the contribution of PGF interventions on the performance of a local economy from other factors such as pre-existing resources, as well as from other significant events such as the impact of Covid-19.

The general form of the stochastic frontier model can be expressed as (Coelli, 1996):

$$Y_{it} = x_{it}\beta + (V_{it} - U_{it})$$

Where

Y_{it} is the production(or the logarithm of the production) from the i^{th} region in the t^{th} period;

x_{it} is a $k \times T$ matrix of inputs into the activities of the i^{th} region in the t^{th} period;

β is a vector of unknown parameters;

the V_{it} are random variables which are assumed to be $iid N(0, \sigma_v^2)$ and independent of the

U_{it} which are non-negative random variables which are assumed to account for technical inefficiency in production and are assumed to be independently distributed as truncations at zero of the $N(m_{it}, \sigma_U^2)$ distribution where

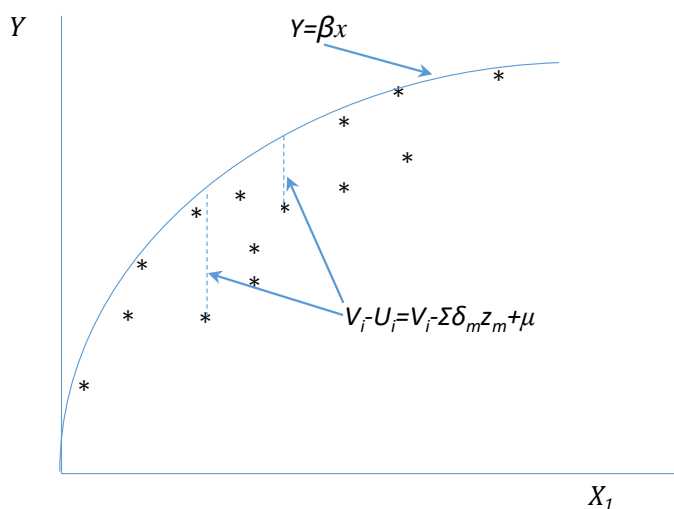
$$m_{it} = z_{it}\delta$$

And

z_{it} is a $p \times 1$ vector of variables which may influence the efficiency of a region's economy; and

δ is a $1 \times p$ vector of parameters to be estimated.

Estimates of β provide an assessment of the relative importance of different inputs to production in the area. The estimates of U_{it} provide a way of assessing the way that policy and other factors might contribute to economic performance in each area. The relationship is illustrated in the diagram below. Here we presume that there is just one input, x_1 . Each area will have a different endowment of this input and will produce a different level of output Y , which is illustrated by the points in the diagram. The estimated βx_1 is presented as the blue curve, which represents the production possibility frontier. Essentially, we use the actual production experiences to estimate what levels of production are practically possible.



The critical point about stochastic frontier analysis is that iterative maximum likelihood estimation techniques are used that centre the estimation around maximum values of βx_i , rather than the normal least squares approach of centring analysis around average values. This means that at any given point in time the output in a given area will be influenced by their endowment of inputs (x), the production technology available (β), some area and time specific shocks (V – for example due to a drought), and some non-random factors inducing non-negative measures of local inefficiency (U). The research question of interest becomes: did PGF funding coincide with reductions in the region's inefficiency factor? If this is the case it would be consistent with a view that the funding helped improve the region's productivity, the overarching aim of the fund.

Essentially then stochastic frontier analysis provides a mechanism for investigating to what extent the performance of a local economy is due to local endowments (the size of x), the extent that

performance is being inhibited by local inefficiencies (the size of U), and the extent that these inefficiencies could potentially be mitigated by changing local policy settings (by examining the δz). In particular, does the presence of PGF funded activities contribute to declines in U or, alternatively, mitigated other sources of economic inefficiency?

5.7. Synthesis and evaluative assessment

The process of synthesising the findings to reach evaluative judgements will be undertaken in two workshops.

At the first workshop, the evaluation team will bring the findings from each data collection method together with key regional stakeholders. Provisional evaluative judgements will be made against the evaluation criteria, drawing on a generic rubric, like that included in the draft MBIE PGF evaluation plan. We propose to work collaboratively with MBIE to ensure the evaluative assessment process is transparent and defensible. To this end, we will include members of MBIE's evaluation team in the workshop to provide input into the synthesis methodology, including decisions about weighting data sources.

At a second workshop the collective findings and provisional evaluative judgments will be discussed in a sense-making workshop with PDU staff and partner agency stakeholders. A key purpose of this workshop is to enable early shared understanding of the findings, incorporate PDU and other relevant stakeholder knowledge into the analysis, and confirm the evaluative assessments made against criteria.

The workshop will be facilitated by our co-lead evaluators. They will explore key evaluation areas such as:

- **Emerging findings, by key themes:** Are these findings valid? Do they reflect the real-world experiences of stakeholders?
- **Interpretation and insights:** How significant are the findings/ Did we interpret the findings correctly? Which findings/data sources are more important?
- **Evaluative assessment:** Are the evaluative judgements defensible?

Our understanding is that implications of the findings (i.e., recommendations) for the PDU and partner agencies will not be included in the final report.

5.8. Limitations of the evaluation approach

The evaluation is constrained by a tight timeframe, with data collection scheduled to completed within a six-week timeframe. This has implications for time allowed for engaging with key regional stakeholders, particularly iwi, and the depth of investigation possible for the case studies, including the range and number of interviews possible.

The evaluation aims to explore the interactions between PGF projects (e.g. what PGF funded infrastructure in the region has meant for other projects). These systems-level interactions (positive and negative) will be examined in case study locations but are too complex to examine through a survey.

A further limitation, for the case studies is that our interviews will focus primarily on stakeholders identified by PDU. There may be other important stakeholders in a community whose perspectives cannot easily be captured as they are further 'downstream'.

6. REPORTING

As stated in Table 1, the high-level report outline will be provided on Commercial Information, showing the high-level approach to the report.

The draft evaluation report will be submitted to the MBIE contract manager for review and feedback on Commercial Information. We expect MBIE to provide collated feedback by Commercial Information.

The final written evaluation report will document the project, methodology, findings, evaluative conclusions and include relevant attachments. This will be submitted to the MBIE contract manager by Commercial on Commercial Information.

Post-evaluation support will also be provided:

- Support for PDU/MBIE post the evaluation report in terms of answering questions from Cabinet or other stakeholders.
- Preparing and delivering a summary presentation of the key findings for PDU/MBIE and/or other key stakeholders.

7. RESOURCING

The evaluation team, roles and responsibilities for the evaluation are outlined in Table 10.

Table 10: Evaluation team, roles, responsibilities

Name	Role	Responsibilities
Privacy of natural persons	Project sponsor	Provide strategic oversight to the project; ensure the team has the capability and capacity to deliver a high-quality evaluation. Ultimate responsibility for quality control.
Privacy of natural persons	Co-lead evaluator	Provide oversight and manage the evaluation design and delivery, particularly qualitative components. Key point of contact with the PDU and MBIE contract manager.
Privacy of natural persons	Co-lead evaluator	Provide oversight and manage the design and delivery of the evaluation, particularly quantitative components. Responsible for engagement with Māori.
Privacy of natural persons	Senior data analyst	Develop, conduct and analysis of the surveys and undertake analysis of administrative data.
Privacy of natural persons	Senior evaluator	Design qualitative interview tools; assist with qualitative components of the evaluation.
Privacy of natural persons	Evaluator	Assist with qualitative components of the evaluation, and engagement with participants.
Privacy of natural persons	Technical economic advisor	Provide economic expertise to the evaluation. Peer review the final report.

8. MANAGEMENT OF THE EVALUATION

8.1. Communication with MBIE

Ongoing contact (phone and email) between *Allen + Clarke* and MBIE will support project management. In addition, there will be communication at the following times:

- Fortnightly meetings in person or via videoconferencing with the MBIE contract manager, other PDU staff as relevant, and *Allen + Clarke* project manager.
- Monthly update meetings as required between the MBIE senior management and the *Allen + Clarke* project sponsor. These will be held in person or via videoconferencing.
- Monthly written progress reports (due on Commercial Information, Commercial Information, Commercial Information, Commercial Information).

8.2. Communication with other stakeholders

A two-hour sense-making workshop will be held with key national and regional stakeholders on the week of Commercial Information. The workshop will be held in person at MBIE's Wellington office or via videoconferencing.

8.3. Risk management

A risk register will be maintained on a regular basis and included in fortnightly reporting to the Ministry and in the monthly written progress reports. *Allen + Clarke* works on a 'no surprises' basis and will advise the Ministry of any risks as soon as they arise – along with suggested solutions.

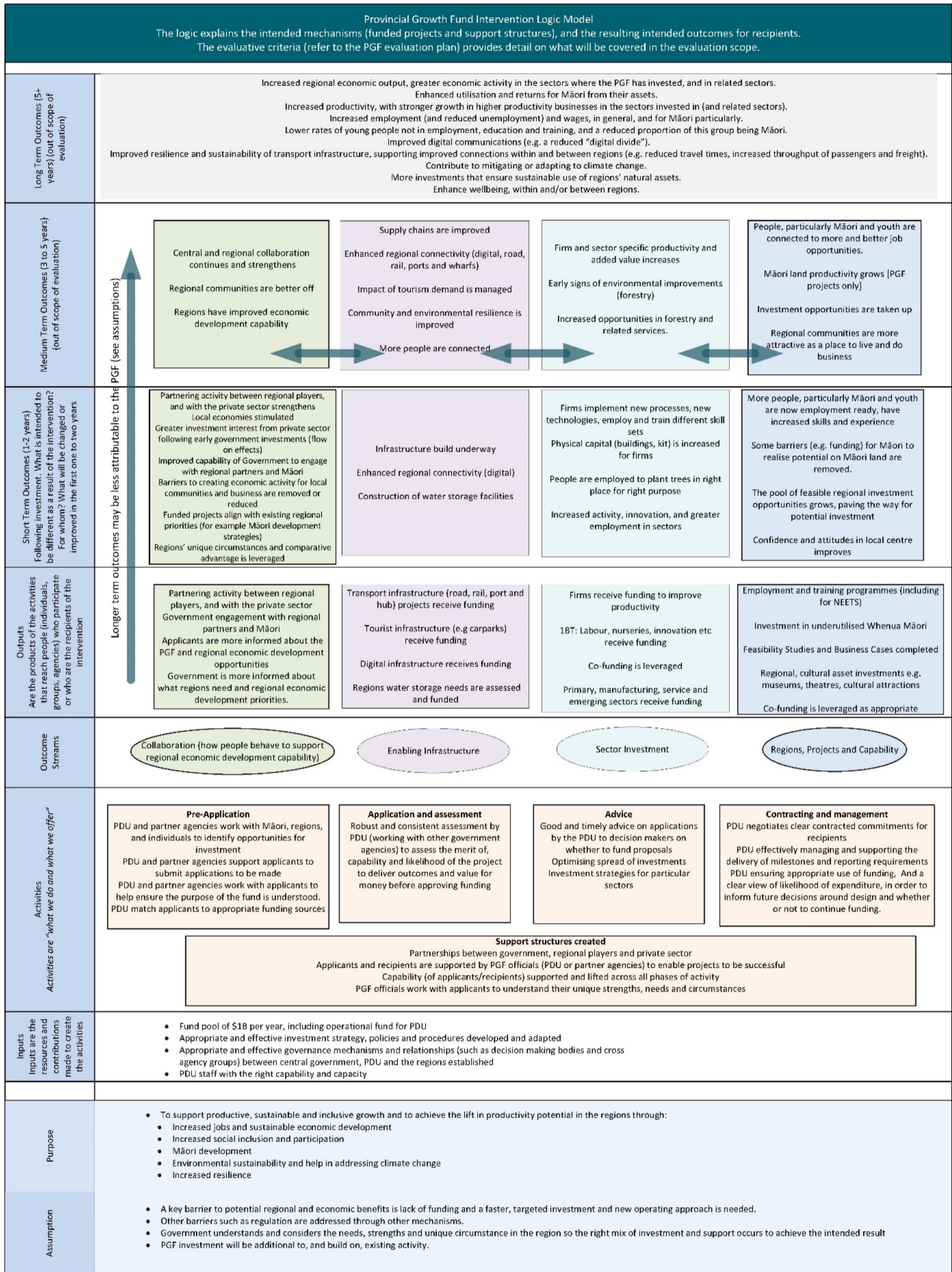
8.4. Data security

The evaluation team will work closely with the PDU IT team to ensure the IT infrastructure, and governance structures are in place to manage the administrative data and survey datasets effectively and according to the Public Records Act and Privacy Act (2020).²⁸ For the survey data, we will provide participants with a consent form before they start answering the questionnaire.

Only researchers who are listed on the project team (Table 10) can access the datasets. We will delete the administrative data containing people contact details, particularly the Pipedrive data, at the end of the project. Before releasing our work to anyone beyond approved researchers listed on the project, we will perform an internal output checking to ensure the safety of the results while maximising the data utility. Through this process, we will remove any small group which may be identifiable, e.g., the suppression of small cells in sensitive tables.

²⁸ Privacy Commissioner (2020). A quick tour of the privacy principles. Retrieved from: <https://www.privacy.org.nz/assets/Privacy-Act-2020-content/2020-A-quick-tour-of-the-privacy-principles-Oct-2020.pdf>

APPENDIX 1: INTERVENTION LOGIC



APPENDIX 2: CROSS WALK OF EVALUATION CRITERIA AND DATA SOURCES

Legend: Source of data

AS	Applicant survey
SS	Stakeholder survey
CS	Case study
NSI	National stakeholder interview
AD	Administrative data

KEQ 1: How well is the design and approach being actioned to maximise the changes needed to achieve the desired impacts?			AS	SS	CS	NSI	AD
Domain ²⁹	Evaluative Criteria	Sub Evaluative Criteria					
Enabling enduring relationships, collaboration and capacity building at all stages	1. Regional stakeholders. Central govt works well with local govt, applicants and iwi.	a. There is clarity about roles of both the government and regions in terms of engagement.		x	x	x	
		b. PDU and partner agencies have influenced improved collaboration between local government, applicants, and iwi.	x	x	x	x	

²⁹ For more information see the Intervention Logic

KEQ 1: How well is the design and approach being actioned to maximise the changes needed to achieve the desired impacts?			AS	SS	CS	NSI	AD
		c. Government supports, collaborates, and partners with the regions, and the engagement is beyond Regional Councils/District Councils and includes industry sectors and other key community stakeholders.		x	x	x	
		d. Extent to which applicants believe communication with PDU and partners is transparent.	x		x		
		e. Engagement and partnering are occurring between government agencies.		x		x	
		f. PDU and partner agencies have improved ongoing capability to engage with regional partners.		x	x	x	
	2. Working well together is supporting identification of investment opportunities, high quality proposals, and successful progress of funded projects.	a. Regional stakeholders (communities, local govt and iwi) believe that their needs, strengths, and unique circumstances are understood and considered by central government.		x	x		
		b. Funded projects align with govt development priorities and regional priorities.		x	x	x	
	3. Applicants: Capability is lifted	a. Applicants have access to the resources they need to develop proposals.	x		x		
	4. Iwi: The PDU and partner agencies are engaging and partnering with Māori in the regions ensuring that funded projects align with development aspirations of the target group as defined by the applicant.		x		x		

KEQ 1: How well is the design and approach being actioned to maximise the changes needed to achieve the desired impacts?		AS	SS	CS	NSI	AD
	5. Iwi: Sound relationships between PDU, partner agencies and applicants are formed and/or strengthened.	x	x	x		
	6. Māori believe that their values and views are valued and acknowledged.	x		x		
	7. People who live in the community are engaging in a meaningful way with the issues that are going on around them.			x		
	8. Creation of much stronger connections between regional government agencies and the community.	x		x		
	9. Clear and consistent communication between Wellington PDU and the regions regarding criteria and funding decisions.	x			x	
Assessment and advice	10. PDU and partner agencies are collaborating efficiently and effectively to provide advice.		x		x	
Assessment and advice	11. The timeliness, quality and robustness of assessment and advice provided means decision makers are sufficiently supported to make decisions on individual proposals and to ensure the spread of investment across sectors, regions, tiers, risk and Māori				x	x
Contracting	12. Applicants have a positive experience* of the contracting process. Positive experience could include timeliness,	x		x		

KEQ 1: How well is the design and approach being actioned to maximise the changes needed to achieve the desired impacts?			AS	SS	CS	NSI	AD
	completeness, clarity and consistency of information provided and requested						
Client management	13. Recipients report clear and timely advice, support, and communications from the PDU to help ensure successful delivery of projects.		x		x		
Policy	14. Funding approvals and funded projects are locally led with support from central government.			x	x	x	
	15. Sufficient regionally based capacity to support sustained regional economic growth. In practice this means:	a. Ongoing communication between partner agencies, community, and other regional stakeholders such as EDAs and councils		x	x		
		b. Capacity to seek out opportunities for strategic investment that will make a difference, not just 'low hanging' fruit.			x	x	
		c. Increased funding for dedicated roles in EDAs and councils.			x	x	

KEQ 2: How valuable are the early outcomes of the PGF approach to regional communities, Māori and Government?			AS	SS	CS	NSI	AD	
Domain	Evaluative Criteria	Sub Evaluative Criteria						
Outputs Funding allocation	1. Investment aligns with the objectives of the PGF	a. Investment is spread appropriately across sectors, regions, tiers, Māori.				x	x	
		b. PGF funding is not duplicating other government funding.				x		
		c. Examples of non-crown co-funding are evident on projects that align with PGF objectives.			x			
Regions/Projects /Capability	2. Funded project conditions are on track: progress against deliverables.				x		x	
	3. More people, including Māori and youth, are employment ready and more confident about joining the workforce			?	x		x	
	4. More people have gained further work skills.			?	x			
	5. Benefits for Māori whenua	a. Māori landowners consider that prior underutilised Māori land is beginning to be utilised.	x		x			
		b. Māori landowners feel they have the tools and resources to unlock the potential to realise land potential.			x			
	6. Emerging evidence of feasibility studies being funded to go to the next stage or other related investment options are emerging.			x		x		
Sector investment	7. Funded project conditions are on track: progress against deliverables.				x		x	

KEQ 2: How valuable are the early outcomes of the PGF approach to regional communities, Māori and Government?			AS	SS	CS	NSI	AD
	8. Organisations report seeing the benefits they set out in their application beginning to be achieved, including improved productivity.		x		x		
	9. Direct grants and joint ventures incentivise planting, and partnerships reduce barriers to planting.						x
	10. Trees are successfully planted in line with annual planting estimates.						x
Enabling infrastructure	11. Funded project conditions are on track: progress against deliverables.						x
	12. PGF funding helps to enable:	a. Digital connectivity - Fibre laid.					x
		b. More marae are connected and there is positive impact of this for Māori and regional communities			x		x
		c. Gaps in broadband and mobile coverage are increasingly addressed.			x		x
		d. Increase in digital hubs					x
		e. Improved key routes for business, the general public and tourists					x
		f. New freight and distribution hubs are being established.					x
		g. PGF funding accelerates investment in infrastructure to enable regional economic development.					x
Community/region wide	13. Value of the approved funding is visible to regional stakeholders and recipients, e.g:	c. More people including Māori and youth are engaged in employment.	x	x	x		x

KEQ 2: How valuable are the early outcomes of the PGF approach to regional communities, Māori and Government?			AS	SS	CS	NSI	AD
	14. Community members say they are more hopeful for the future of their region as a result of involvement in funded PGF projects (note the impacts of covid need to be taken into account)		x	x	x		
Progress toward (medium & longer term outcomes)	15. The extent to which outputs and short-term outcomes indicate that funded projects are on track to achieve the medium and long term outcomes.						x
	16. Stakeholders consider the approach and implementation of the PGF process is likely to be feasible and sustainable in the long term.		x	x	x	x	

APPENDIX 3: EVIDENCING TE TIRITI O WAITANGI IN THE EVALUATION

Evaluation Design		Kāwanatanga		Rangatiratanga	Ōritetanga
Description	Process	Voice	Māori and Pākehā have equal say	Local solutions	Under-resourced are prioritised
Initiation	Scoping	Evidenced by	Stakeholder interviews: TPK; investment director (Māori & Pacific); Regional advisors	Community clusters; Kaitiaki discussions	Regions with high deprivation selected
Engage	Reach-out and referral	Stakeholder mapping and engagement plan Scoping interviews Kaitiaki: Community guides and cultural safety	Identified stakeholder groups include representation from a range of Māori and non-Māori organisations	Identified stakeholder groups include representation from community and NGO groups	Explicitly identify and engage with representatives from Pacific nations, Asian nations, migrant populations, and under-resourced communities
Enquire	Deep dive through case studies	Participants	Sufficient numbers of Māori and non-Māori voices are included	Community representation	Include the experiences of participants
	Interrogation of secondary data, breadth through surveys	Anonymised and aggregated	Data includes key Māori indicators (e.g., te reo Māori support/ funding, Marae support/ funding, Māori NGO funding to population ratio), and broader wellbeing	Data can be reliably disaggregated at a sub-regional or community organisation level	Pacific nations, Asian nations, migrant populations, and under-resourced communities can be identified
Analyse	Thematic analysis of case studies	Hapū, community, organisation	Māori and non-Māori analyses conducted separately (to identify differences) and together (commonalities)	A local solutions narrative thread is maintained across all thematic analyses Regional view is captured through key informant interviews	The experiences of Māori are prioritised across all thematic analyses. Experience of broader region is identified
	Statistical analysis	Regional and organisational	Māori and non-Māori analyses conducted separately (to identify differences) and together (commonalities)	Community organisation and NGO indicators included in analyses	Community, NGO, and ethnic identity indicators included in analyses ³⁰

³⁰ Our analysis will involve examining the data collected from multiple perspectives. The different perspectives will be identified alongside the client as we review the available documentation and admin datasets.

Evaluation Design		Kāwanatanga	Rangatiratanga	Ōritetanga
Synthesise		All	Māori, non-Māori, regional, and combined all-of-Aotearoa learnings report sections are included	A local solution report section is included A lived-experience and priority population report section is included