

# Forest-to-build Safeguard Assessment Report

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Report for Dalberg Catalyst  
Dovetail Consulting Ltd  
December 2022

## Introduction

The Climate Smart Forest Economy Program (CSFEP) is a collaborative initiative bringing together EIT Climate-KIC, The Nature Conservancy, the World Economic Forum, and the World Resources Institute, with seed funding from Good Energies Foundation and support from Dalberg Catalyst. The overarching goal of the program is to demonstrate the full climate potential of forests and sustainable forest products and catalyse further momentum and investment into the sector. The program aims to increase the use of climate smart forest products by catalysing market demand from sectors that need rapid decarbonization (such as construction), while meeting social and ecological safeguards.

The identification and support for emblematic breakthrough initiatives, demonstrating that potential, constitutes a core aspect of the CSFEP. One such breakthrough initiative, the Forest-to-Build project (F2B), focuses on developing a climate smart forest economy in New Zealand (NZ), in partnership with The Connective. The Forest-to-Build project (F2B) aims to transition Aotearoa's forest-to-build value-chain to one that's integrated and delivers value for communities, ecosystems and climate. One of the F2B deliverables is an assessment of a pilot project, Whare Ora, being led by Hikurangi Enterprises, a Māori organisation based in Tairāwhiti developing a local forest-to-build programme on their whenua.

The purpose of this report is to provide an assessment of Whare Ora's social and ecological impacts against a Safeguard Analysis, developed by Dalberg. This assessment was first undertaken by The Connective and Hikurangi Enterprises, and subsequently by an Independent Assessor (IA), Dovetail Consulting Ltd (Dovetail). Hikurangi Enterprises is a community-owned charitable company, based in Tairāwhiti of Aotearoa NZ, and established to lead regional economic development. Dovetail is a NZ-based evaluation and research company, specialising in public good and social change assignments. The report is structured around the following three research questions:

- What is the estimated environmental, social, and ecological impact of the selected project (Hikurangi Enterprises timber build) identified from the safeguard analysis?
- What safeguards are in place to support the selected project (Hikurangi Enterprises timber build)? What safeguards need to be created?
- What approach is needed going forward to understand and communicate the value generated by the Hikurangi Enterprises timber build and similar projects in Aotearoa? How can this support replication and scaling?

Section one focuses on the Whare Ora pilot itself, including how the model works, how it benefits whānau (families), whenua (land) and the climate, and future aspirations. Section two reports on the Safeguard Assessment findings and recommendations (ecological and social) by Dovetail. Section three outlines next steps to better capture the multidimensional value generated by Whare Ora and other F2B approaches, recognising indigenous knowledge and mātauranga Māori, through a Vfl approach

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## Section 1. Whare Ora

*Whare Ora* is an indigenous-led initiative on the East Cape of New Zealand to localise the forest-to-build value chain to benefit Māori communities. The *Whare Ora* model provides employment and income for Māori via local milling operations and offsite construction; tailors whare (homes) to the needs of specific Māori families; support Māori who would not otherwise be able to own a home into home ownership; aligns with environmental limits by building principally with carbon positive local timber, and exploring sourcing from whanau owned regenerative forestry models.



### 1.1 Localising the forest-to-build value chain to benefit Māori

Whare Ora, which translates as healthy homes, is underpinned by the motivation to create self-determination for Māori communities. Given the strong connection between affordable home ownership and greater Māori self-determination and wellbeing, Whare Ora started with the concept of home. For Māori, housing is about more than economic security. It cuts across many aspects of Māori wellbeing, including whānau (family) physical and mental health, use of te reo (Māori language), care of whenua (land) and the environment, the ability to provide sustenance and hospitality for themselves and others, and many other aspects of wellbeing unique to Māori culture.<sup>1</sup>

New Zealand's housing crisis, characterised by increasingly unaffordable homes, disproportionately impacts Māori. Of the houses that are being built to address this crisis, most do not factor in Māori cultural needs. Hikurangi Enterprises sought to address the dual challenge of a lack of culturally appropriate homes for Māori, and poor economic options for Māori in the East Cape.<sup>2</sup> Its circular forest-to-build model, depicted below, is grounded in Te Ao Māori. Te Ao Māori, or a Māori worldview, sees humans as part of the natural world and holding inherit obligations to operate in alignment with ecological principles. Each phase of the model, depicted in the figure below, has been informed by this worldview.

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<sup>1</sup> Stats NZ (2020). *Housing in Aotearoa: 2020*.

<sup>2</sup> Māori labour market trends, June 2021.

Figure 1. Whare Ora model, a fully localised forest-to-build value chain



<p><b>SELF-DETERMINATION</b> Te Tiriti honoured</p>	<p><b>GREATER EQUITY</b> Māori-led housing solutions</p>	<p><b>WELLBEING &amp; HEALTH</b> Flow on impacts of secure home</p>	<p><b>DEVELOPMENT</b> Diversity local economy and provide work</p>
<p><b>CLIMATE SMART</b> Carbon positive building materials</p>		<p><b>NATURE POSTIVE</b> Te Ao Māori forestry</p>	

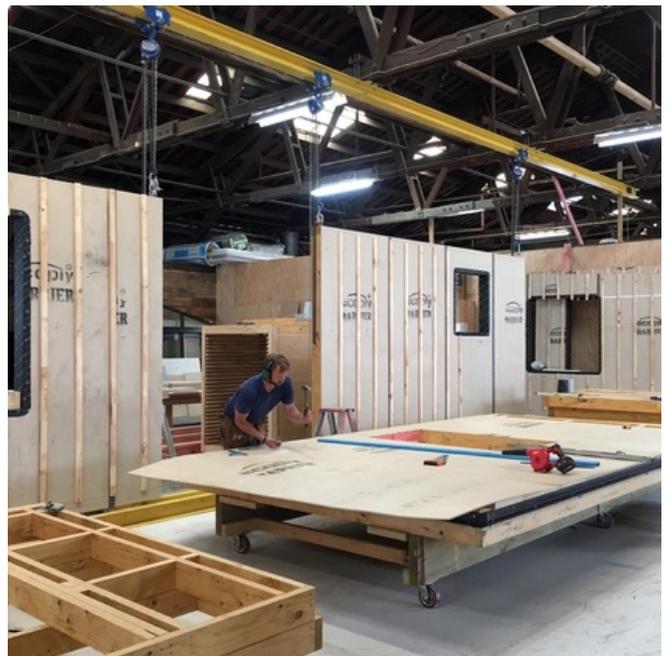
## Forestry

At present, the majority of timber for the building component is supplied through local firm Wood Engineering Technologies (WET), who source their wood from Forestry Stewardship Council-Certified forests (FSC).

Hikurangi Enterprises also sources timber from local forestry is small scale harvesting and milling of trees on *whenua Māori* (Māori land) to provide weather boards, cladding and other materials for their *whāre* (housing) production. There are a number of key actors that determine access to local forestry, which reflects the diversity of land tenure in Tairāwhiti, being an area with a relatively large portion of multiply owned Māori land. These actors include: Ahu Whenua Māori Trusts, Commercial Runanga Entities, Māori Land Incorporations, local and foreign-owned commercial forestry companies, freehold landholders and associations such as NZ Forestry and Farm Association. Relationships and negotiations between Hikurangi Enterprises and these actors will determine the nature of access to local forestry.

## Local milling

A significant component of Whare Ora's supply chain is the local milling process. Hikurangi Enterprises purchased a portable sawmill which is now community-owned and managed. The local Institute of Technology 'Eastern Institute of Technology' (EIT), facilitates training for safely operating the mill, and Hikurangi Enterprises now employs a crew of approximately 12 millers (from rural communities) who mill trees on *whenua Māori* (Māori land) to provide weather boards, cladding and other materials for their *whāre* (housing) production. This has facilitated the milling of small forestry plots on *whenua Māori* that were previously inaccessible. These milling operations have also created a new line within Whare Ora's supply chain, incorporating local forestry into the building process. Importantly, this gives new value to natural resources (forestry) on *whenua Māori*, provides local employment and industry opportunities, and reduces carbon emissions relative to timber transported from afar.



## Offsite manufacturing

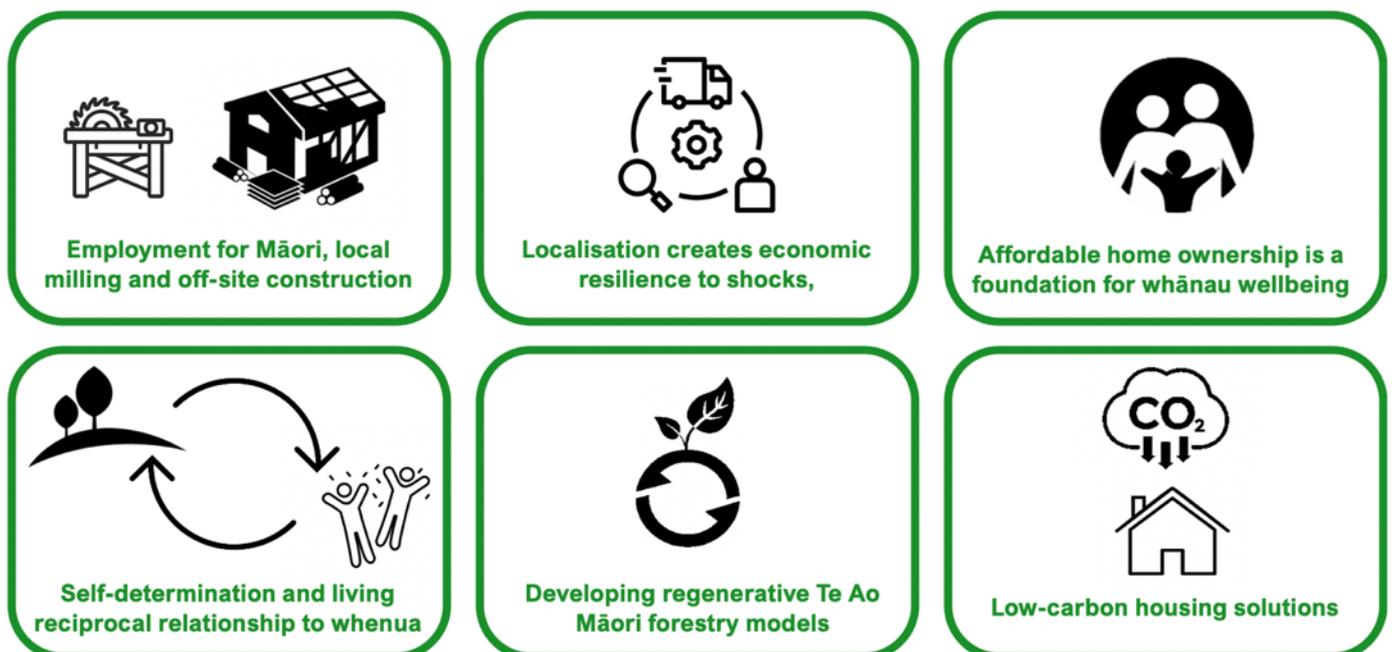
Once local trees have been milled, they are transported to Hikurangi Enterprise's build site in Gisborne. Here they are made into building components e.g. weatherboards and cladding to adorn the whāre built onsite. A team of specialist builders work in conjunction with design specialists, architects and government entities to design and build healthy *whāre* (homes) which are then transported to whānau.



### 1.2 Value generated by Whare Ora

Whare Ora, in line with a Te Ao Māori view of the world, has been designed to layer in as much value as possible for people and planet. The types of values generated by the pilot, outlined below (figure 2), were initially identified by The Challenge Owner (CO) as part of its workstream to support a Māori community-led pilot, and validated with robust evidence as part of the Safeguards Analysis. These values are principally socio-economic in nature, as there is a real and urgent need for culturally appropriate and affordable homes in Māori communities. Any value that may be generated for local ecosystems and biodiversity are 'future values,' based on live work to develop regenerative forestry models on Māori land. Currently, most of Whare Ora's timber is sourced from mono-crop pine forestry that, while FCS certified, is linked negative environmental impacts (see Section two below). This points to a tension that exists in the model between development and human wellbeing, and sustainability.

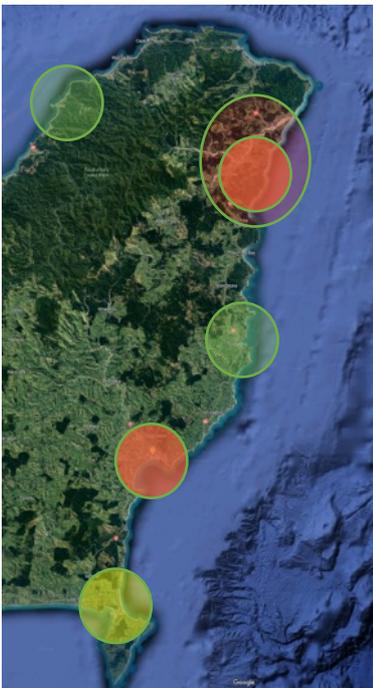
**Figure 2. Six core values generated by Whare Ora model**



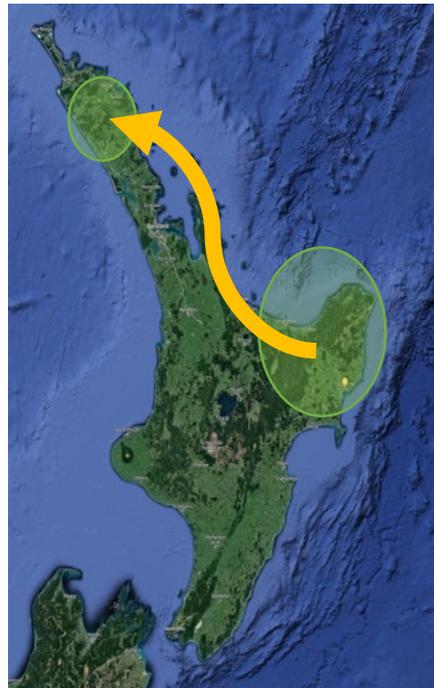
### 1.3 Future Aspirations

Hikurangi Enterprise's future aspirations for Whare Ora involve further localising supply chains, financing structures to enable Māori home ownership, and developing a robust scaling model to support Māori communities nationwide to localise their forest-to-build value chain. The following workstreams to progress these future aspirations are live:

- Te Ao Māori forestry models: Utilise trees from *mana whenua* (Māori-owned land) and develop forestry models in line with Te Ao Māori. Hikurangi Enterprises has partnered with the Farm Forestry Association, a group of experts in alternative forestry models, to support their understanding and application of continuous canopy and mixed forestry models.
- Offsite waste water and energy: Prototyping waste water systems and local sustainable energy to enable Whare Ora builds to be fully reliant.
- Innovative financing mechanism: Rent-to-own fund mechanism fully developed in partnership with Community Financing, and strong interest from funders.
- Scaling: Identification of other Māori communities in Northland, funders and other support organisations who are very interested in place-based scaling of Whare Ora. See three phase scaling plan below.



**Phase 1. 2022-23**  
Secure funding for rent-to-own and working capital to expand model in East Cape



**Phase 2. 2023**  
Replicate model to Northland with interested Māori community, Te Putahi-Nui-o-Rehau Tuakana



**Phase 3. 2024 onward**  
A network of 40+ whanau-based entities interested in implementing Whare Ora

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## Section 2. Safeguard Assessment Findings

This section of the report explores potential impacts and safeguards from the implementation of Whare Ora within the F2B programme, drawing on the risks and safeguards reviewed in the Safeguards Assessment developed by Dalberg. There are three pillars to this assessment: ecosystem health and function; society and economy; and climate. There were 20 issues assessed across these pillars. Of these 20 issues there were 7 co-benefits; 6 high risks; 2 low to medium risks; and 5 low risks identified

Dovetail's review of the Safeguards Analysis, initially completed by The Connective and Hikurangi Enterprises, was based on the material supplied and did not involve independent research for verification. The review explored the internal coherence and consistency, and face validity of the safeguards analysis, as well as drawing on knowledge in this arena in any comments for reflection or amendment.



### 2.1 Safeguard assessment overview: Environmental, ecological and social impacts

Whare Ora, being underpinned by a Te Ao Māori view of the world, has considered multiple dimensions of value in its design and implementation, covering all three areas of the safeguard analysis at each step of the value chain:

- Ecosystem health: In Te Ao Māori, economies are embedded in ecology. Of such, Whare Ora aspires to develop forestry models that embody the concept of mutually beneficial relationship between humans and nature.
- Climate: Support climate-smart and sustainable forest management practices, including through the application of indigenous wisdom and integration of the 3S approach.
- Society and economy: Increased local processing capacity for NZ-made high-quality sustainable timber products, particularly with Māori forest owners. Support whānau into culturally appropriate and affordable homes.

From the outset, it is clear that the full realisation of the above three principles is a long-term process. The forestry is occurring in a geographic area that has been disrupted by significant forestry over many decades, based on a model of pine plantation and clear felling. There is a clear tension between sustainability, and economic and social development. At the current stage of the programme, forestry models in place are not well suited to regenerative approaches and changing this model will take time.

This means that positive environmental impacts in the short-term are limited and there are some noted risks identified, detailed in the sections that follow. There is potential in regenerative forestry approaches to reforestation and subsequent harvesting to ensure greater biodiversity benefits in future years.

In the short-term, the programme is more focused on its social outcomes for local communities, which include the creation of jobs, creation of homes for Māori who would otherwise not be able to be housed - especially an improvement in their wellbeing. This model promotes self-determination of Māori communities - building homes and communities for their own people. We are helping to develop this pilot programme which is hoped to be scaled and used by other Māori communities.

### **Environmental and ecological impacts**

The table below summarises the key impacts identified, and the level of risk attributed in the short-term. Hikurangi Enterprises and The Connective, in completing the safeguards analysis, emphasised the clear-felling models in place for forestry clearance, and that this industry model will take time to be replaced with more regenerative models. As a result, many of the impacts noted have medium to high risk of being realised, at least in the short term until more sustainable models can be established.

**Table 1: Environmental/ecological impacts and risks**

<b>Focus</b>	<b>Potential impacts identified</b>	<b>Level of negative impact risk</b>
<b>Biodiversity</b>	Monocrop radiata pine forests throughout the region have many negative impacts on biodiversity through constraining growth of indigenous flora and fauna. These are further disrupted significantly through clear-felling.	High risk
<b>Endangered species</b>	Four endangered species were noted in the region that are adversely impacted by radiata forests and clear-felling.	High risk
<b>Habitat protection</b>	Clear-felling risks loss of habitats for species; noted however that native species are more common in indigenous forests rather than pine.	High risk
<b>Ecological resilience / climate change adaptation</b>	Mono-crop pine noted as vulnerable to climate impacts, particularly fire, wind and pests/pathogens; climate change adaptation likely to be needed	High risk

<b>Avoiding land use and cover type conversion in areas of high conservation value</b>	Clear-felling can severely impact areas of high conservation value; however, noted that such areas are generally managed by Department of Conservation and outside areas of harvest.	Low risk
<b>Ecosystem function and service provisioning</b>	Clear-felling has direct impacts in terms of erosion, poor soil health and harm to vegetation. Noted that council is working with landowners to reduce risk.	Low-medium risk
<b>Resource efficiency &amp; pollution prevention</b>	Risks of landslips and chemical/nutrient run-off into waterways as a result of clear-felling.	High risk
<b>Maximize net reduction or sequestration of GHGs</b>	This initiative is working actively to mitigate greenhouse gas emission impacts and is seeking to track carbon emission/storage.	Low risk
<b>Avoid net deforestation (including reversals and leakage)</b>	Risks may be manifest through clear-felling practices currently; Hikurangi Enterprises is actively seeking to source timber in future through local regenerative forestry models.	Low risk

In our review of these risks, we noted the short-term risks and emphasised the importance of a shift to a regenerative forestry model that would significantly reduce the risks described above. We understand that this is core to the long-term approach being adopted by Hikurangi Enterprises.

### Social impacts

Table 2 below details the social impacts and risks identified through the Safeguards Analysis. As noted above, it is in the social and cultural domains that the most positive impacts occur in the short to medium terms.

**Table 2: Social impacts and risks**

<b>Focus</b>	<b>Potential impacts identified</b>	<b>Level of negative impact risk</b>
<b>Impacts to tenure security</b>	This initiative has no impact on land tenure or ownership by indigenous people.	Low risk
<b>Minimize risks and accidents</b>	Forestry is an area that historically has had higher levels of health and safety risks, and to a lesser degree construction. Health and safety reported to be actively monitored and accounted for by Hikurangi Enterprises, alongside safety training, and is also an area of focus in government policy.	Med-high risk

<b>Economic livelihood impacts (including poverty reduction)</b>	Tairāwhiti is an area of high unemployment and social inequality. This initiative is expected to will create jobs and with attendant positive economic impacts, with Hikurangi Enterprises having aspirations to build 100 homes within the next year.	Possible co-benefits
<b>Well-being (non-economic)</b>	Hikurangi Enterprises workforce is entirely of Māori descent, and new housing aimed to benefit Māori whānau in need of housing in the Tairāwhiti area and beyond. Further, the houses are reported to be well ventilated and of good quality.	Possible co-benefits
<b>Labour and working conditions</b>	Labour rights in New Zealand are relatively lower than comparable countries owing to reduced access to work, lower minimum wages, increasingly precarious employment, and long-hours. However, this initiative is reportedly mitigated by Hikurangi Enterprises' commitment to create good working conditions for their team. Health and safety risks are noted above and incorporated in risk assessment.	Medium-high risk
<b>Food security</b>	This initiative has a potentially negating, impact on this risk as it is actively considering mixed land use models to promote food security.	Possible co-benefits
<b>Illicit activities</b>	Low risk of illicit activities; New Zealand has committed to trade only in legally harvested timber. We understand that Hikurangi Enterprises is not involved in any illegal logging activity nor are their suppliers.	Low risk
<b>Equity and inclusion (including gendered impacts)</b>	All employees are of Māori descent, and significant effort is placed into training and upskilling employees to ensure career progression.	Possible co-benefits
<b>Community involvement / Indigenous participation/ leadership</b>	Hikurangi Enterprises are developing a model of constructing houses by and for Māori; this is grounded in a self-determination framework, where indigenous communities are creating opportunities for their people on their own land in a way where they are in control.	Possible co-benefits
<b>Cultural heritage alignment</b>	Hikurangi Enterprises is driven by a indigenous self-determination model that supports protection and promotion of cultural heritage.	Possible co-benefits

<b>Indirect impacts (other stakeholders)</b>	Hikurangi Enterprises have ambitions to support the construction of whare (housing) from regenerative forestry models on whenua Māori.	Possible co-benefits
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## 2.2 Safeguards in place to support F2B outcomes

### Environmental and ecological safeguards

The table below summarises the key approaches being adopted to safeguard against the risks noted above.

**Table 3: Environmental/ecological impact safeguards**

<b>Focus</b>	<b>Safeguards identified</b>
<b>Biodiversity</b>	Forests are FSC certified; over time Hikurangi Enterprises is seeking to shift to a more regenerative model.
<b>Endangered species</b>	As above
<b>Habitat protection</b>	As above
<b>Ecological resilience / climate change adaptation</b>	As above
<b>Avoiding land use and cover type conversion in areas of high conservation value</b>	As above. Further, there are strong laws and regulations of areas that have been set aside as those of high conservation value.
<b>Ecosystem function and service provisioning</b>	As above
<b>Resource efficiency &amp; pollution prevention</b>	As above
<b>Maximize net reduction or sequestration of GHGs</b>	This initiative is working with CSFEP on 3S calculations for the pilot project. This will help to determine carbon emissions and storage for the whole process.
<b>Avoid net deforestation (including reversals and leakage)</b>	In the future, Hikurangi Enterprises is actively working to source timber from local regenerative forestry models.

### Social impacts

Table 4 below details the innovative approaches to safeguard against social impacts and risks, and moreover, create positive impacts for Māori communities in the region.

**Table 4: Social impact safeguards**

Focus	Potential impacts identified
<b>Impacts to tenure security</b>	This initiative has no impact on land tenure or ownership by indigenous people.
<b>Minimize risks and accidents</b>	Health and safety reported to be actively monitored and accounted for by Hikurangi Enterprises and safety training established; government has identified forestry as a high-risk industry and has introduced a special focus area on Forestry in the Health and Safety at Work Strategy 2018 - 2028
<b>Economic livelihood impacts (including poverty reduction)</b>	This initiative is expected to will create jobs and with attendant positive economic impacts, with Hikurangi Enterprises having aspirations to build 100 homes within the next year.
<b>Well-being (non-economic)</b>	Hikurangi Enterprises workforce is entirely of Māori descent, and new housing aimed to benefit Māori whānau in need of housing in the Tairāwhiti area and beyond.
<b>Labour and working conditions (check rating in final version and crossover with H&amp;S)</b>	Hikurangi Enterprises initiatives include a 4-day work week, catered healthy daily lunches for staff, endeavours to create a high-level trust environment, and supports flexible time off to attend to cultural ceremonies (e.g.,4 tangi) and to meet family responsibilities.
<b>Food security</b>	In the short-term, Hikurangi Enterprises is also building food gardens, and its immediate plans to activate more affordable housing should free up income to enable more spending on healthy food (food security is largely an issue of purchasing power in NZ).
<b>Illicit activities</b>	We understand that Hikurangi Enterprises is not involved in any illegal logging activity nor are their suppliers.
<b>Equity and inclusion (including gendered impacts)</b>	In this project, Hikurangi Enterprises have a relatively flat hierarchical structure in organisation. Significant effort is placed into training and upskilling employees to ensure career progression. Further all employees are of Māori descent.
<b>Community involvement / Indigenous participation/ leadership</b>	Hikurangi Enterprises are developing a model of constructing houses by and for Māori; this is grounded in a self-determination framework, where indigenous communities are creating opportunities for their people on their own land in a way where they are in control.
<b>Cultural heritage alignment</b>	Hikurangi Enterprises is driven by an indigenous self-determination model that supports protection and promotion of cultural heritage.
<b>Indirect impacts (other stakeholders)</b>	Hikurangi Enterprises have ambitions to support the construction of whare (housing) from regenerative forestry models on whenua Māori.

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## Section 3. Next Steps to capture the value of Whare Ora

### 3.1 Looking beyond risks and safeguards

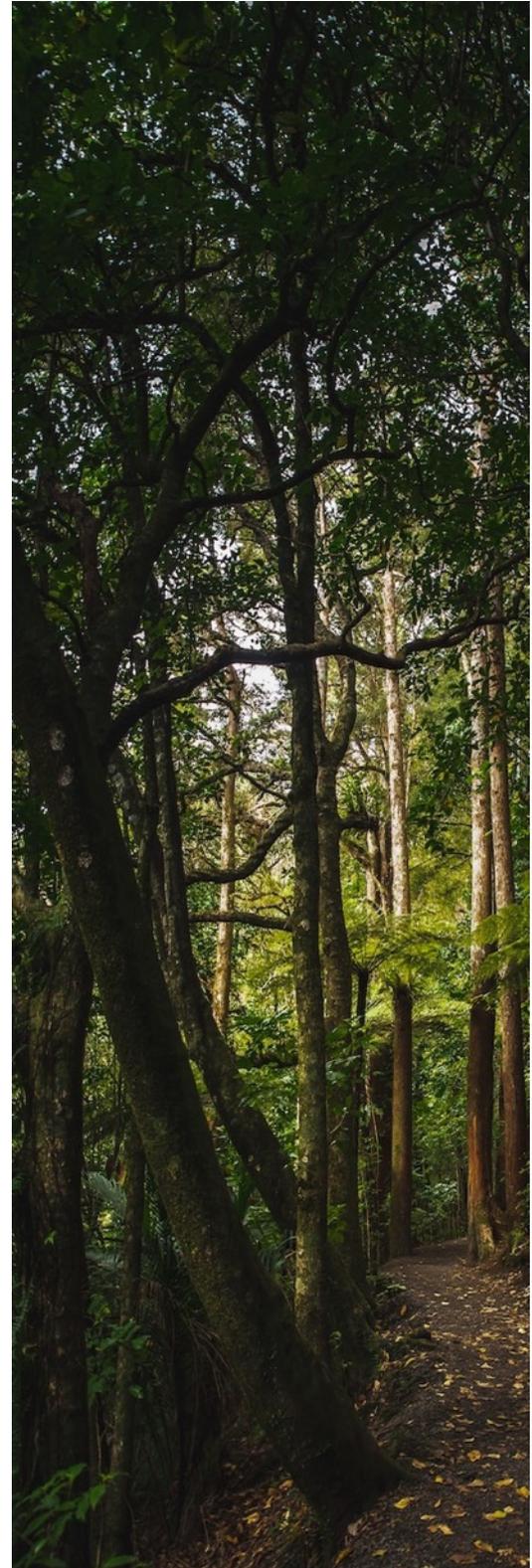
The Safeguards Assessment is a robust approach to exploring risks and their mitigation, in the design of the initiative; these are important to ensuring a robust design and functionality. However, the core focus of the analysis templates on risks and their likelihood, and how they can be avoided or offset, ignores a deliberative focus on the inherent value of the initiative. Projects such as F2B are not simply important for the way in which risks or challenges are addressed, in fact their starting point is to deliver some form of economic, social, environmental or cultural value – often in spite of the risks they may face.

Therefore, defining and measuring the inherent and intended value of such innovations is critical to understanding the value they offer to communities and ecosystems. In this section, we propose a Value for Investment (Vfi) framework as a starting point for exploring the value of F2B and evaluating its impacts, acknowledging that value has multiple dimensions. In particular, and in the context of F2B's implementation via Whare Ora, value needs to be considered from an indigenous lens alongside the priorities expressed through the Safeguards Assessment. These approaches are discussed further below.

### 3.2 Value for Investment approach

The Vfi approach is designed to answer questions about how well resources are used to create social, cultural, economic, and environmental value. This approach explores value in a variety of ways, including but not limited to economic value, but also actively incorporates concepts such as equity and effectiveness. The approach is explicitly:

- Interdisciplinary: Vfi brings together multiple perspectives on what constitutes value;
- Participatory: Vfi requires the input of many to articulate what value comprises in the context of the programme or initiative, including indigenous perspectives;
- Evaluative: Vfi applies evaluative reasoning so that a transparent judgement can be made;
- Mixed methods: Vfi draws on a range of approaches, qualitative and quantitative, to capture different dimensions of value.



This approach supports accountability and good resource allocation, as well as reflection, learning and adaptation. It involves developing and implementing an evaluation framework for:



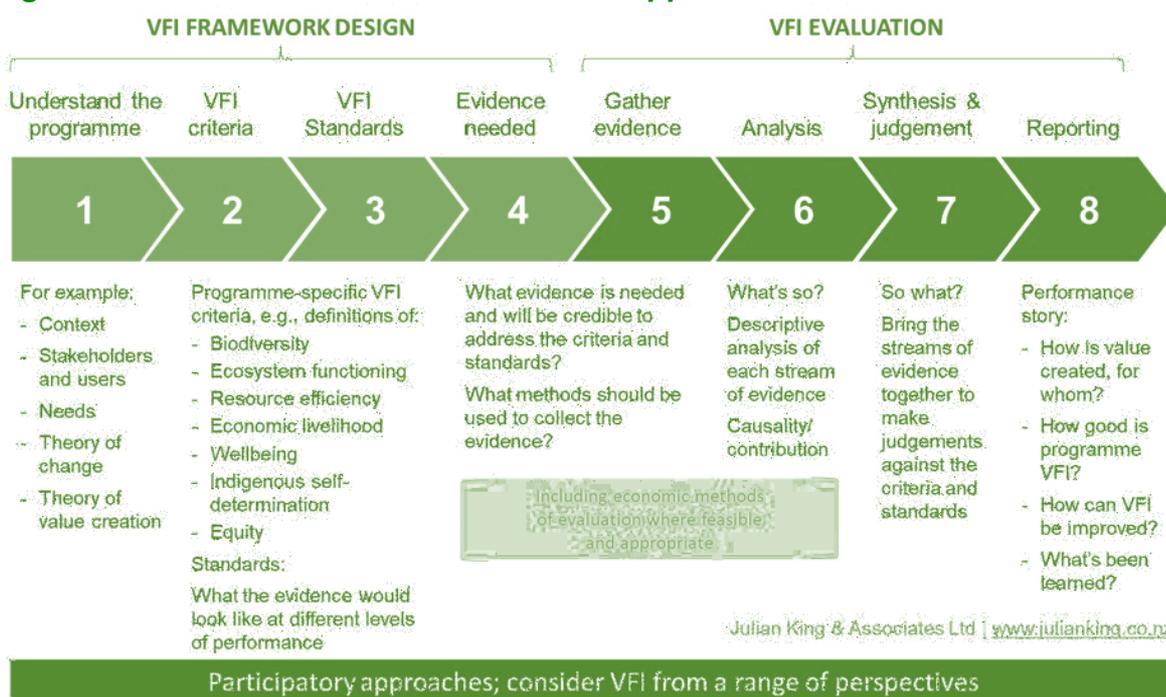
A Vfi-focused evaluation framework provides the basis for making and presenting judgements in a way that opens both the reasoning process and the evidence to scrutiny. The Vfi approach achieves these aims by:

- Using explicit criteria (dimensions of performance) and standards (levels of performance) to provide a transparent basis for making sound judgements about the value created by F2B.
- Combining quantitative and qualitative forms of evidence to support a richer and more nuanced understanding than can be gained from the use of indicators alone.

Vfi is being taught through the University of Melbourne and through evaluation associations around the world and is being used globally to evaluate complex and hard-to-measure policies and programs. The approach has received evaluation awards in Australia and the UK.

The Vfi approach is depicted in Figure 2 below, highlighting a process of building a shared understanding of the initiative, establishing clear criteria and standards, identifying evidence needed to assess this, followed by evidence gathering, analysis, synthesis and reporting.

**Figure 2: Value for Investment framework applied to F2B**



### 3.3 Applying Vfl to Forest to Build

Using the Vfl approach above as our guide, stakeholders would collaborate to design an evaluation framework, taking people collaboratively through the first four phases; these are described in detail below. The subsequent four phases are described briefly to show how value would be captured.

As we describe the first four steps of the Vfl approach, we offer some initial reflections on the value that F2B offers and how it may be captured. We stress that value may be measured in more than one set of units (i.e. beyond simply economic value); it may be measured through a range of quantitative metrics, and also described qualitatively.

#### Step 1. Understanding F2B and its value proposition

This first phase provides essential building blocks on which understanding the value of F2B will rest. This is a critically important context-setting and design phase, working through a series of engagement workshops with stakeholders. In this phase, issues explored include:

- The **value proposition** for F2B and how it seeks to change the system in which forestry and construction operate, for the benefit of whānau
- Stakeholders in F2B, across funding, delivery and outcomes
- Understanding the pathway to impact through a **theory of change** for F2B and a **theory of value creation**<sup>3</sup>

**Error! Reference source not found.** details at a high level how F2B, working through Whare Ora, seeks impacts for both whānau and ecosystems; from a value perspective, the diagram provides a conceptualisation for F2B as a vehicle for converting resources into significant cultural, social and economic and environmental value, and also how it challenges and disrupts the current system of forestry and construction.

From our review of F2B, there are clear ways in which the initiative is already offering a **value proposition** through Whare Ora. Value is generated by F2B from the careful and innovative application of a range of resources, including forests, people, Mātauranga Māori, funding and industry resources and knowledge. The value that is gained include the following (as described in background documentation):

- Creating new types of jobs in rural Māori communities e.g. through Māori having control of milling (at present), and in the future delivering on aspirations around processing, drying etc.
- Localising economic activity, making the region less vulnerable to shocks in global markets, supply chains or geopolitical events (such as the nationwide gib shortages due to Covid-19 disrupted shipping).
- Instigating a shift from a clear-felling model and the externalities it produces to a more regenerative forestry model
- Diversifying forestry away from monocultures and promote permanent, or more permanent coverage; this is particularly important in the Tairāwhiti region that is vulnerable to soil erosion, and which has negative environmental and cultural impacts.

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<sup>3</sup> King J. (2021). [Expanding theory-based evaluation: incorporating value creation in a theory of change](https://doi.org/10.1016/j.evalprogplan.2021.101963). *Evaluation and Program Planning*. <https://doi.org/10.1016/j.evalprogplan.2021.101963>.

- Giving mana whenua self-determination over their whenua and land use by making a strong case for iwi to utilise their forestry assets to generate holistic value for whenua and whanau; and supporting Māori communities with small forestry blocks to create localised forest-to-build value chains; and supporting cultivation of new forests on Māori land.
- Providing opportunities for reduced carbon footprint costs through localising this supply chain.

In the Safeguards Assessment, there are a range of environmental, ecological, and social domains (discussed in detail in the previous section) that together provide a starting point for criteria for F2B. We note however that these domains, while robust and inclusive, are drawn from a framework that is being applied internationally. With specific reference to F2B and Whare Ora, there may be specifically indigenous domains of cultural value such as tino rangatiratanga (self-determination), kaitiakitanga (guardianship).

Table 5 below offers a refined set of value domains building on the Safeguards Assessment. Building from these, a more focused and culturally grounded value proposition should be developed with programme stakeholders.

**Table 5: Potential value domains for F2B**

Environmental/ ecological	Economic	Social	Cultural
Enhancing biodiversity	Local economic resilience and regeneration	Healthy housing	Tino rangatiratanga;
Protecting endangered species and habitats	Economic livelihood impacts (including poverty reduction)	Well-being (non-economic)	decision-making and action as Māori
Climate change adaptation	Labour and working conditions	Food security	Kaitiakitanga; protection and fostering cultural heritage
Avoiding land use and cover type conversion	Preventing value loss (e.g. shipping logs overseas)	Equity and inclusion	Mātauranga Māori
Ecosystem function and service provisioning	Enhanced land value	Community involvement	Connection with whānau, hapū and community
Resource efficiency & pollution prevention	Supply chain reconfiguration to local needs	Safe and health work environment	
Maximize net reduction or sequestration of GHGs			
Avoid net deforestation			

Alongside the value proposition, **a theory of change** should also be developed that describes the pathway and mechanisms for achieving these system changes, and **a theory of value creation** will articulate the value generated by the F2B approach; these are both

key to explaining the value proposition that F2B offers, and which subsequent phases of data collection, analysis, and synthesis will test and explore.

We note too that there are trade-offs with the value proposition. For example, a shift from clear felling to sustainable logging carries initial significant costs, particularly ahead of a wider sector shift; the cost and benefits of current model versus the new model should be carefully assessed; again, however drawing on a broad range of value domains.

## Step 2. Vfl criteria

Building on the first phase, the next step is to with stakeholders to establish clear criteria (aspects of performance) for the success of F2B. The criteria provide a way of presenting **agreed definitions of quality and value**. Collectively, the criteria provide the definition of what good value looks like for the investment in F2B. They make explicit the basis on which evaluative judgments will be made, and facilitate clarity of evaluation design, data collection, analysis and reporting.<sup>4,5</sup> The value domains discussed above provide an important starting point for criteria.

## Step 3. Vfl standards

Standards describe levels of performance for each of the criteria. A matrix of criteria and standards – a *rubric* – provides the road map for understanding value that is generated. Rubrics help determine what evidence is needed (including, but not limited to metrics of programme performance), and provide a transparent way of making evaluative judgements, by explicitly identifying how well an initiative performs against key criteria.

A generic example of standards is:

- **Excellent:** Meeting all reasonable expectations bearing in mind context, and substantively exceeding some expectations. There may be room for incremental improvements.
- **Good:** Generally meeting reasonable expectations, allowing for minor exceptions. Some improvements may be needed.
- **Adequate:** Not meeting all expectations, but fulfilling minimum bottom-line requirements and showing acceptable progress overall. Significant improvements may be needed.
- **Poor:** Not fulfilling minimum bottom-line requirements or not showing acceptable progress. Immediate and major improvements needed.<sup>6</sup>

This process of criteria and standards development is similarly collaborative; instead of starting from a risk analysis spreadsheet, Vfl requires a participatory process that draws out value and how it can be measured and assessed, and may ultimately culminate in a spreadsheet or rubric that sets out the value and how it can be assessed.

The rubric that emerges from this collaborative process will have clear alignment with the value proposition, theory of change and theory of value creation.

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<sup>4</sup> Davidson EJ. (2005). *Evaluation Methodology Basics – The Nuts and Bolts of Sound Evaluation*. Sage Publications, CA.

<sup>5</sup> King J, McKegg K, Oakden J, Wehipeihana N. (2013). Rubrics: A method for surfacing values and improving the credibility of evaluation. *Journal of MultiDisciplinary Evaluation*. Vol 9, No. 21. [http://journals.sfu.ca/jmde/index.php/jmde\\_1/article/view/374](http://journals.sfu.ca/jmde/index.php/jmde_1/article/view/374)

<sup>6</sup> King, J. & OPM (2018). *OPM's approach to assessing value for money: a guide*. Oxford, UK.

#### **Step 4. Evidence needed**

By developing clear criteria and standards, we will be able to identify the evidence that is needed and will be credible to understand the value created by the investment in F2B, and the data collection methods that are required to collect the evidence.

Determining the right mix of methods, balancing breadth, depth, frequency and intensity of data collection within the budget available, should be undertaken collaboratively with stakeholders. Evidence can (and probably will) be both quantitative and qualitative – and might include economic analysis.

This process should identify existing data collection tools that can be applied, as well as any new tools (such as surveys or observation guides) that may need to be developed.

#### **Step 5. Gather evidence**

This is the data collection phase to capture in different forms the value generated. We anticipate data collection components may include surveys or interviews of programme participants and end users; analysis of data collected by programme participants; conservation and environmental monitoring data; and economic impact monitoring.

#### **Step 6. Analysis**

Each stream of evidence should be organised and analysed according to the VFI criteria and standards. This approach keeps the analysis focused on the agreed aspects of quality and value, and aligned with the theory of change and theory of value creation.

Analysis methods will vary according to the data collection, but will likely include thematic analysis of qualitative data, and statistical and economic analysis of quantitative data, where feasible.

#### **Step 7. Synthesis and judgement**

In this phase, the analysis from all data sources is synthesised and reflected on in the light of value proposition, theories of change and value creation, and rubrics. Critical to this phase are a series of sense-making workshops in collaboration with stakeholders.

We believe that evaluative judgements should not be made by one person working alone, but with a group of key stakeholders who would discuss the evidence collected during the evaluation and then come to a consensus about F2B's performance. It is through this process of dialogue and deliberation that sound judgements are made. This process presents an opportunity for programme funders, leaders, workstream managers and other stakeholders to review the evidence and come to a shared understanding of F2B performance.

#### **Step 8. Reporting**

The final phase builds from the synthesis and judgement to develop reports that convey performance, outcomes, learning, and ultimately an evaluative judgement of value.

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## Conclusions

This document provides a starting point for defining the value that F2B offers, and an approach to evaluating learning and outcomes from F2B that tests and sheds light on a collaboratively developed value proposition, theory of change and theory of value creation. Work already undertaken by The Connective and Hikurangi Enterprises has gone some way to setting out a value proposition, and the safeguards analysis undertaken has added further depth. At this stage, the critical points of difference of Whare Ora include its cultural grounding in local and indigenous approaches, regenerative forestry principles, building local supply chains and economic resilience, and supporting improved whānau wellbeing outcomes through access to sustainable and affordable housing.

There are clearly however a range of dimensions of value that deserve further exploration through developing a comprehensive evaluation framework in collaboration with stakeholders, and then implemented through a sustained evaluation programme over time. We trust that this document provides a launchpad for a multi-faceted and culturally grounded evaluation of F2B that captures value and impact and learning for ongoing development.