[1]

Final report

# Evaluation of the Primary Growth Partnership W3 Wool Unleashed Programme

30th April 2023

NIMMO-BELL & ASSOCIATES

A Division of Prime Consulting International

Nimmo-Bell & ASSOCIATES

[1] Photo credits: New Zealand Merino

# Table of Contents

**Index to Figures**



**Index to Tables**

***Acknowledgements***

*The reviewers acknowledge the assistance and support of George Strachan, Steve Penno and their colleagues at MPI (present and past), Donna Chan, Programme Manager, and the project workstream leads, NZM management and staff, members of the Programme Steering Group, and Investment Advisory Panel, Brand Partners, Processors and Growers, and others who contributed their time and information for the evaluation.*

# Glossary of Abbreviations

| | |
|---|---|
| B+LNZ | Beef and Lamb New Zealand |
| BOO | Blue Ocean Opportunities |
| CAGR | Compound annual growth rate |
| CBA | Cost-benefit analysis |
| CTC | Crossing the Chasm |
| ESG | Environmental, Social and Governance |
| IAP | Investment Advisory Panel |
| IP | Intellectual property |
| MPI | Ministry of Primary Industries |
| PGP | Primary Growth Partnership |
| PSG | Programme Steering Group |
| NPV | Net Present Value |
| NZFAP/NZFAP+ | New Zealand Farm Assurance Programme |
| NZM | New Zealand Merino |
| R&D | Research and Development |
| RWS | Responsible Wool Standard |
| SLTO | Social Licence to Operate |
| SFF | Sustainable Food & Fibres Futures |
| W3 | Wool unleashed programme |
| WSI | NZ Wool services International |
| ZQ | NZM quality assurance programme |

# Executive Summary

## Programme design

The W3 Wool Unleashed programme was an $22.1 million 6.5-year partnership between The New Zealand Merino Company Limited (NZM) and the Ministry for Primary Industries (MPI) that commenced in February 2016 and ended in June 2022.

The Programme's vision was *"to drive transformational change in the way New Zealand strong wool is produced, marketed and sold."*[2]

To deliver the Programme vision, W3 was structured into four workstreams, using a value chain approach. Investment across the four workstreams is shown in the table below.

*Table: Programme investment by workstream ($'millions)*

| Workstreams and objectives | Cash $mil | In-kind $mil | Total $mil | % of total |
|---|---|---|---|---|
| **Social Licence to Operate (SLTO)** – protecting and enhancing the reputation of New Zealand wool through research and development in on-farm practices. | $6.7 | $0.2 | $6.9 | 31% |
| **Crossing the Chasm** – helping strong wool brands move from a commodity focus to a branded experience | $8.8 | $0.3 | $9.1 | 41% |
| **Blue Ocean Opportunities** – new, market driven uses and new users of strong wool through research and development into new products from wool or deconstructed wool | $4.5 | $0.09 | $4.6 | 21% |
| **Primary Sector Extension** – using NZM-initiated collaborations and focusing on benefiting the wider primary sector of New Zealand | $1.5 | $0.02 | $1.5 | 7% |
| **Total** | **$21.5** | **$0.6** | **$22.1** | **100%** |

*Source; W3 Wool Unleashed End of Programme Report 2022*

## Performance against targeted outcomes

The W3 Programme design set out short, medium, and long-term outcomes across time horizons from 2016 to 2022.

**Short-term outcomes (2016-2020)**

The W3 programme achieved its short-term outcomes of premium prices for growers, wool being used in high value products and uptake of its ZQ quality assurance scheme by 288 growers. Contracted wool bales moved from zero out of 36,000 bales traded in 2016 to 11,000 in 2020, with a cumulative total of 36,000 bales over these years. No targets were set for new product development and as such no short-term outcomes have been able to be measured or reported in this period.

[2] W3 Wool Unleashed End of Programme Report 2022

**Medium-term outcomes (2021-2022)**

Increased revenue of $4.51/kg of wool versus the market indicator of $3.33/kg clean was achieved (a 35% premium), as was an increase to 373 of growers registered with ZQ (a 30% increase).

The cumulative number of bales sold under contract over this period was 44,000 out of a total of 107,000 bales of wool sold by NZM, which represented 41% of sales, an increase over the 28% of contracted sales for the first five years of the programme.

Two of the medium-term outcomes were achieved.

Several prototypes for new products using a patented wool composite material (Keravos) were developed. However, whilst these are attracting attention from retailers and consumers, they have not been produced commercially. The spin-off firm (Shear Edge) created to develop and market these products is now in discussions with a national retail chain for development of commercial products.

The aim of increasing the level of processing of wool onshore has also not been directly realised. However, NZM played a key role in a major New Zealand carpet manufacturers commitment to 100% woollen carpets in the future which may see an increase in the volume of wool processed onshore.

**Long-term outcomes (2023 - )**

There are indications that the long-term objective of gaining new markets for NZ wool through brand partners may be achieved. NZM has relationships and contracts with fourteen brand partners. They have identified, and begun developing relationships with, a further twenty-one potential partners. These companies are involved in the production of a wide range of products including apparel, hosiery, automotive, bedding, insulation, and more traditional uses such as floor coverings.

NZ, and more importantly NZ's primary industries, have long had a reputation for innovation, which this programme has supported. Innovation was in two areas. Firstly, the concept to replicate the NZM fine wool model in the strong wool industry is a new approach. This model is consumer centric and enhances value throughout the value chain. Linking with brand partners under a contracted wool model and moving away from the traditional auction system is seen as innovative.

Secondly, the investment in the development of new products through Keravos/Shear Edge was very innovative. Prototypes of boats, kayaks and other products made the industry, NZ and international companies highlighted functional and commercial opportunities for wool that had not been previously considered.

However improved economic performance of $5.00/kg of wool versus the current market indicator of $2.65/kg may be optimistic in the immediate future. NZ Wool Services International (WSI) are forecasting an increase from a current indicator price of $2.65/kg to $4.45/kg in 2025. NZM has achieved an average premium above the WSI indicator of $0.51 for the past seven years. WSI are forecasting an indicator price of $4.45/kg in 2025. Given current economic conditions globally, and the potential for a recession in NZ, the forecast price may be a stretch target – albeit the W3 business model will almost certainly continue to deliver a premium price compared to traditional commodity channels.

## Benefits realised

**Marketing benefits**

W3 has provided both new channels to market for New Zealand strong wools, via committed brand partners, as well as developing a new range of product uses for wool as a raw material. It has supported this with a carefully targeted wool quality assurance scheme and a committed group of wool growers.

Collectively, these components add up to a value-added new pathway for the product, which has potential to transform its market position from one of declining share and value to an exciting new growth category, as a natural fibre.

**Consumer benefits**

Consumers are benefiting from more choices available in the markets where W3-derived products are available. These products can authentically claim a more sustainable form of provenance as made from naturally derived fibres that are produced from renewable resources in an environmentally responsible way. Wool itself as a raw material has unique attributes that can be leveraged for consumer benefit.

**Benefits to wool growers**

Wool growers are benefiting from a premium price compared with alternative channels to market and security of being able to sell their wool on contract. That said, even with the premium that W3 has been able to offer, the actual returns are still below the cost of harvesting the wool. A further increase in price will be needed to bring wool returns up to breakeven or better. That said, sheep still need to be shorn for animal husbandry and welfare reasons, so a better price for the wool is still a benefit to the farmer. Farmers supplying NZM also identify a benefit of increased motivation through being exposed to brand partners and consumers, creating pride in their product and a sense of committed involvement in the value-added journey.

**The wool industry as a whole**

The wool industry has benefited through creation of a proof of concept for a new marketing model, which can be supported directly, copied, or emulated by other players. The industry has historically been a fragmented and fractured one, with many players competing for product at commodity level, parties involved with a diversity of strong opinions and a lack of cooperation or integration across the industry. From that perspective, the entry of NZM into the strong wools category and the W3 programme has been controversial in some quarters. However, it is clear from overall industry observation that the direction that W3 has pioneered is now being followed by others – and even if the process will be a bit disjointed – the wool industry is now starting to move into a more positive place.

**Benefits to MPI**

MPI has benefitted from the experience of a courageous investment aimed at disrupting an important industry that has been struggling economically and facilitating a positive reset onto a better economic platform.

The management of such a programme, which by its very nature is dynamic and risky through its strong focus on innovation, has been a challenge, but has provided many useful lessons in how to engage with innovators to help them mature their innovations into mainstream economic and industry benefit.

**Wider benefits to New Zealand**

The NZM value chain model and its focus on design thinking, which was advanced during W3, is applicable to many other industries, particularly in the primary sector. W3 – and NZM's continuing journey in the strong wool industry therefore provides a useful case study for other industries to learn from, with the Te Hono executive forum being one vehicle by which the lessons learned can continue to be propagated.

**Economic contribution**

W3 has made a positive economic return, with potential upside still to come. However, the return on investment in terms of Net Present Value is likely to be lower than forecast. This is mainly due to timing of benefits being materialised, as well as a degree of overestimation of benefits and underestimation of costs in the original cost benefit analysis.

## Programme execution

W3 was a challenging programme to execute, given its focus on disruptive innovation in a difficult industry. The Blue Ocean Opportunities workstream in particular took time to find its direction. The COVID-19 pandemic also had an impact, given the international export focus of the programme and the pivotal importance of developing relationships with strategic offshore brand partners.

The mid-term review of the programme highlighted opportunities for improvement in programme execution and it is pleasing to see that these were all implemented. Subsequently, in 2020, the Programme Steering Group (PSG) supported a programme reset that realigned focus of efforts and reset targets based on lessons learned to date. That was a pragmatic and effective action.

## Conclusions and Recommendations

W3 was an innovative programme supporting New Zealand's overall position as a quality supplier in the international wool market.

Whilst some of the objectives and targets have not been achieved within the planned timeframes, continued focus on the principles established by W3 of a combination of consumer/brand partner focus, continual product innovation and collaborative partnerships with woolgrowers, underpinned by a standardised quality system, shows much promise for the future.

Both NZM and MPI should take pride in what has been achieved. The courage and pragmatism of the PSG in taking on board feedback from the mid-term review and resetting the programme targets in 2020 to make them more realistic, embodying lessons learned, was commendable.

Detailed lessons learned and recommendations for future programmes are outlined in the full body of the report.

Going forward, a key take home message for MPI is to continue to support the principles of market-driven change that W3 has pioneered in future activities related to wool and other primary industries, where relevant.

Also, lessons learned from the governance experience with this programme can usefully inform the governance of other such initiatives that focus on disruptive positive innovation in traditional commodity trading-based sectors.

# 1 Introduction

## 1.1 Objectives, approach, and structure

All Primary Growth Partnership (PGP) programmes undergo an end-of-programme evaluation. This evaluation report considers the W3 Wool Unleashed (W3) PGP Programme and has been commissioned by the Ministry for Primary Industries (MPI) Sustainable Food and Fibre Futures team. The evaluation process and this report seek to:

- Assess the achievements and expected outcomes from the W3 PGP Programme (the Programme), including results against key performance indicators;
- Review the Programme's execution and governance; and,
- Identify lessons that would benefit other MPI investment programmes, as well as the future activities of the Programme.

The approach to this evaluation involved:

- Desktop review of key programme documents including PGP contract/business case, outcome logic model, final programme report, progress review report, economic benefits review report, annual plans, quarterly progress reports, and grantor survey reports;
- Interviews of programme management, including internal stakeholders (project leads, Programme Manager, current and past PGP Investment Manager, MPI Investment Director, Programme Steering Group (PSG) members, Investment Advisory Panel (IAP) member) and external stakeholders (sample of brand partners (Sweden, Australia), processors and growers); and
- Quantitative and qualitative analysis, including key performance indicators (KPIs), and economic modelling.

This report starts with a background on the Programme. For the next three sections, the main body addresses:

- **Outcomes and benefits** - what has been accomplished by the W3 Programme so far and what are the benefits of the W3 Programme to New Zealand?;
- **Execution** - how well was the W3 Programme executed?; and,
- **Lessons Learned** - what are the lessons from the W3 Programme and the implications for other programmes and to Sustainable Food and Fibres (SFF) Futures as a whole?

The report ends with conclusions and recommendations.

## 1.2 Background

The W3 Wool Unleashed programme was an $22.1 million 7-year partnership between The New Zealand Merino Company Limited (NZM) and the Ministry for Primary Industries (MPI) that commenced in June 2016 and ended in June 2022.

The programmes vision was *"to drive transformational change in the way New Zealand strong wool is produced, marketed and sold".*

To deliver the programme vison, the W3 programme was structured into four interlinked workstreams, as illustrated in Table 1.

*Table 1: W3 programme workstreams and objectives*

| Workstreams and objectives |
|---|
| **Social Licence to Operate (SLTO)** – protecting and enhancing the reputation of New Zealand wool through research and development in on-farm practices. |
| **Crossing the Chasm** – helping strong wool brands move from a commodity focus to a branded experience. |
| **Blue Ocean Opportunities** – new, market driven uses and new users of strong wool through research and development into new products from wool or deconstructed wool. |
| **Primary Sector Extension** – using NZM-initiated collaborations to benefit the wider primary sector of New Zealand |

*Source; Summarised from W3 Wool Unleashed End of Programme Report (2022)*

Over the 7.0-year life of the Programme, MPI and NZM contributed $11.5 million each across the four workstreams. The NZM investment comprised $0.6 million in-kind contribution and $9.45 million in cash. Table 2 shows the allocation of investments across the four workstreams (projects).

*Table 2: Programme investment by project ($'millions)*

| Objective | Cash | In-kind | Total | % of total |
|---|---|---|---|---|
| SLTO | 6.7 | $0.2 | $6.9 | 31% |
| Crossing the Chasm | 8.8 | $0.3 | $9.1 | 41% |
| Blue Ocean Opportunities | $4.5 | $0.09 | $4.6 | 21% |
| Primary Sector Extension | $1.5 | $0.02 | $1.5 | 7% |
| **Total** | **$21.5** | **$0.6** | **$22.1** | **100%** |

# 2 Outcomes and benefits

***TOR[3]: What has been accomplished by the Programme and what are the benefits that have been delivered and expected to be delivered for New Zealand?***

In preparing this report we have considered outcomes by looking along the value chain from production through to the consumer. A schematic and simplified representation of the current strong wool value chain is shown in Figure 1.

**NZ Strong Wool Value Chain**

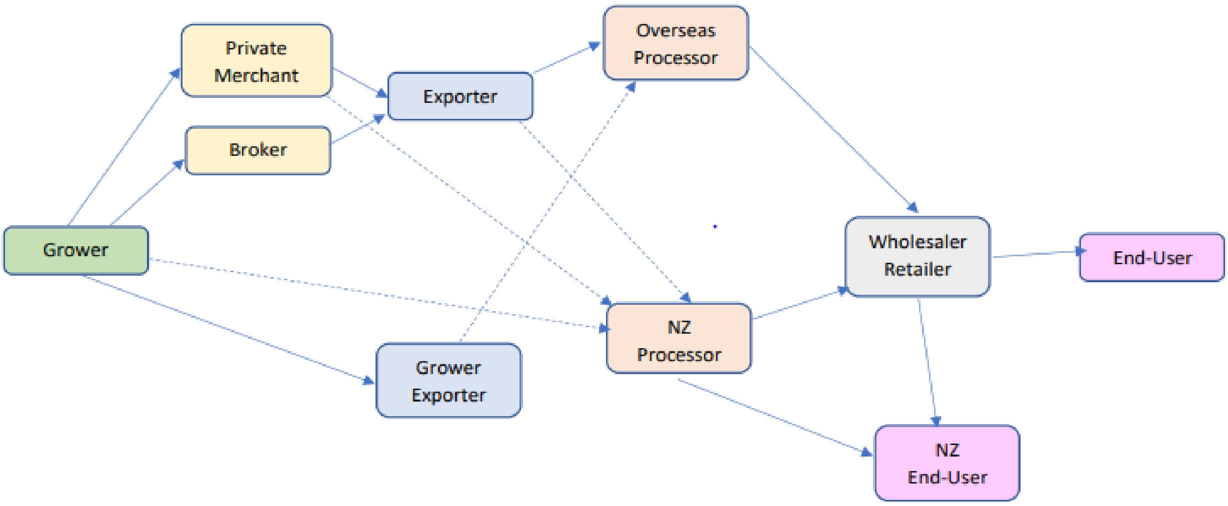



*Figure 1: The Strong/Coarse wool value chain*

Figure 2 is a schematic representation of the NZM wool value chain model. Central to everything is the end user, and all components of the chain are connected. This model is focused on providing a line of sight for more transparency and the opportunity for feedback.

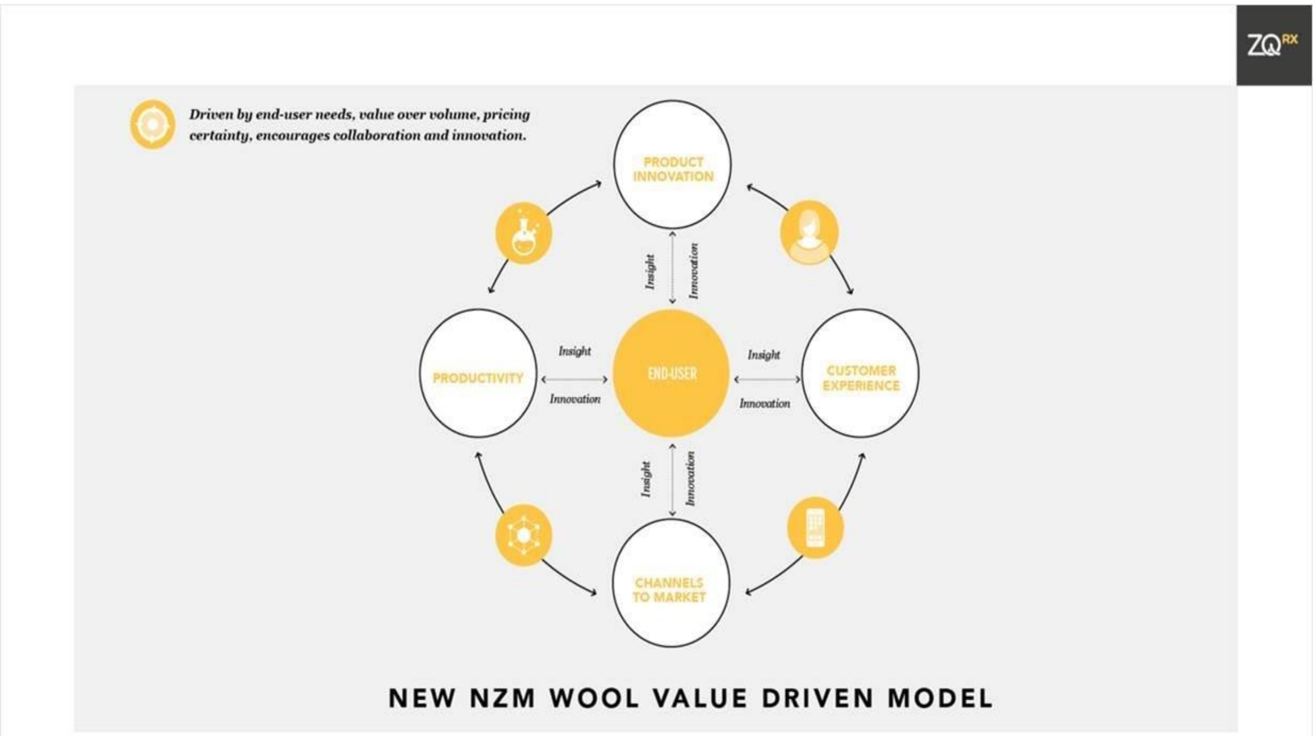



*Figure 2: The NZM wool value chain*

## 2.1 Achieving outcomes

***TOR: Identifying progress towards achieving the Programme's intended short, medium, and long-term outcomes as set out in the contract and the Outcome Logic Model.***

W3 set out short, medium, and long-term outcomes (Table 3) across time horizons from 2016 to 2023 in the Outcome Logic Model (OLM). The original OLM provided outcomes but there was a lack of defined, measurable outcomes. A progress review conducted in May 2020 recommended a refresh of the OLM along with the introduction of KPI's for all outcomes and workstreams. The review noted that reporting did not contain a lot of hard data and tangible deliverables measured against KPI's. Following this review the OLM was reviewed and refreshed. As a result of this refresh, subsequent reporting was more data driven.

*Table 3: Programme forecasted outcomes*

| Time horizon | Outcomes | Targets |
|---|---|---|
| **Activities/outputs (2016-2023)** | • Undertake insight work to identify niche markets, consumer profiles, new products, new markets, and brand partners<br>• Development of transparent supply chains<br>• Transition wool producers from auction to direct supply contracts<br>• Research and develop improved on-farm tools systems and processes | |
| **Short-term outcomes (2016-2020)** | • Premium prices being achieved through supply contracts<br>• Increased volumes sold through supply contracts<br>• Nucleus of brand partners and growers who adopt NZM model<br>• Prototypes of new products, supply chains and partnership models for strong wool developed and piloted, with successful prototypes amplified<br>• Farmer uptake of improved on-farm practices through ZQ and ZQRX | • $5.00/kg by 2022<br>• 130,000 by 2022<br>• No targets set<br>• No targets set<br>• No targets set |
| **Medium-term outcomes (2021-2022)** | • Sustainable profitability for growers from strong wool<br>• New products developed and commercialised<br>• Increased onshore processing of NZ strong wool<br>• Enhanced SLTO with growers ZQRX certified<br>• Better informed and skilled primary industry<br>• Enhanced SLTO for the sheep industry<br>• Improved production systems and wool quality<br>• Sustainable rural communities | • 20% premiums between contract and market prices<br>• No targets set<br>• $35 million benefit Year 7<br>• No targets set<br>• No targets set<br>• No targets set<br>• No targets set<br>• No targets set |

| Time horizon | Outcomes | Targets |
|---|---|---|
| **Long-term outcomes (2023- )** | • New markets developed for NZ strong wool with potential to extend to the wider red meat sector<br>• Improved economic performance for strong wool growers<br>• Enhanced reputation NZ primary industry for innovation | • No targets set<br>• 20% premiums between contract and market prices<br>• No targets set |

*Source: W3 OLM (2020), Final W3 Report (2022)*

The next four sub-sections discuss the achievement of these outcomes, summarised in Figure 3.

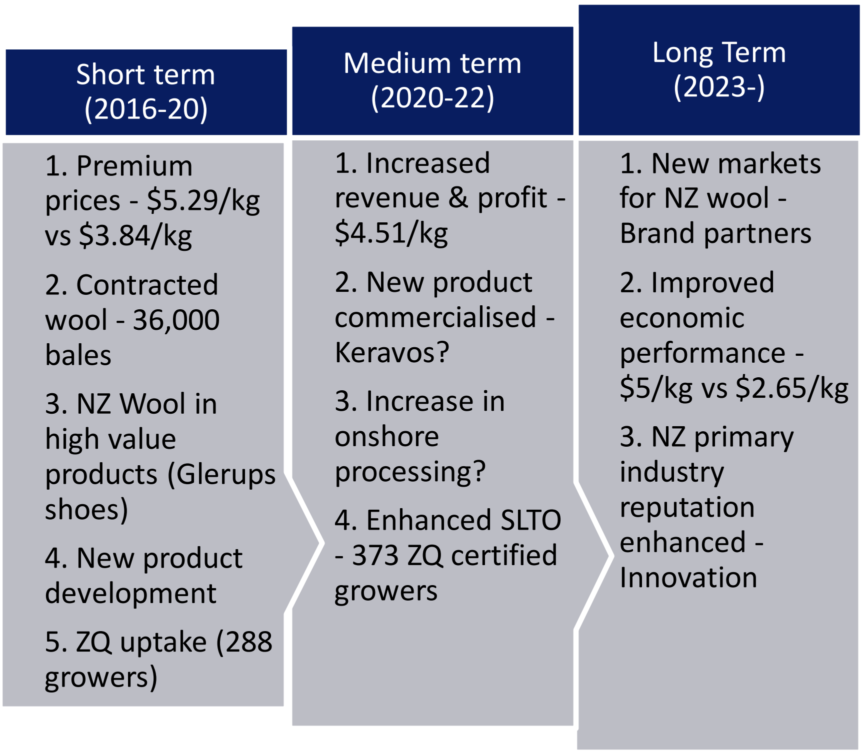



*Figure 3: Achievement of outcomes vs Outcome Logic Model*

### 2.1.1 Activities and outputs outcomes (2016-2022)

Due to dropping wool prices, disruption from COVID-19 and negative global economic pressures, the Programme Steering Group (PSG) determined a reset of the programme targets in early 2020. Along with the reset of targets, reporting methods improved, providing transparency and clarity on how the programme was progressing.

Contracts were established with brand partners for the supply of ZQRX wool, and prices achieved for contracted supply provided margins above the market indicator prices. Wool growers were encouraged by the programme's results to date and the direction of NZM to join the programme, moving through the process of continuous improvement beyond sustainability exceeding ZQ certification.

### 2.1.2 Short-term outcomes (2016-2020)

**The W3 programme achieved its short-term outcomes** of premium prices for growers, wool being used in high value products e.g., Glerups shoes, and uptake of ZQ by growers. Contracted bales moved from zero out of 36,000 bales traded in 2016 to 11,000 in 2020, with a cumulative total of 36,000 bales over these years. No targets were set for new product development and as such no short-term outcomes have been able to be measured or reported in this period.

### 2.1.3 Medium-term outcomes (2021-2022)

**Increased revenue of $4.51/kg versus the market indicator of $3.33/kg clean was achieved, as was the increase to 373 of growers registered with the ZQ**. It is also noted that the cumulative number of bales sold under contract over this period was 44,000 out of a total of 107,000 bales of wool sold by NZM, which represents 41% of sales, an increase over the 28% of contracted sales for the first five years of the programme. Recent data and feedback from NZM suggests the company and its suppliers remain committed to the journey they have embarked upon in this programme and that will provide increasing returns in the future.

**Two of the medium-term outcomes have not been achieved**.

Keravos/Shear Edge have developed several prototypes for new products, including fence batons, surfboards, knife handles and kayaks.

Whilst these are attracting attention from retailers and consumers, **and have been produced commercially, this is yet to scale up.** However, it is noted that Keravos is now in discussions with a national retail chain for the development of chilly bins and kayaks.

**The aim of increasing the level of processing of wool onshore has not been realised**. All strong wool produced in NZ is scoured onshore. Further processing largely occurs offshore such as carding, tufting, spinning, and weaving. NZM played a key role in the commitment from Bremworth to move to 100% woollen carpet manufacture in the future may see an increase in the volume of wool processed onshore through their own processing plants.

### 2.1.4 Long-term outcomes (2023 - )

**There are indications that the long-term objective of gaining new markets for NZ wool through brand partners may be achieved.** NZM has relationships and contracts with fourteen brand partners. They have identified, and begun developing relationships with, a further twenty-one potential partners. These companies are involved in the production of a wide range of products including apparel, hosiery, automotive, bedding, insulation, and more traditional uses such as floor coverings.

**NZ, and more importantly NZ's primary industries, have long had a reputation for innovation, which this programme has supported.** Innovation was in two areas. Firstly, the concept to replicate the NZM fine wool model in the strong wool industry is a new approach. This model is consumer centric and enhances value throughout the value chain. Linking with brand partners under a contracted wool model and moving away from the traditional auction system is seen as innovative.

Secondly, the investment in the development of new products through Keravos/Shear Edge was very innovative. Prototypes of boats, kayaks and other products highlighted for the industry, NZ and international companies functional and commercial opportunities for wool that had not been previously considered.

**Improved economic performance of $5.00/kg versus the current market indicator of $2.65/kg may be optimistic in the immediate future.** NZ Wool Services International (WSI) are forecasting an increase from a current indicator price of $2.65/kg to $4.45/kg in 2025. NZM has achieved an average premium above the WSI indicator of $0.51 for the past seven years. WSI are forecasting an indicator price of $4.45/kg in 2025. Given current economic conditions globally, and the potential for a recession in NZ, the forecast price may be a stretch target.

## 2.2 Benefits to value chain partners

***TOR: Whether the Programme delivered significant beneficial outcomes to the Programme partners, the broader industry, and to New Zealand.***

### 2.2.1 Brand Partners

The Brand Partners are the core of the W3 focus. Unless significant benefits could be delivered to them there was little chance that they would use or increase the use of wool and pay a premium. The following key elements contributed to the Brand Partner engagements.

- **Marketing assistance/insight**
  With a significant number of brand partners having moved primarily to synthetics, many needed convincing of the perceived consumer benefits to assist the return to wool and support in turning those insights into marketing programmes to support sales of wool-based products. NZM, through market research and building on their work in fine wool, was able to aid those brand partners who had limited relevant marketing knowledge or capacity. An example of this was Bremworth returning to wool-based carpets.
- **Assurance programme**
  A common trend identified from the marketing work noted above was the need of target consumers to 'trust' the products they were purchasing. This is in addition to the historical need for consistent, appropriate quality wool. ZQ reinstated the core quality elements and delivered against the consumer trends towards traceability, natural, animal welfare consciousness and others. In addition the programme gained early recognition from the Textile Exchange for its Responsible Wool Standard (RWS). This provided independent recognition of the ZQ standard as a 'trust mark'. Also, ZQRX programme has provided a pathway beyond sustainability i.e., above and beyond ZQ certification.
- **Relationships built on trust**
  Several of the Brand Partners are very large multinationals that develop supply channels carefully over several years to ensure certainty (quality, quantity, price) of supply. The W3 long term approach aligned and provided transparency in the supply channel and built relationships as a long-term partner. In one case the first three years were hard to deal with, however it has led to the potential for much longer-term contracts. Once formed these relationships are difficult to disrupt and the certainty provided to the chain is invaluable.
- **Connection with growers**
  Building on the marketing experience, showing consumers a valued line of sight to product source, and brand partners being able to tell authentic (validated by ZQRX) stories highlighted the provenance of the wool, which in turn created trust and a premium positioning for the wool. The majority of Brand Partners have visited farms in NZ, they understand the production process and can see clearly how that aligns with their customer needs.
- **Connections with channels to market**
  In comparison to synthetics, wool has a very long supply channel, with multiple processing steps often spread across many countries. This provides opportunities to distort the chain from both a physical and financial perspective. NZM staff skills and experience supported the development of transparent channels where all participants in the value chain are connected. This potentially releases margins in the chain and supports strong relationships where all participants are aware of each other's needs.
- **Use of NZM connections within the NZ primary industry**
  NZM connections in the primary sector across industry and Government provide Brand Partners confidence that issues and opportunities can be resolved efficiently and effectively.
- **Longer term pricing**
  While Brand Partners could benefit from opportunistic (lower cost) purchasing, this does not come with the certainty of quality or price. Given retail pricing is relatively stable, the ability to lock in a longer-term price gives greater surety of margin to brand partners, provides opportunities for

currency cover and may enable better terms to be negotiated for items such as freight and insurance. This obviously requires commitment from growers because if market prices go higher then they cannot "chase" those prices.

### 2.2.2 Benefits to Growers

- **Provides growers with a 'light at the end of the tunnel'**
  In recent years growers have seen wool prices deteriorate to all-time lows, well below the cost of production. Many strong wool growers have seen the relative success of the fine wool industry and wondered if this approach could be applied to strong wool. The W3 programme offered just this and as a result was welcomed by farmers with a like-minded approach. Many examples of alternate wool uses have been promoted over the years. While not necessarily big volumes, wool use in boats, kayaks and other outdoor plastics supported the overall positioning.
- **Alternative selling**
  The option of a contract at a fixed price, even with additional quality assurance requirements and a marketing and innovation fee, presented an option for positive change. Growers commented that something different needed to be done, as there was no point in simply continuing with the current model. At the other end of the spectrum, farmers had reached the point where wool was effectively seen as a by-product with the aim being to shear (as a welfare necessity) and sell at least cost through the auction system. Farmers contacted during the review were overwhelmingly positive about the W3 approach, however auction sales are likely to continue to provide a necessary alternative marketing channel for the foreseeable future, given that contract sales still represent only a relatively small volume of the total strong wool harvest.
- **Increased Return**
  Contracted wool realises a small margin over wool sold in the auction system varying from 5-15%. The margins above commodity prices, while not 'profitable', did signal the potential benefits and have supported more farmer adoption.
- **Market linkage**
  Many farmers have often commented they have no idea of where their wool goes, or who uses it. This is disempowering as there are no clear signals at farm level as to what could be changed to alter the value of the product. NZM through W3 have provided that link.
- **Assurance systems**
  Many assurance systems are seen as the market forcing change (often for unclear reasons) back onto farm. W3 through ZQRX has taken the opportunity to market actions on farm as a proactive point of difference for wool produced e.g., biodiversity. This is seen as enabling farmers to tell people their story of how they are good farmers. Farmers commented that the core requirements of the system were aligned with other industry requirement e.g., meat, so did not require significant additional work.

### 2.2.3 Benefits to Market Channels (Processors)

- **NZM knowledge and expertise in wool brand development, processing, and marketing**
  NZM had marketing, processing, and distribution experience that it could bring to the table. This enabled assistance to Brand Partners in linking them to like-minded processors e.g., A Brand Partner had an existing spinner based in India that could not provide traceability. This did not sit well with the Brand Partner's and NZM's shared goal of value-added provenance. NZM assisted, through their contacts and connections the contracting of a new spinner.
- **Product of good quality as a result of ZQ/ZQRX**
  While wool is classed or graded, there is still a potential for variation in quality. ZQ provided the processors with additional assurance of quality that allowed them to source and price with more certainty. It also allowed them to meet the increasingly sophisticated requirements of their customers with ZQRX going further.

- **NZM contacts both internationally and within NZ primary industry**
  Given the long and intermediated supply chain, processors may not be aware of the product source or destination. NZM contacts and connections have closed some of these loops and provided additional business opportunities for the processors willing to align with the principles and requirements of the programme. These may have been to Brand Partners or suppliers.
- **Transparency on pricing and supply**
  Following on from the point above, the W3 programme supported transparency of supply and price information. The additional certainty supported a more efficient operation.
- **Differentiation of product due to ZQ**
  Further to the core physical quality attributes, the ZQ programme supported growers meeting customers and Brand Partners' sophisticated requirements in the areas of provenance and traceability via a standardised quality mark.

## 2.3 'Spillover' benefits beyond value chain partners

In addition to the direct benefits available to value chain participants, a range of other spillover benefits were identified for the broader industry and New Zealand.

### 2.3.1 End Users of Wool Products

- **Trend identification/development**
  The W3 programme has successfully leveraged the fine wool experience into strong wool to identify and meet premium consumer requirements. Many of these trends are not limited to the wool industry. From an end user perspective this programme has supported the delivery of products that are in step with high-end consumer trends.
- **Fit-for-purpose products**
  The W3 programme has supported the development of floor coverings (carpets, rugs), blankets, upholstery, footwear, hosiery, apparel, insulation, automotive and bedding products with appealing consumer attributes that have quality of raw materials embedded and assured through ZQ.
- **Assurance programme – ZQRX, beyond the physical attributes**
  Social licence requirements, including the welfare of animals, people, and the environment, are supported by traceability and assurance through ZQRX.

### 2.3.2 Wool industry

- **Auction System**
  With most strong wool sold through the auction system, reducing the volume traded through the system has the potential to increase competition or demand in the auction system and therefore increase price. The W3 programme is estimated to have 8% of total sales volume, though not all of this has been taken outside of the auction system. Even though it is not a big volume, trading this outside the auction system has attracted other participants attention. If the volume through NZM approached 20% market share, this could potentially have a significant effect on prices in the auction system.
- **Non-traditional use**
  The move away from traditional uses e.g., floor coverings, to blended composite materials also means a product can be presented to customers where wool may not be recognised as a traditional ingredient. Even though this accounts only for small volumes of wool to date, the wider use of wool is restoring some producer faith in its possible future.
- **Displacing synthetic/cotton products with wool.**
  The programme has created awareness of alternate uses of wool with some key brand partners. Wool, with its positive credentials, may not only displace synthetics but could also displace other common products such as cotton. Again, volumes are currently small but have significant potential for upscaling.

- **Change is hard**
  The industry needs to prove new things can be done to disturb the status quo. Overall, the programme seems to have stirred more interest in the NZM value chain model, which should be positive overall so long as it does not simply create more competition for customers. On the other hand, change can also annoy incumbents which could see attempts to undermine or discredit the programme.

### 2.3.3 New Zealand

- **Enhanced reputation of NZ for innovation – builds on NZ's past achievements**
  NZ relies heavily on its reputation for innovation in international markets. Overall, NZ products do not have scale and are produced far away from most of our consumers, so there is a need to create distinctive points of difference for them to avoid being diverted into purely price-driven commodity markets. The W3 programme demonstrated this with innovative assurance programmes, innovative products, and innovative wool value chain development.
- **Awareness of NZ at brand partner and consumer levels**
  For NZ to be successful in overseas markets there is the need to raise awareness of the country and its distinctive and valuable attributes as a point of origin to potential customers. Through W3, the majority of the Brand Partners are keen to promote NZ as the source of wool in their products. Overall NZ cannot afford to support significant awareness raising, but on the 'tails' of Brand Partners this is possible.
- **Positive positioning of brand NZ**
  The majority of W3's attributes, primarily the welfare of the animal, people, and the planet, align well with NZ positioning overall.
  In many cases the W3 positioning could be considered aspirational. Again, linking and extending this on the back of the Brand Partner work has positive effects for positioning brand NZ.
- **Quality systems – ZQRX approach/model is extendable and repeatable**
  Built on the back of ZQ, ZQRX takes a significant step forward in its scope and level of assurance when compared to historical NZ farm assurance programmes. Adopting ZQRX for other industries, such as meat, has potential. It is likely many of the industries will upgrade their assurance programmes to mirror ZQRX. While this might not gain the cut-through that common utilisation of ZQRX may bring, it does create a more consistent position for NZ.
- **Logic applicable beyond wool – Te Hono and other initiatives have captured other primary industries**
  The value chain approach demonstrated by NZM, firstly with fine wool and now strong wool, has applicability with many other NZ primary products. Products that can be lifted from traded commodities to, as a minimum, branded ingredients, through a disintermediated value chain can add value to NZ exports and limit the ability of competitors to dislodge NZ products from the market solely on price.

### 2.3.4 MPI

- **Support of value chain approach – non simple commodity**
  Strategically the NZ primary sector has been moving from commodity products through to branded consumer products (or ingredients) where feasible and the return on investment has the potential to be positive. Achieving this, especially where the processing chain is long and intermediated (e.g., wool vs wine) and where intermediaries don't support change, is often very difficult. The W3 programme has provided several examples of converting an entrenched commodity product into a branded ingredient or raw material. The logic of working in partnership with brand partners (with consumer brands), developing underpinning quality systems, disintermediating the supply chain, and providing pricing certainty for all participants is applicable to other primary sector products. Having such worked examples provides both proof of concept and practical experience, as well as tools to support the strategic direction.
- **Alternative options for sale of wool**

Given commodity product price is largely determined by supply and demand, moving a significant volume of product out of the commodity (auction) channel can lift price if supply is shortened. While this has not been demonstrably the case in the programme to date, if the recent upward trend in volume continues, it could have an effect in time. From a grower perspective, the option of a fixed price contract (at least for a proportion of the clip) for wool is also positive. This provides certainty in the business which can be leveraged as a positive factor for the industry overall.

- **Disruptor/catalyst**
  Commodity markets seldom disrupt themselves as the participants in the chain seek to protect their positions therefore consolidating the chain. To drive change there needs to be new participants who are prepared to operate differently. MPI through the W3 programme has supported the entrance of such a participant in the strong wool sector. The risk for NZM in taking this approach was significant. MPI through SFFF have shared the risk and therefore supported the disruption. As noted earlier supporting examples provide proof of concept, practical experience, and tools to support the strategic direction.

## 2.4 Benefits delivery against expectations

***TOR: Whether MPI and the partners get what they expected when committing to invest in the Programme and if there are significant differences to the range or scale of benefits or the timing of their realisation.***

Prior to 1952, all wool in NZ was sold by the Crown. Subsequently wool was mainly sold at auction and this methodology continues today.

MPI recognises the NZ wool industry as an important part of the sheep and beef farming sector. MPI therefore knowingly engaged with NZM to fund a programme which was unique and had the potential to be transformational, given the poor performance overall of the strong wool industry at farm level in terms of commercial returns.

NZM sought to replicate the successful model they had already developed with fine wool (less than 24-micron fibre diameter). It would be fair to say that there may have been an underestimation of what was required to change the industry, onboard grower suppliers and develop relationships with brand partners.

The programme was “disruptive”. It challenged the status quo and caused several industry players to sit up and take notice. The prototyping of alternative wool-based products provided positive media coverage and highlighted some of the innovative uses for wool.

The W3 programme identified and developed key relationships with overseas and NZ companies, from which brand partners were contracted. The process of converting prospects to brand partners takes time and resources. One brand partner interviewed indicated that the initial engagement period took time and was a period of exploration and due diligence. Once they were satisfied, they were willing to build longer term relationships, and ultimately commit to significantly longer-term contracts. These relationships have proven to be extremely beneficial and satisfying for NZM, the brand partners and wool growers. The connection between producer and retailer/end user is one of the strengths of the programme.

Since the completion of the W3 programme, NZM has collaborated with a brand partner to pilot global Greenhouse Gas Protocols for reporting on-farm removals. NZM was a signatory to a collaborative submission regarding this along with some well-known international brand partners. These strengthening relationships provide evidence that the programme has been successful in converting prospects to brand partners, as well as indicating a certain level of sustainability post programme.

Development of a transparent supply chain developed trust between participants. These connections enabled programme participants to “tell their stories”. This in turn in turn provided marketing opportunities for brand partners and provided validation for wool growers that what they were producing was adding value.

Table 4 summarises expected/planned benefits against actual outcomes.

*Table 4: Benefits: Expected/planned benefits vs actual outcomes*

| Expected/planned benefit | Actual outcomes |
|---|---|
| Develop new markets and brand partners | 14 brand partners contracted |
| Develop new products to meet consumer demands | Products prototyped, 5 commercial partnerships, 2 trademarks, 1 company formed, 1 patent pending |
| Transition auction sales of wool to supply contracts | Contracts – IKEA, Bremworth, Glerups, Swanndri |
| Undertake market insight work | Stanford University Business School, Studio ZQ, Te Hono programme, NZ farmers engagement, NZM market research |
| Align existing research work with insights | ZQ extension to ZQRX. Blue Ocean Opportunities product research |
| Develop transparent supply chains | ZQRX developed, 373 ZQRX growers |

*Source: W3 OLM (20xx), W3 Final Report (2023)*

## 2.5 Positive or negative unintended outcomes

***TOR: Identifying any significant positive or negative unintended outcomes to-date and if there any anticipated that will require monitoring in the future.***

**COVID-19**

COVID-19 impacted both negatively and positively on the programme. The inability of NZM staff to travel internationally to build and maintain contacts with brand partners slowed the momentum of the programme. This was one factor in the decision made by the PSG and management to reset the programme targets.

On the positive side, COVID-19 lockdowns resulted in people considering their own personal health and wellness, and a move to nature. Many target consumers are now demanding products which are traceable, and which are good for them and their environment. This is having a positive flow on affect for those involved in the farming of natural products.

**ESG trend acceleration**

ESG (Environmental, Social and Governance) is a framework which helps people, stakeholders and investors understand how an organisation manages risks and opportunities. A strong ESG approach can add value to an organisation by better performance and a corresponding reduction in downside risk.[4]

[4] McKinsey Quarterly November 2019

Consumers are now beginning to take notice of where purchased products come from, and how the production or manufacture of them impacts on the environment and are they ethically sourced.

As noted above, this trend has escalated during the COVID-19 pandemic and is likely to increasingly become a consideration for consumers.

ZQRX is well aligned with this trend, and providing a sound example. While W3 has attempted to bring other industries into a common system, this does not seem to have gained traction at this time. Industries, and those commercial operators in them, are keen to maintain a point of difference which makes having a common system challenging. The new digital platform that is currently under construction may support a range of players without all the systems having to be identical.

**Low wool prices**

No-one could have predicted the drop in strong wool prices over the seven years of the W3 programme, from $5.68/kg to $2.65/kg. Even with this drop NZM maintained a premium above the market indicator for each of the seven years. The average NZM price per kg clean was $3.84 for the seven years compared to the average Market indicator price of $3.33/kg clean. The average NZM price for contracted wool over this period was $4.51/kg clean, an average $1.18/kg above the average market indicator price.

# 2.6 Economic benefits

***TOR: Whether the economic benefits estimated to have been realised and forecasted to be delivered are based on sound assumptions using robust methodologies particularly the logic of the counterfactual scenario.***

W3 estimated actual programme benefits for years 1 to 7 (2016-2022) of $152 million and conducted cost-benefit analysis (CBA) for years 1 to 10 (2016-2025) with net present value of $9.5 million using a discount rate of 12%. Actual programme benefits are assessed to be $14 million, less than 10% of $152 million, while NPV is likely lower than $9.5 million due to understated costs and overstated benefits. However, NPV is likely positive making the W3 programme an economically viable investment.

## 2.6.1 Programme benefits

The contributors to the $152 million in programme benefits included wool premium over commodity price, retention of strong wool production in NZ and increasing onshore processing (see Table 5). Among all three benefit sources, only the wool premium over commodity prices is a realistic benefit while the other two are legacy benefits that were estimated as part of the W3 business case even though the Progress Review (Nimmo-Bell and Vantage Group, 2020) has assessed these to be not relevant. Including legacy benefits risks misleading the quantum of programme benefits.

Issues and findings for the sources of programme benefits are illustrated in Table 5.

*Table 5: Actual programme benefits (2016 – 2022)*

| ($'million) | W3 PGP | Findings |
|---|---|---|
| **Premium over commodity price** | $14m | Wool Services International (WSI) customised commodity price index is 9% lower than B+LNZ indicator price data for the same period.<br>There is risk of overstating benefit since WSI commodity price index is customised and not aligned to accessible and industry standard B+LNZ indicator price[5] data. |
| **Retention of strong wool production** | $103m | The reference for this benefit is avoiding loss of 1.3 million sheep annually. This is unlikely since the drivers of reduction of sheep and land-use change are primarily lamb productivity[6] and lamb/beef returns[7] against alternative land-use such as dairy and forestry.<br>Legacy KPI could have been dropped. |
| **Increasing onshore processing** | $35m | Displaced Cavalier Bremworth (CB) synthetic fibre imports unlikely to lead to significant onshoring in the short term.<br>Shear Edge margins $0.25 million displaced offshore processing, but a one-off. |
| **Total** | $152m | $14m is less than 10% of total |

### 2.6.2 Cost benefit analysis

The W3 CBA likely underestimated costs and overestimated benefits (see Table 6). The CBA must consider the investment and operating costs that produced the W3 programme benefits. The underestimated costs involve $14.1 million of PGP W3 programme cost which NZM treated as commodity operating costs[8]. The actual cashflow of $14.1 million was spent on the W3 programme, which was the investment to produce the W3 benefits.

The overestimated benefits relate to:

- NZM trading margin on non-contracted supply which would have occurred without W3.

---

[5] B+LNZ price data are sourced from major wool auctioneers Wrightson Wool and WSI.

[6] Between 1992 and 2022, sheep numbers declined by 55% but lamb production only declined by 14%.

[7] The lamb and beef prices have been a far more dominant factor in decision making in land conversion to dairy and forestry as wool is a small fraction of total revenues. W3 premium would have been welcomed by those believers in wool but would be unlikely to outweigh any on farm decisions that meant more volume of lamb or beef.

[8] NZM disaggregated the 'commodity' components from 'value add components' to give a fairer picture of the portion of the investment that is truly shifting the dial. Regardless of commodity or value-added transactions, there is a base cost of selling – largely for staff, logistics and handling. In the absence of W3, NZM would have not incurred these costs as they would not have transacted commodity wool.

- Lack of consideration of distribution infrastructure investment cost for Glerups distribution benefit[9] (i.e., NZM other income). The distribution infrastructure largely leveraged existing space and resource. This represents an opportunity cost in the CBA as could have been used to produce alternative benefits.

The largest source of benefit, the wool premium, is a stretch but not infeasible for the next three years given that:

- It is supported by bale pipeline though not all brand partners have forward contracts for all future years, whilst supplier pipeline is assumed rather than programmed.
- The next three years is nearly double the wool premium achieved for the last 7 years. The future forecast is equivalent to 43% CAGR over 3 years, while the past 7 years achieved 10% CAGR inclusive of COVID-impacted years.

The benefit for the Blue Ocean Opportunities (BOO) workstream is unquantifiable at this stage.

The resulting NPV for the period 2016-2025 is likely lower than $9.5 million but nevertheless a positive NPV. The adjustments to variables described above are summarised below in Table 6.

*Table 6: Cost benefit analysis (2016 – 2025)*

| ($'million) | W3 PGP | Findings |
|---|---|---|
| **COSTS** | | |
| **Programme costs** | $8m | Understated by $14.1m as the total PGP W3 cost was $22.1m |
| **M&I fee cost (4% of wool price)** | $11.9m | The $3.5m collected for the period 2016-2022 contributed to PGP costs partially offsetting understated programme costs<br>While there is risk that less than $8.4m will be collected for next three years if forecast higher market prices are not met, this is offset by new 5.25c/kg Science and Technology fee secured by NZM from growers[10]. |
| **BENEFITS** | | |
| **Wool premium benefit** | $38.4m | Last 3 years = 1.8x first 7 years wool premium benefit<br>BOO benefit unquantifiable |
| **Trading margin benefit** | $3.7m | Would have occurred without W3 |
| **Glerups distribution benefit** | $1.4m | Distribution infrastructure investment with existing resources – unaccounted opportunity cost |
| **Net benefit (NPV)** | $9.5m | Likely lower with understated costs and overstated benefits |

[9] NZM distributes Glerups shoes in New Zealand. Forecast sales is 50,000 shoes annually and $1.4 million over next three years represents earnings before interest and taxes.

[10] Higher forecast prices at 4% M&I fee equates to additional 5c/kg in years 8-10 compared with actual M&I fee in years 1-7. If prices remain the same as the years 1-7 average, the foregone 5c of M&I fee will be offset by 5.25c/kg Science and Technology fee.

## 2.7 Pathway and resources for future outcomes and benefits

***TOR: Determining whether the Partners have a tenable pathway and resources to achieve the projected future outcomes and benefits.***

### 2.7.1 Marketing pathway and resources

The marketing pathway forward requires the sound existing relationships with brand partners to be continued and enhanced. Commitment from additional brand partners to long term contracts would enable longer term certainty for growers, NZM, processors and consumers. Ensuring these are seen as a key step in future sustainability for the programme. There is also the potential for range extension for wool into other uses or products.

NZM needs to utilise its existing contacts and networks within the wool industry and primary industries to identify potential partners. This will require NZM to work more closely with other companies and develop trusted partnerships for the benefit of all. There may be opportunities for MPI to support wider sector co-operation through co-funding collaborative projects.

Certification of wool growers is a point of difference for NZM wool sold to brand partners. The social licence to operate, through the ZQ scheme, needs to be taken up by more NZ wool growers. The current suppliers are likely to be early adopters, or those who are willing to try something new. The conservative nature of NZ farmers is a challenge that may hamper the uptake of growers to ZQ and hence potential certified wool for sale.

There is a proliferation of other on-farm certification schemes such as NZFAP/ NZFAP+ and these are seen by NZM as competing programmes if applied to strong wool. They may also lead to a level of confusion within the industry and to those involved in the wool value chain. As noted in section 2.5, there may be opportunities for other certification schemes/systems to leverage the digital platform that is under development.

### 2.7.2 Production pathway and resources

To reach the targets set, there needs to be commitment from growers to become ZQ certified and to commit their wool to NZM. Without these two commitments the ability for NZM to firstly continue to supply existing contracts, which have the potential to increase demand, and secondly the ability to identify and grow their business with new brand partners, may be severely constrained.

The decision to divest the Keravos/Shear Edge business and concentrate on marketing and sales of wool has reduced the level of investment in new product development and prototyping. Keravos/Shear Edge being outside of core business, requiring considerable capital and potentially competing with brand partners supported the divestment decision. NZM needs to continue with investment in the digital platform, ZQRX, and maintain their slight competitive advancement. Investment in the enhancement of ZQRX and the new digital platform for release in 2023 is seen as essential.

NZM has provided technical support to growers and brand partners as well as finding and introducing potential partners through the value chain. Not only does it improve efficiencies, but it also has the potential to remove barriers such as finding like-minded processors. This requires investment by NZM into the capability and capacity of its existing team.

*Table 7: Current pathway and resourcing: Marketing and production*

| Pathway | Status and resourcing |
|---|---|
| **Marketing** | |
| Current brand partners: IKEA, Glerups, Bremworth, Swanndri | NZM strengthens existing contracts and partnerships (14), market insights, range extension for wool products |
| New brand partners:  Global | Identify and develop partnerships/contracts with new brand partners, 21 in current pipeline. |
| Social Licence to Operate: product launches | NZM staff, new growers – provides market access, RWS and other relevant certifications |
| Production | |
| Increasing bale pipeline; 2023 95k, 2024 110k, 2025 130k | Commitments from existing growers, new grower supply, ZQRX programme, Digital platform development and release |
| R & D Investment; New product development | Keravos/Shear Edge continue with product development and partnerships (Chilly Bins/Kayaks) |
| Technical support: NZM staff, knowledge, and experience | Capability development of value chain for brand partners, improving efficiency, removing roadblocks |
| Social licence to Operate: ZQRX programme | Field staff, grower commitment, and other resources |

## 2.8 W3 Programme as a worthwhile investment for MPI

***TOR: Assessing if MPI's investment in the Programme has been worthwhile.***

Assessed against the PGP policy objective[11] of sustainability and economic growth of the primary industries through private investment in innovation W3 has delivered:

- A pathway towards sustainability from attainment of premium prices for wool;
- Alternative channels for the sale of wool; and
- An end-user driven approach across the entire value chain.

Breaking down the PGP policy objective, the following findings are evident:

- **Private investment in ambitious innovation for the environment, the economy and society** – W3 has provided the strong wool industry:

[11] MPI, 2016. Primary Growth Partnership programme booklet; Battell; B., 2018. Review of the Ministry for Primary Industries' Primary Growth Partnership, Phase Two: Independent review of benefits, eligibility criteria, management and implementation, May 2018.

- Alternate market channels for strong wool.
- Disruption to the current commodity market system and a catalyst for change.
- Investment in alternate products derived/based on strong wool.

- **Value chain approach with focus on added-value –** W3 has directly connected brand partners with wool growers. This has provided:
    - Brand partners with a high quality, traceable, certified product.
    - Grower connection to the end user which provides valuable feedback ensuring alignment of their farming methods.
    - Contract pricing mechanism providing certainty of price.
    - Grower premium returns, albeit currently from a low base.

- **Boosting productivity, profitability, and sustainability –** W3, through the ZQRX programme development, has provided:
    - A quality system linking growers to consumer needs.
    - A measurement and assessment system to quantify position and aspirations.
    - A platform to digitalise the quality system.
    - An exemplar for other sectors of the primary industry to adopt or emulate.

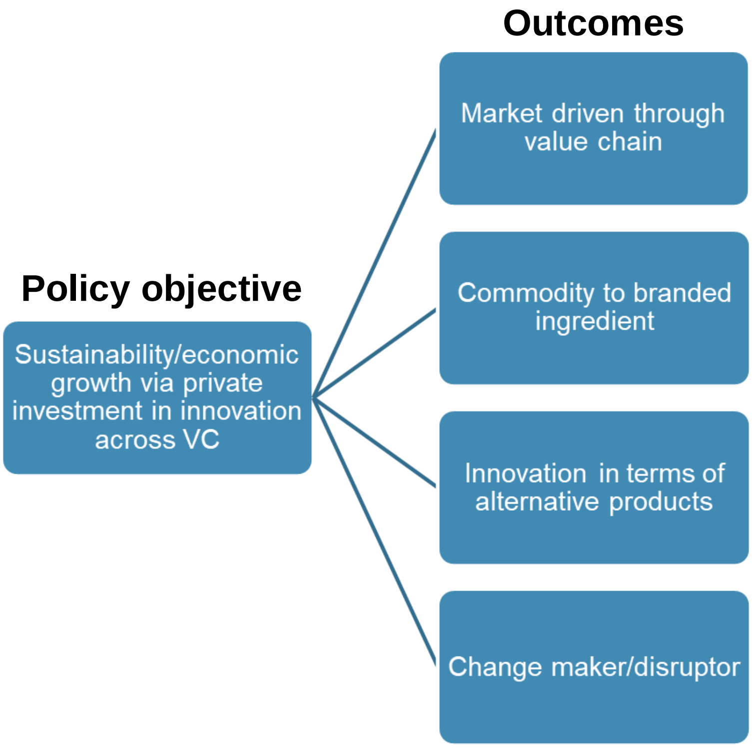



*Figure 4: Outcomes delivered vs PGP policy objective*

# 3 Execution

***TOR: How well was the Programme managed and governed?***

## 3.1 Addressing technical and strategic challenges

***TOR: Whether the Programme secured the governance, programme management, technical expertise and resources needed to address the technical and strategic challenges faced.***

The main challenges for the programme were.

**1. Blue Ocean Opportunities – development of new products**

W3 followed the model developed by NZM for merino wool, by working to identify and understand consumers and markets that are currently not using strong wool and then develop products, communication tools and differentiators to gain traction in these markets. NZM established Keravos Limited in 2019, a materials engineering company to find and develop new and radical uses for wool Fibres. The appointment of Logan Williams into the role of Director of Technology and Innovation enabled an acceleration of opportunities and initiatives.

Since then, a contract has been signed with a toll manufacturer of Keravos pellets.

The firm engaged with Canterbury University to help produce 3D filaments and engaged four students from the Mechanical/Mechatronic Engineering school to refine the manufacturing process of Keravos.

Parallel to this work, NZM opened an innovation and insight incubator, Studio ZQ, in 2019. This studio leads potential growers and brand partners through design thinking workshops, acting as a platform to elevate start-ups and wool companies who wish to use wool in different ways.

**2. Programme reset**

In 2020, a decision was made to reset the programme targets. The impact of COVID-19 and economic slowdown leading to slowing consumer demand, which negatively affected brand partner volumes, were major factors in reconsidering the original programme targets.

The responses were to;

- Move grower certification from ZQ to ZQRX.
- Develop grower and brand partner relationships rather than just brand partner relationships.
- Extend the timelines for the Crossing the Chasm and Blue Ocean Opportunities workstreams.
- Reset targets such as bale pipeline numbers.
- The appointment of an independent member to the PSG.

**3. Crossing the Chasm – Brand Partners**

This workstream focused on helping move strong wool from a commodity focus to a branded experience. NZM utilised their marketing expertise, previous experience with merino fine wool and their extensive contacts to develop effective relationships with brand partners. This process takes time and was also complicated by the need for NZM to become involved with assisting the brand partners to identify potential processing partners and help with technical advice pertaining to the strong wool they were using in their products. The NZM teams' technical knowledge served to enhance and solidify these relationships.

# 3.2 Effectiveness of the structure, systems, and management

***TOR: Assessing effectiveness of the structure, systems, and management in delivering and adjusting the work plan as required.***

## 3.2.1 Structure

The Programme established one key governance body, the Programme Steering Group (PSG). The PSG was composed of two MPI representatives and two NZM representatives. The group was chaired by the independent member appointed by MPI and met quarterly throughout the term of the programme.

## 3.2.2 Systems

Increasingly consumers are becoming more concerned about the origins of the products they purchase and consume. W3 identified the need to provide a point of difference for NZ strong wool thus providing a level of assurance for end users that the raw ingredient of wool, contained in the products they were purchasing, was being produced to meet standards of livestock stewardship, management of the environment and social responsibility, as well as a product of the highest quality. The development of the ZQ grower standard, and extension to the ZQRX programme provided this assurance.

NZM developed Grower Manuals and Audit Guidelines as resources for wool growers to use. NZM staff also provided support and advice to ensure a seamless and painless transition to certification.

NZM was able to use ZQRX strong wool as a point of differentiation and began to develop relationships with brand partners who had similar philosophical values as NZM. The result has been contracts for NZM strong wool into high end value products and an increasing number of bales no longer being sold at auction.

## 3.2.3 Management

One of the key strengths of W3 was the people involved in the programme.

The NZM CEO is very entrepreneurial and strategic in his thinking, skills which are needed when considering changing an existing model within an industry which is reluctant to change.

Staff were skilled and knowledgeable about the strong wool industry, as well as in the SLTO and Closing the Chasm workstreams. They were passionate about the wool industry and the W3 programme and were genuinely wanting to improve wool growers' profitability and sustainability. They gained the trust of growers and brand partners, which enabled strong relationships to be established. A brand partner who no longer deals with NZM in sourcing strong wool spoke highly of the engagement process with NZM and indicated that if the opportunity arose, they would partner with NZM again.

A change in Programme Manager resulted in a change to reporting, with a move from outputs focus to an outcomes focus. This provided better information for the PSG. Some participants noted that the reporting was extensive and time consuming, but it was seen as a positive as it provided a chance for reflection.

Continuity of programme staff was a strength, enabling continuity in developing relationships and not having to bring new team members up to speed.

# 3.3 Addressing risks, issues, and changes to business environment

***TOR: assessing how well did management and governance anticipate and respond to risks, issues and external changes that impacted the Programme.***

A number of risks were identified during the life of the Programme. Outlined below is an overview of these risks and the response from the Programme to these.

- **Declining returns for strong wool** – From the time the programme started in June 2016 to when it finished in June 2022, the strong wool indicator price fell from $5.68/kg to $2.65/kg. Declining prices were not able to be controlled by NZM, and the programme continued without any additional mitigation strategies. W3 still maintained a premium above the indicator market price for contracted wool.
- **Unwillingness of the wool industry to change** – This factor was probably underestimated by NZM when they began the programme. An entrenched industry and industry participants will be unlikely to support any change especially if it undermines their position of power, or their profitability. W3 nonetheless managed to attract and convince grower suppliers, brand partners and processors to become involved with a change programme.
- **COVID-19** - Whilst this was outside the control of NZM, they responded by increasing communication to growers and providing support to growers. Shearing was deemed an essential service where it related to animal welfare and was able to continue with appropriate social distancing and Ministry of Health protocols in place.
- **Focus on strong wools historical uses** - Traditionally strong wool has been used for carpets and floor coverings, and there is still a mindset that this is its best use. Changing this mindset is difficult and takes time and effort. Initially the programme was slow to gain ground but was gaining momentum when the COVID-19 pandemic struck. This slowed the progress of the development of alternative uses for strong wool.

## 3.4 Effectiveness of governance

***TOR: whether the Programme's governance was effective.***

Programmes that will challenge the status quo and cause a disruptive effect require a governance team with particular levels of skills and experience.

The Chairs of SFFF funded programmes need to have an understanding of the industry being funded. They need strong governance skills and the ability to understand the challenges for the programme participants, whilst challenging and bringing to account the management team. Because of the nature of the W3 programme, especially challenging the status quo, the Chair also needed to be empathetic towards the management team, being fully aware of and understanding their challenges. Given the long-standing pre-existing relationship between the Chair and NZM CEO, programme feedback suggested that the balance between accountability and empathy may not have always been supportive of effective programme execution.

The PSG also provided governance experience and learning opportunities for MPI representatives.

Weaknesses for governance of W3 include:

- The makeup of the PSG meant that 50% of the committee were employees of NZM. This could result in "executive capture" and less independence than that desired for good governance.
- An independent member, separate to the Chair of PSG, with strong wool industry experience would have enhanced the PSG.
- Some decisions were made without PSG input or oversight e.g. the future of a programme element (divestment of Keravos).

Strengths for governance included:

- Industry knowledge of the wool industry. Two members of the PSG have had a long working life in the wool industry and the Chair had previous governance experience in the primary sector.
- Governance experience. The Chair of the PSG had good governance experience as well as the CEO and CFO of NZM. The addition of the NZM Chair to the PSG strengthened the governance skills and experience but is tempered by the fact that that person was also closely involved with NZM.

- Members had good value chain knowledge. The experiences of the NZM management with development of the fine wool/merino business model was a strength of the PSG.

## 3.5 Internal and external reviews

***TOR: determining if the recommendations from internal and external reviews of the Programme were considered and adopted.***

A progress review was completed in May 2020 This review noted several areas for attention which the PSG and NZM took on board addressing almost all the recommendations.

Outcomes from the review included:

- A reassessment of the cost benefit analysis which included a reset of the programme's targets.
- The engagement of a new Programme Manager resulted in an improvement in the quality of reporting from an activity focus to more outcomes focussed.
- Increased allocation of resources to assist the Programme Manager.
- A revision of the Outcome logic model to reflect learnings from the programme.
- A reset of the programme's targets.

# 4 Lessons learned

***TOR: What are the lessons from the Programme and implications for other Programmes and to SFF Futures as a whole?***

Lessons from the W3 Programme and implications for other programmes and SFF Futures are discussed as key lessons from the W3 Programme, areas for improvement for the industry partner and MPI, and areas where MPI can support the industry to maximise W3 Programme benefits.

## 4.1 Key lessons and Conclusions

***TOR: identifying the main lessons from the findings on the execution of the Programme and delivery of the targeted outcomes and benefits?***

The key lessons and conclusions from the execution of the W3 Programme and delivery of the outcomes and benefits were identified.

1. **Fear of change in the wool industry;** The strong wool industry in NZ is at an all-time low with record low returns, competing alternative synthetic products and confidence levels of growers at low levels. Even in these times there is a fear of change within the industry. People fear change for several reasons, and for change to occur trust must be developed amongst all players.
2. **Long term investment is required;** There is no 'silver bullet' for the strong wool industry. Investment in several initiatives such as brand partner developments, contract rather than auction, and the development of new products, is required to enable the industry to become successful. These types of solutions require long term planning and development.
3. **Collaboration and cooperation in the wool industry;** The strong wool industry in NZ is fractured and splintered. Since 1952 a number of organisations have been established to "represent" the wool industry, to lobby government, to engage in research and development and to sell wool on growers' behalf. These organisations have changed, morphed and merged creating some confusion and leading to levels of mistrust not seen in other primary industries. The programme attempted to engage with industry to assist in the transformation of the wool industry. These engagements didn't succeed in developing strong long term cross sector partnerships.
4. **Grower suppliers supportive of the programme;** Grower suppliers have been supportive of the programme. They see NZM as being disrupters, ahead of their competitors, forward thinking and

knowledgeable about what they were wanting to achieve. They saw the NZM model as being different and worthy of support.[12]

5. **Changing consumer trends;** The impact of COVID-19 had a positive effect for many brand partners. Consumers spent time renovating houses and considering their own health and wellbeing whilst in lockdowns. There has been a swing to consumers wanting to know where their products are coming from, including large ticket items such as floor coverings. Consumers have become more aware of regenerative agriculture and ESG reporting.
6. **Brand partners relationships and commitments;** W3 through ZQ/ZQRX provided brand partners with an assurance of a quality product that had been farmed sustainably. It provided marketing collateral for the brand partners, enabling them to tell a story to their end users. Brand partners also noted concerns around future supply of product, The profitability and sustainability of the growers who supply them with raw materials is now a conversation around board tables.[13]
7. **An innovative programme supporting New Zealand's overall position;** NZ has a reputation for being innovative, especially in the primary industry space. This programme served to provide further evidence of innovation. The move from auction selling to developing brand partner/grower relationships and associated contracts, and the development of Keravos/Shear Edge products has enhanced this reputation.
8. **Courageous investment;** The investment in this programme was courageous. MPI knew that the programme could be divisive, and that it would be controversial. For transformational change investment is needed in these types of programmes.
9. **Economic benefits;** The initial economic targets were probably lofty when first set. The impact of COVID and the realisation that change would take longer than expected resulted in a reset of the programme targets. In hindsight this was a very pragmatic and sensible, albeit a hard decision taken by the PSG and management.
10. **ZQRX Programme;** This provided wool growers with a system that enabled them to follow consumer trends and benchmark their farming systems. It has provided, and will provide, opportunity for farmers to monitor trends on their farms, and access insights into areas that are performing poorly, as well as those that are performing well. Growers interviewed also commented on the sense of pride they had in knowing their product was valued by brand partners, and that it gave an opportunity for them to "tell their story".

## 4.2 Areas for Improvement and Recommendations

***TOR: Outlining areas for improvement, if any, for MPI and the Partners.***

There were a range of areas identified for improvement for NZM and MPI. The following recommendations should be considered.

### 4.2.1 NZM

**i. Leverage the ZQRX system and digital platform**

The development of the ZQ certification system and its extension to ZQRX has provided NZM with a point of differentiation for itself and its growers suppliers. This could be further enhanced and extended into other sectors of NZ's primary industries especially sheep and beef.

**ii. Align supplier bale pool with bale pipeline**

There is no linkage between grower supply and the bale pipeline providing product to brand partners. NZM has a focus on being market-led so it is bales sold to market that is the primary focus. The strategy has been

[12] Grower interviews – October/November 2022
[13] Brand Partner interviews – October/November 2022

to secure brands and contracts first then growers will follow. The danger in this is that there could be an oversupply of wool provided to NZM, possibly resulting in wool being placed for sale in the auction system, a scenario which NZM is trying to move away from. The other situation is an undersupply of wool available for brand partners. This could lead to a level of mistrust and the potential for the relationship to breakdown and the brand partners sourcing their wool via other channels. Collaborative planning and forecasting with brand partners and growers should be a priority for the future, to, as much as possible, match supply with demand.

**iii. Consider alignment with industry data**

Primary industry in NZ is well served with organisations that collect information and make this available to everyone. Agencies such as Stats NZ and Beef & Lamb NZ, collect and collate data. This data includes auction sales and prices versus private sales and prices, market price indicators and price forecasts. It would be advantageous if NZM were to use this recognised data source.

**iv. Consider actual investment costs that generated benefits**

The CBA needs to consider the actual and opportunity costs that produced the programme benefits. This includes commodity operating costs that were ‘actually’ spent on W3 workstreams and Glerups infrastructure distribution ‘opportunity’ costs.

**v. Apply measurements to outcomes**

All outcomes should have some form of measurement to enable how the programme is tracking such as KPI’s, baselines, targets, or benchmarks. This enables those involved with the programme to monitor performance and then make informed strategic decisions. Some of the outcomes in this programme didn’t have measures and targets attached to them.

**vi. Developing a collaborative approach**

Build further relationships with like-minded sectors and players in the NZ wool industry and wider primary industries.

### 4.2.2 SFFF

**1. Makeup of the PSG**

A strong governance group should include members who cover a range of skills and expertise. In the case of the W3 programme this should include members with strong wool industry knowledge, financial acumen, and governance experience. The W3 PSG had two members (50%) of NZM staff as members of the board. Whilst providing good industry knowledge, financial acumen, and some governance experience, all of which add to the PSG, the board could have been subject to executive capture and perhaps a lack of independence.

**2. Use reporting experience to support other SFFF programmes**

The W3 programme was deficient in some areas of reporting. The lack of measurements to outcomes has previously been highlighted (5.2) and it is noted that the reporting improved with the appointment of the new Programme Manager. Future investments in SFF programmes should address the area of reporting prior to the programme starting. This could include setting of KPIs, and level and frequency of reporting to ensure the correct information is available to programme participants.

**3. Use programme to support collaboration where possible**

The SFFF programme is in a unique position to identify other programmes that may have synergies with applicants to the SFF. There is an opportunity to fund programmes where collaboration between organisations or industries may enhance and strengthen the programme from a management and governance aspect, but also improve economic and spill over benefits to NZ’s primary industries. The fragmented nature of the wool industry admittedly made this a challenge in the case of W3, however it is a worthy principle to consider in our view going forward.

**4. Funding future wool initiatives**

The NZ wool industry is an important part of the sheep and beef industry in NZ. As such MPI sees it as an important sector for support. Future programmes funded by MPI should consider alignment with the W3 wool unleashed programme.

**5. Fund innovative initiatives**

For change to occur, the status quo needs to be challenged. Funding disrupters or entrepreneurs will provide the greatest opportunity for change within the industry sectors. The NZ wool industry is a good example of a long-established industry, unwilling to change or collaborate and with little or no transparency through the value chain. There is an acknowledged counterpoint here between supporting disruptive innovation and fostering industry/cross-sector collaboration.

## 4.3 MPI support to maximise realisation of benefits

***TOR: Recommending how MPI can support the Partners to maximise the realisation of the financial, economic, spillover and public good benefits identified during the life of the Programme.***

Potential areas where MPI can support the wool industry to maximise Programme benefits include:

i. **Build on the momentum** of the W3 programme by funding other initiatives associated with the wool industry.
ii. **Monitor and support** alternative uses for wool or reconstituted wool products.
iii. **Support where feasible the uptake of the ZQRX programme** or its principles across the wider primary sector. While still in development, the digital platform is likely to have relevance beyond NZM and wool.
iv. **Support where feasible the use of the Studio ZQ facilities and design principles**. Te Hono may continue to provide a channel for this.

# 5. Summary of conclusions and recommendations

Overall, this review has shown the W3 PGP Programme to be a successful and worthwhile one for all parties involved, and one that has added value within the wool industry.

It was carried out in particularly challenging circumstances, due to a combination of the industry operating climate and the COVID-19 pandemic, which hampered customer contact at an important stage of the programme. Nonetheless it has created a proof of concept and shown a pathway to a new, sustainable and profitable future for the NZ strong wool industry.

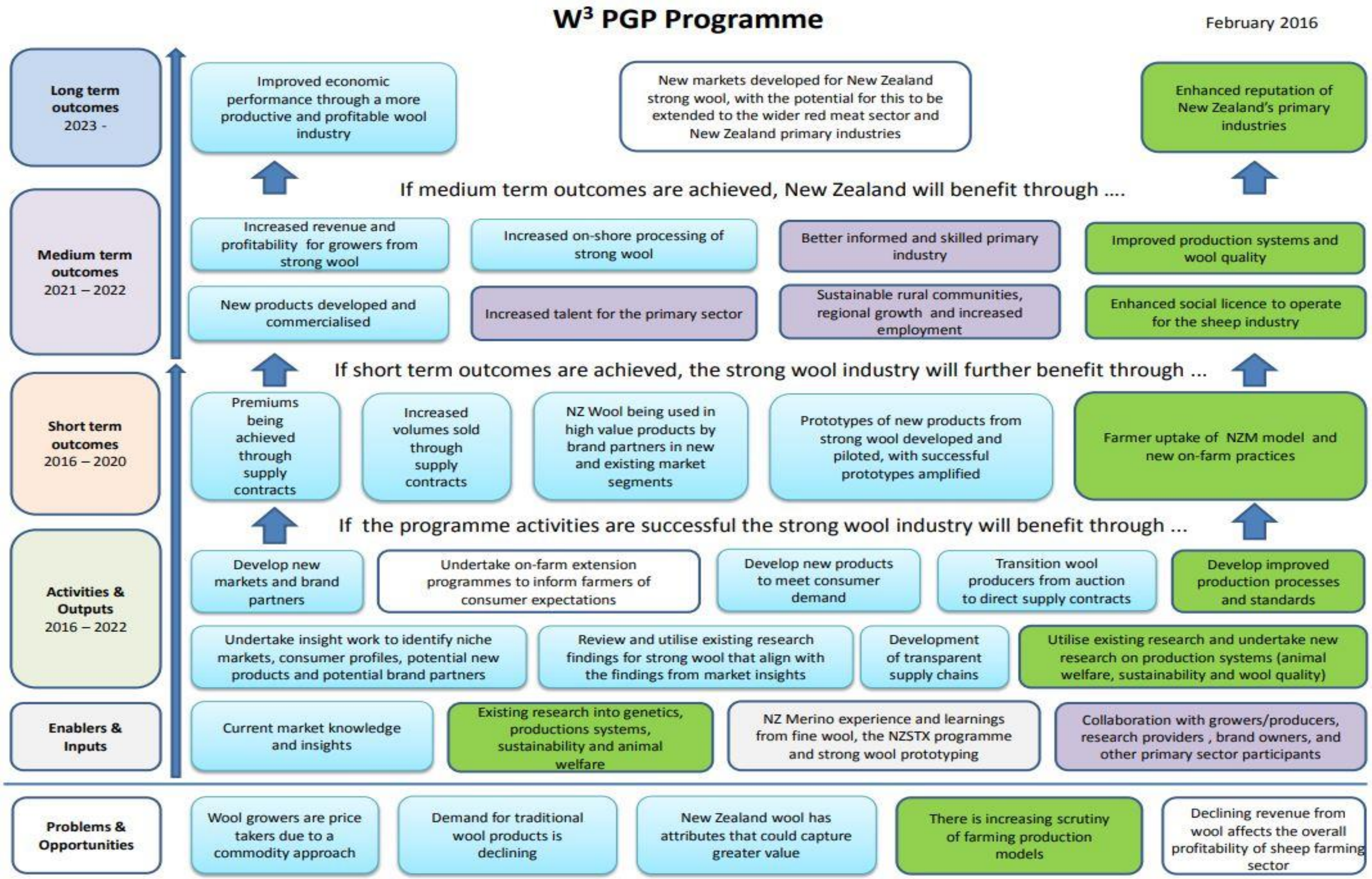
Whilst some of the objectives and targets have not been achieved within the planned timeframes, continued focus on the principles established by W3 of a combination of consumer/brand partner focus, continual product innovation and collaborative partnerships with woolgrowers, underpinned by a standardised quality system, shows much promise for the future.

Both NZM and MPI should take pride in what has been achieved. The courage and pragmatism of the PSG in taking on board feedback from the mid-term review and resetting the programme targets in 2020 to make them more realistic, embodying lessons learned, was commendable.

# Appendix 1: List of stakeholders consulted

| Stakeholder | Name |
|---|---|
| **Programme staff** | |
| MPI Investment Manager (current and previous) | Bevan Chappell and George Strachan |
| W3 Programme Manager | Donna Chan |
| Social Licence to Operate work stream | Emma Subtil |
| Crossing the Chasm work stream | Hadleigh Smith |
| Blue Ocean Opportunities work stream | Logan Williams, Steve Williamson, Nathan Sheppard |
| Primary Sector Extension work | Ashlan Campbell |
| Wools supply and grower relationship managers | Keith Ovens, Nicola Peddie |
| ZQ Certification Scheme | Tara, Strangwick, Emma Smith |
| **Programme Steering Group/Investment Advisory Panel** | |
| PSG Chair | Unavailable |
| PSG NZM representatives | John Brakenridge, Peter Floris, Kate Morrison |
| PSG MPI representatives | Emma Taylor, George Strachan, Bevan Chappell |
| MPI Director Investments | Steve Penno |
| Investment Advisory Panel Chair | Lucy Griffiths |
| | |
| **Other stakeholders** | |
| Sample of brand partners | Allan Timm, Glerups, Denmark<br>Simon Longdon, Prestige, Australia<br>Jenny Drinkwater, Swanndri, NZ<br>Mark Price, Firewire Surfboards, USA<br>Rafael Elizondo, IKEA, Sweden |
| Sample of wool growers (ZQ and non-ZQ) | 8 ZQ Growers (5 North Island, 3 South Island)<br>2 non-ZQ Growers (I North Island, 1 South Island) |
| Wool product development network | Andy Fox, Chairman WRONZ<br>Peter & Sue Sheldon, FibreTech Ltd |
| Other | Andy Caughey, SWAGNZ<br>Rob Hewett Chair, SWAGNZ |

# Appendix 2: W3 Wool Unleashed Outcome Logic Model (2016)



# Appendix 3: W3 Wool Unleashed Outcome Logic Model (2020 Reset)