

OUR LAND  
AND WATER

Toitū te Whenua,  
Toiora te Wai

# Our Land and Water National Science Challenge

## *Toitū te Whenua Toiora te Wai*

Our Land and Water Symposium, 11-12 April 2017  
Greater Value in Global Markets

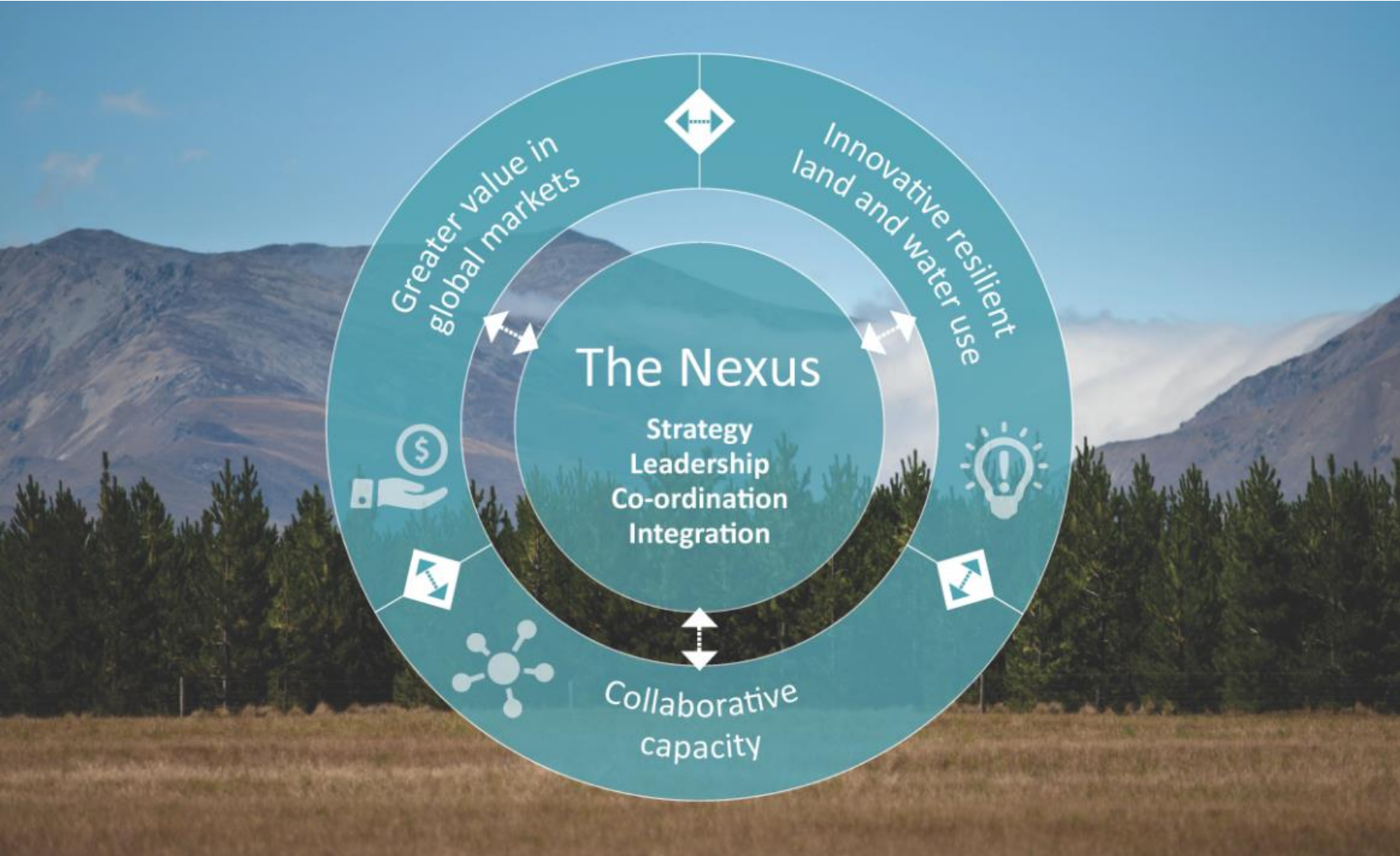
# Outline of the Session

## Overview of the Greater Value in Global Markets Theme (Caroline Saunders)

1. Drivers and Credence Attributes
  - The Matrix Research Project (Caroline Saunders)
  - The Eutrophication Footprint Research Project (Stewart Ledgard)
2. Distribution of Value Across the Value Chain
  - Integrating Value Chains Research Project (Paul Dalziel)
3. Developing a Mātauranga Framework for Better Land and Water Use
  - Mauri Whenua Ora Research Project (Merata Kawharu)
4. The Value of a Rural Bioeconomy
  - Introduction to the Research Project (Anita Wreford)

# How our research is structured

Three key themes, all interconnected with The Nexus



OUR LAND AND WATER

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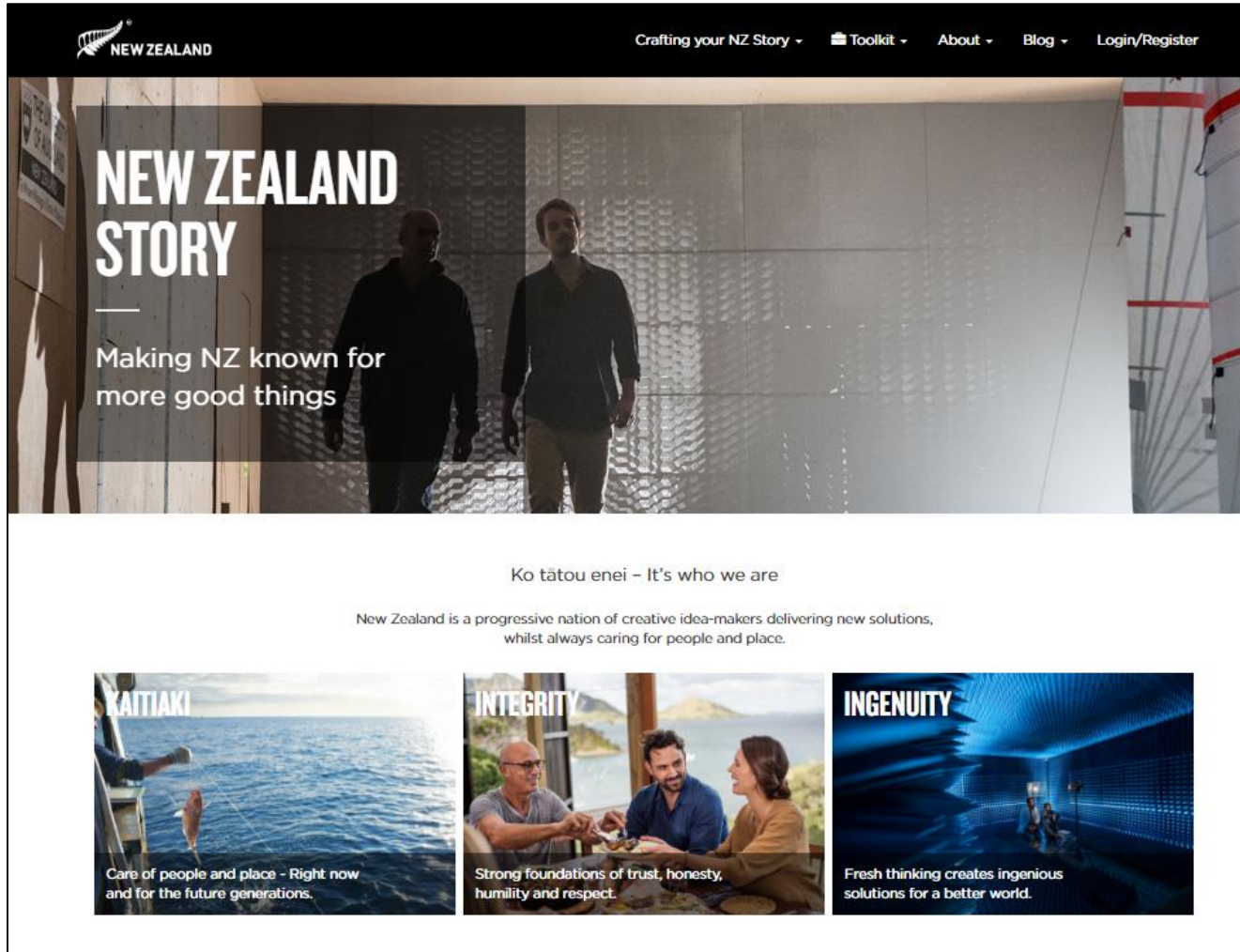
- Values of New Zealanders in land use choices (including the values of producers)
- “The Social Licence to Farm in New Zealand”

# **OUR** LAND AND WATER

Does this have value  
in our global markets?

- Values of New Zealanders in land use choices (including the values of producers)
- “The Social Licence to Farm in New Zealand”

# Vision Mātauranga



The screenshot shows the top navigation bar with the New Zealand logo and links for 'Crafting your NZ Story', 'Toolkit', 'About', 'Blog', and 'Login/Register'. The main header features the text 'NEW ZEALAND STORY' and 'Making NZ known for more good things' over a background image of two men walking. Below this is the Māori phrase 'Ko tātou enei – It's who we are' and a descriptive sentence: 'New Zealand is a progressive nation of creative idea-makers delivering new solutions, whilst always caring for people and place.' Three key themes are highlighted in separate boxes: 'KAITIAKI' (Care of people and place - Right now and for the future generations), 'INTEGRITY' (Strong foundations of trust, honesty, humility and respect), and 'INGENUITY' (Fresh thinking creates ingenious solutions for a better world).

NEW ZEALAND

Crafting your NZ Story - Toolkit - About - Blog - Login/Register

## NEW ZEALAND STORY

Making NZ known for more good things

Ko tātou enei – It's who we are

New Zealand is a progressive nation of creative idea-makers delivering new solutions, whilst always caring for people and place.

**KAITIAKI**  
Care of people and place - Right now and for the future generations.

**INTEGRITY**  
Strong foundations of trust, honesty, humility and respect.

**INGENUITY**  
Fresh thinking creates ingenious solutions for a better world.

“Ko tātou enei – It’s who we are.”

This is the landing page for The New Zealand Story. Kaitiaki is one of its key themes and the website illustrates again and again that Māori values and practices are an essential part of what makes our land and water distinctive.



# Challenge Mission

*“To enhance primary sector production and productivity while maintaining and improving our land and water quality for future generations.”*



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*“To enhance primary sector production and productivity while maintaining and improving our land and water quality for future generations.”*

Theme 1 is exploring whether New Zealand producers and processors can capture value in international markets because of this.



We are not alone in this vision...

**The Te Hono Movement** is a business-led and government-partnered group of over 180 influential leaders representing 80% of the New Zealand primary sector who have united around a vision for adding value to exports.



**Vision: From price taking to market shaping.** Transforming the primary sector to realise the opportunity for Aotearoa, New Zealand to be recognised for our natural environment and products, as world leaders in innovation...

*Unlocking the power of New Zealand's primary sector*

*From our land to the world.*

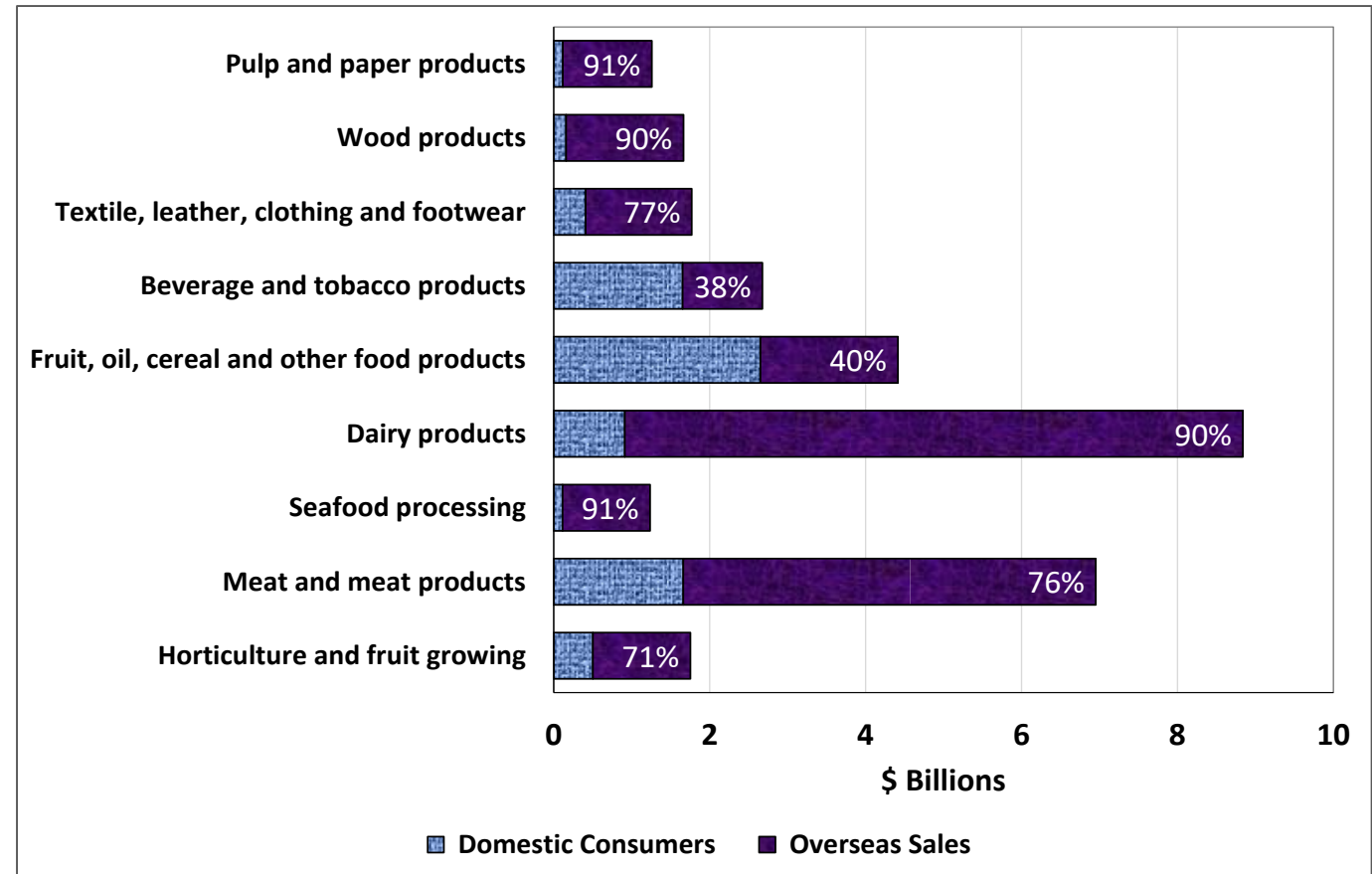
*A partnership helping to drive the success of the New Zealand primary industry and make Aotearoa, New Zealand, a place where our children and their children want to live, work and thrive.*

# This is challenging because our consumers are distant

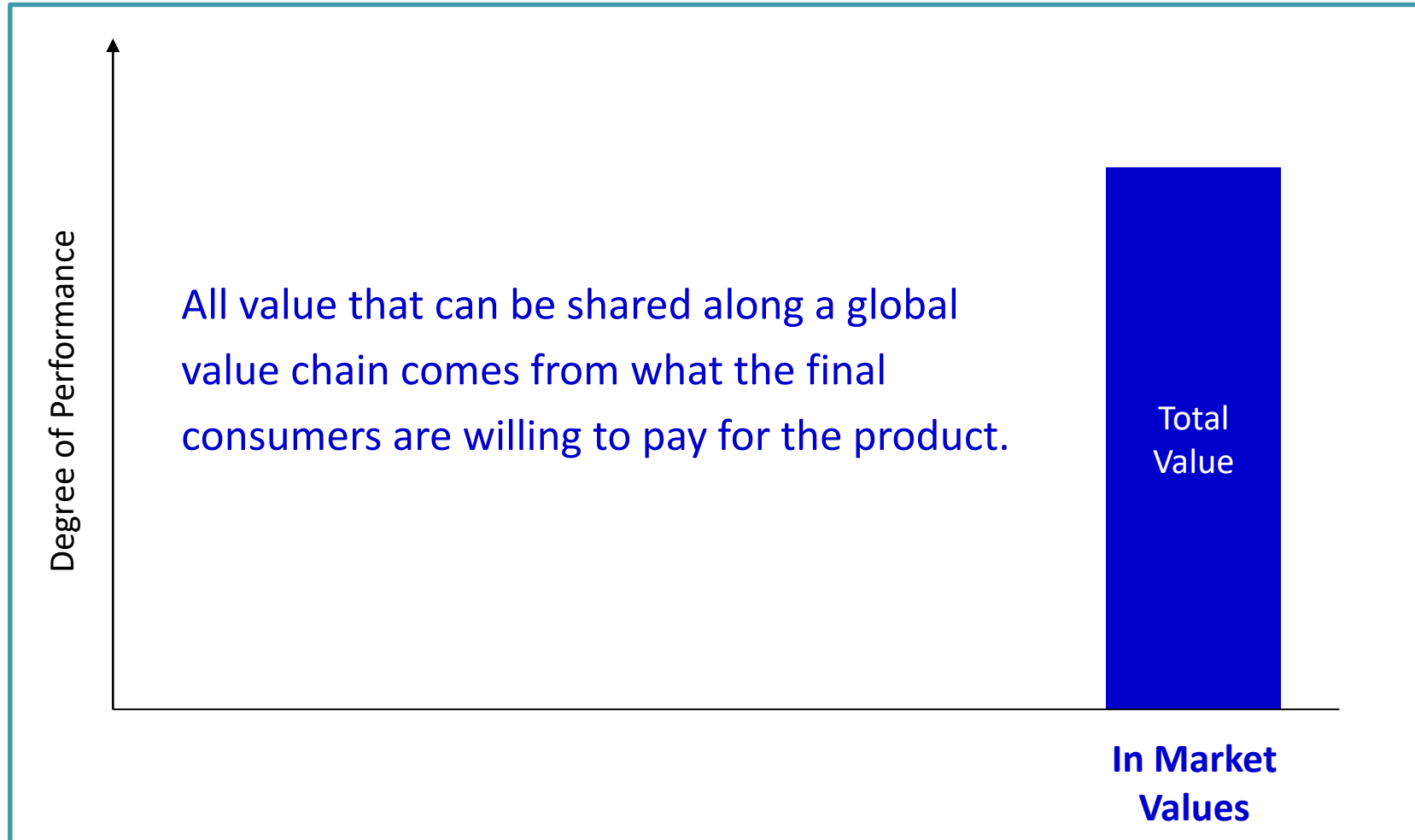
The graph shows the percentage of final sales of New Zealand primary sector products that are exported.

Distant consumers mean that we need to work hard to understand:

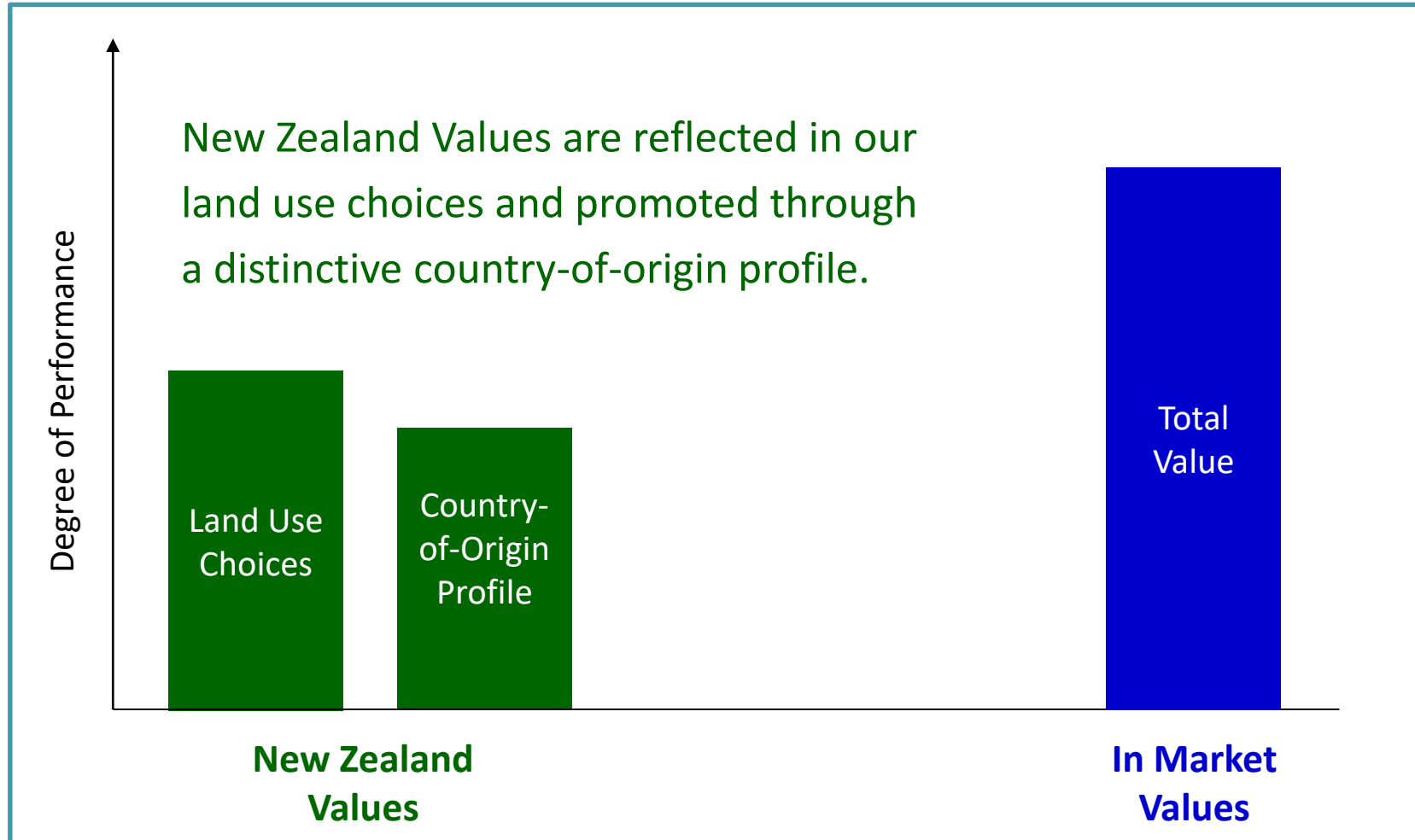
- What consumers value
- How we communicate to our consumers what we offer
- How we can capture a share of the value we provide



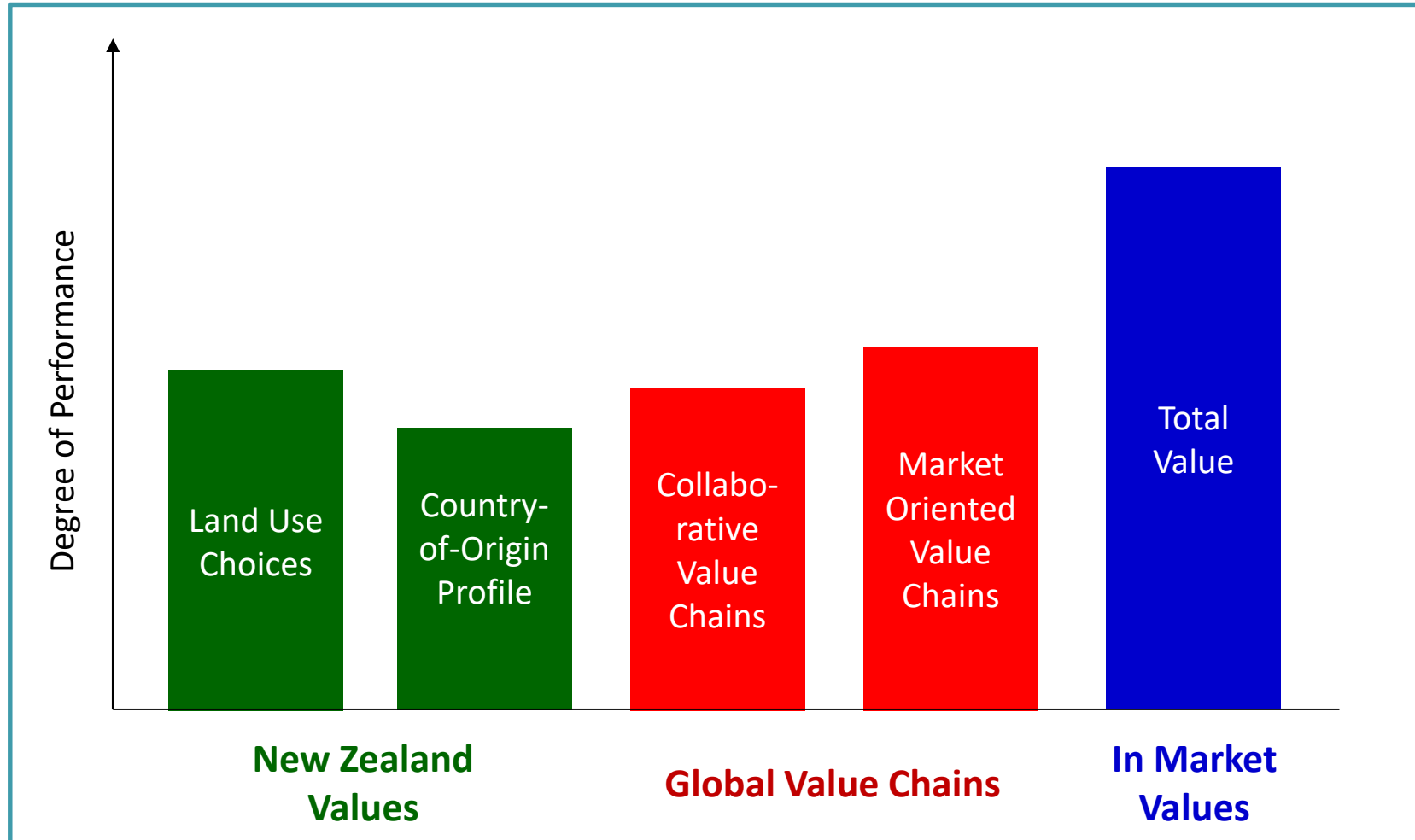
# Capturing Global Value



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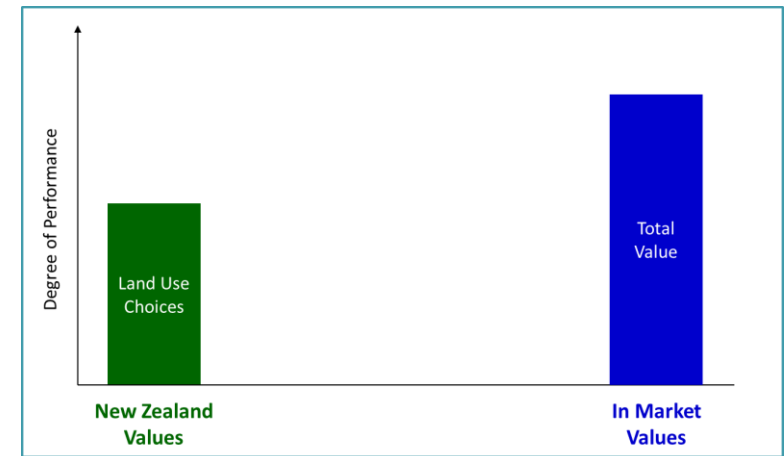
# Capturing Global Value



# 1. Drivers and Credence Attributes

## The Matrix Research Project

- This project took place from May to September 2016.
- It was the first stage of a high level overview of national and international drivers that have the potential to affect land use change and/or practice in New Zealand.
- Review of consumer preference in market
- Compiled extensive data base of domestic and international drivers with page of information on each.
- Started to prioritise these with a workshop and a survey.





# Drivers and Credence Attributes

The Matrix Research Project – Drivers that affect land use/practice in New Zealand

## **Domestic –**

Water quality; biosecurity; environment; soil quality; health and safety.

## **International Drivers –**

International trade and agricultural policy;

taste and product quality;

Credence attributes/qualities: food safety; animal welfare; environmental condition; water quality; air Quality; nutritional value; country of origin....

## Consumer willingness to pay for credence attributes – some examples

Beef with claim of 'source of iron; - 25% to 33% in NL, B, Fr and UK

Beef country of origin US – discount of 53% Canada and 68% Australia compared to US

Beef Sweden – 43% if from EU; Traceable 12%; medication use 16%; organic 14%

Milk– Canada health information between 10 and 26%; Germany 8 to 25%

Infant formula – China COOL China -16% US +24%

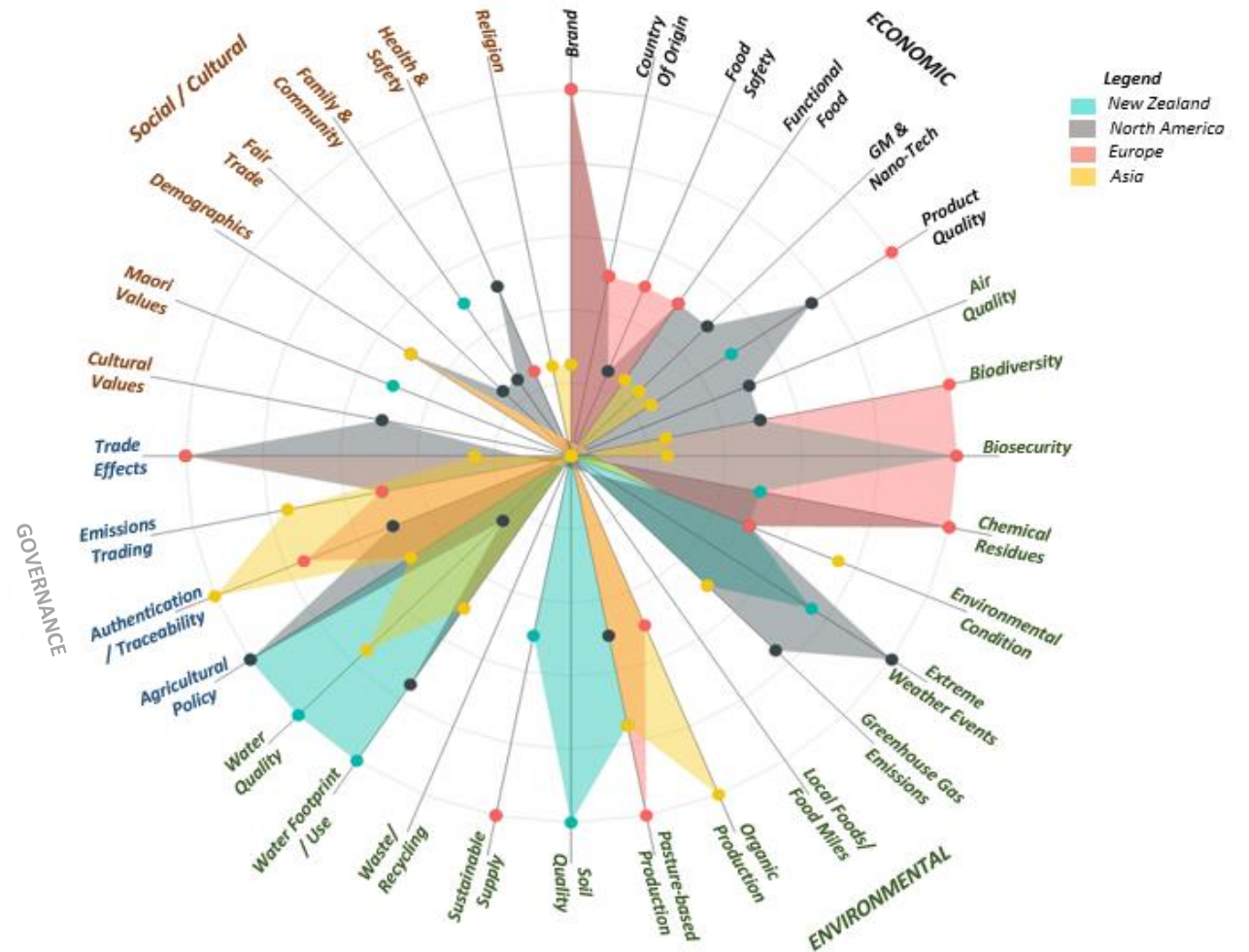
Wine – average of USA, Fr, Germany, Canada and the UK 6.6% environmental logo; 14% organic; 3% carbon zero and -2.9 % less glass logo. Varies most for organic from 3% (UK) to 27% (Fr and Germany).

# Example of initial Matrix Analysis

This diagram shows drivers grouped into four pillars:

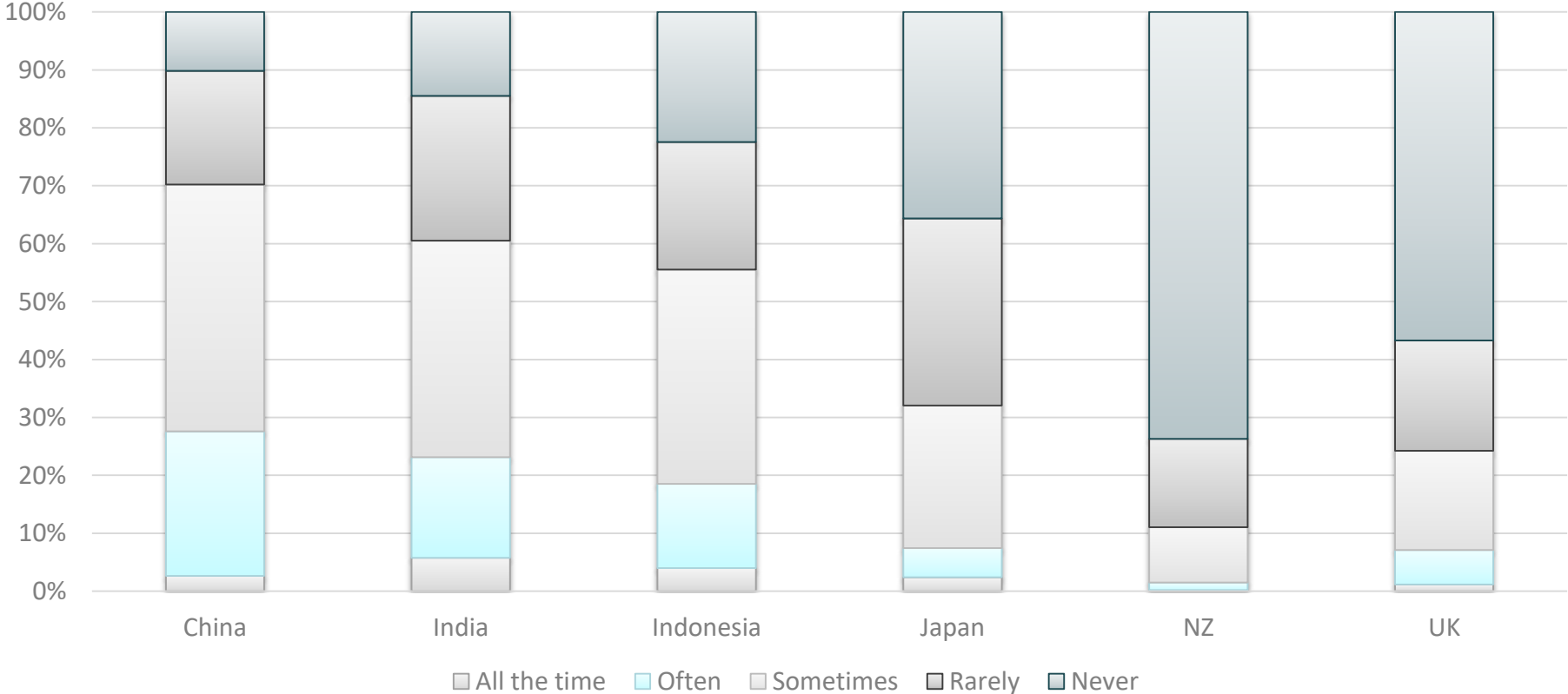
- Social/Cultural
- Economic
- Environmental
- Governance

The diagram also gives an indication of their importance in New Zealand and three regions of the globe from selected New Zealand stakeholders.



# MER – and New Zealand

Do you use your mobile device to purchase food and beverages?



# 1. Drivers and Credence Attributes

## The Matrix Research Project

- The research also used the Lincoln Trade and Environment Model (LTEM) to analyse scenarios in international markets with the potential to affect domestic land use.
- LTEM is a model of international trade in agri-food products that allows the analyst to compare outcomes in a scenario with outcomes in the model's baseline projections.
- Four scenarios were considered:
  - Impact of climate change on international agricultural production
  - Impact of extreme weather events in Australia and the United States
  - Impact of better market targeting based on product credence attributes
  - Impact of greater trade liberalisation in agricultural attributes

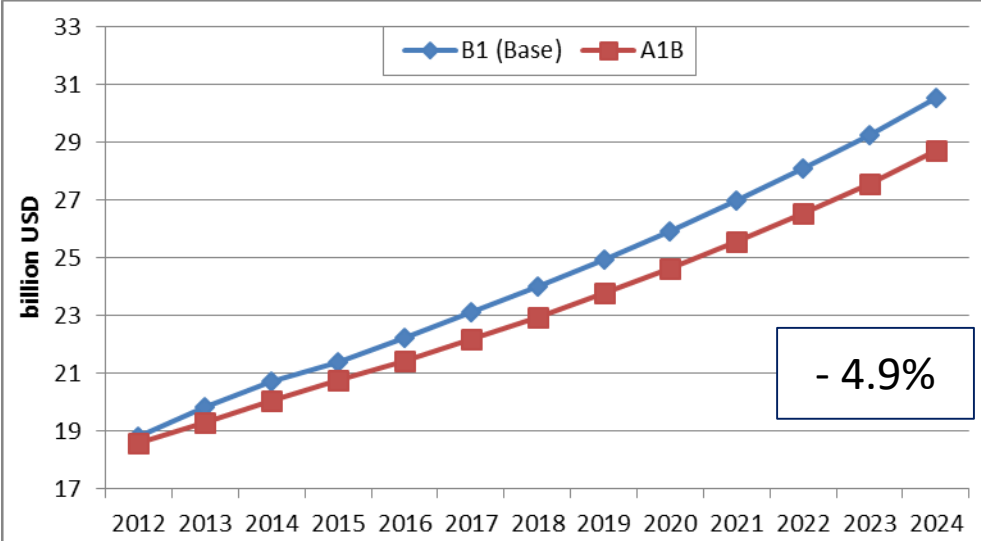
# 1. Drivers and Credence Attributes

## The Matrix Research Project

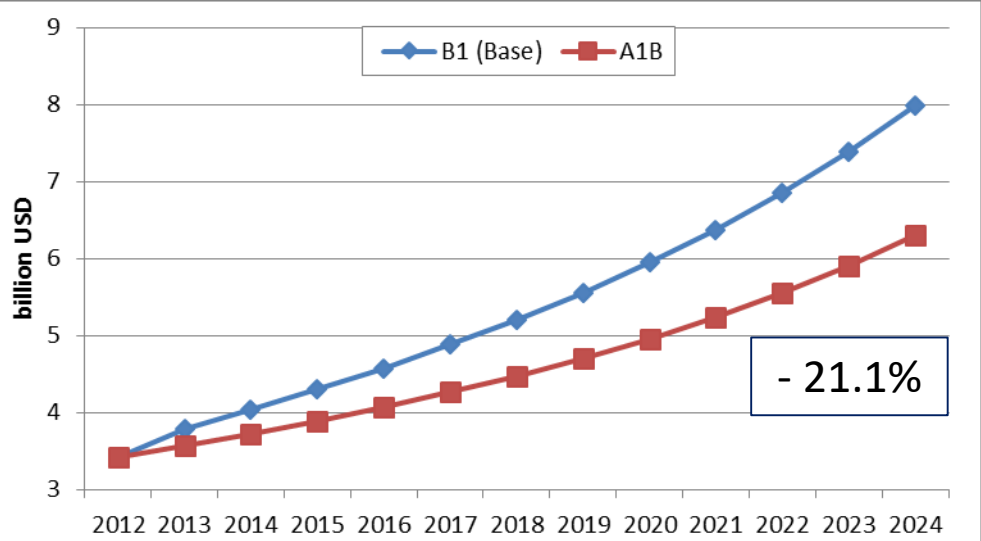
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# Modelled Impact of Climate Change on NZ Producer Returns

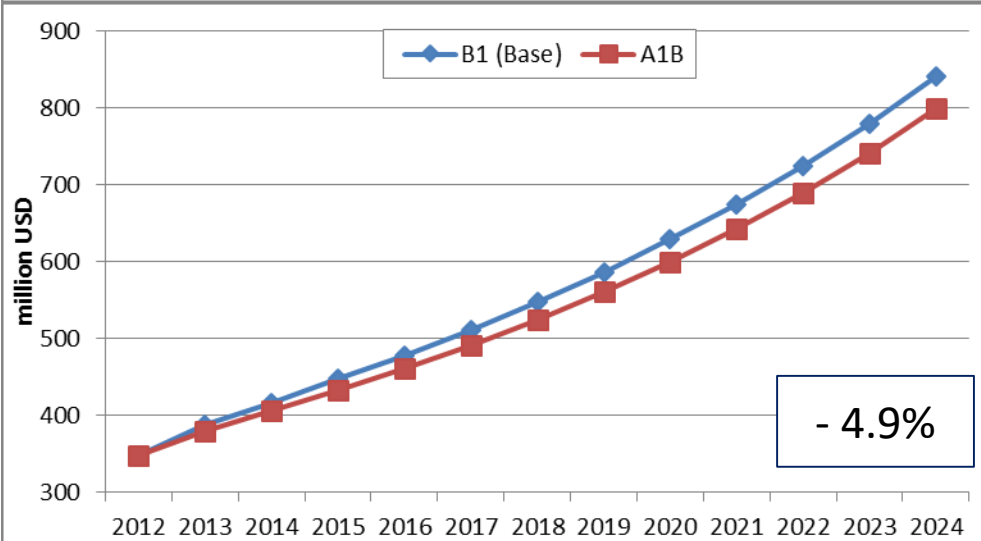
Dairy Products



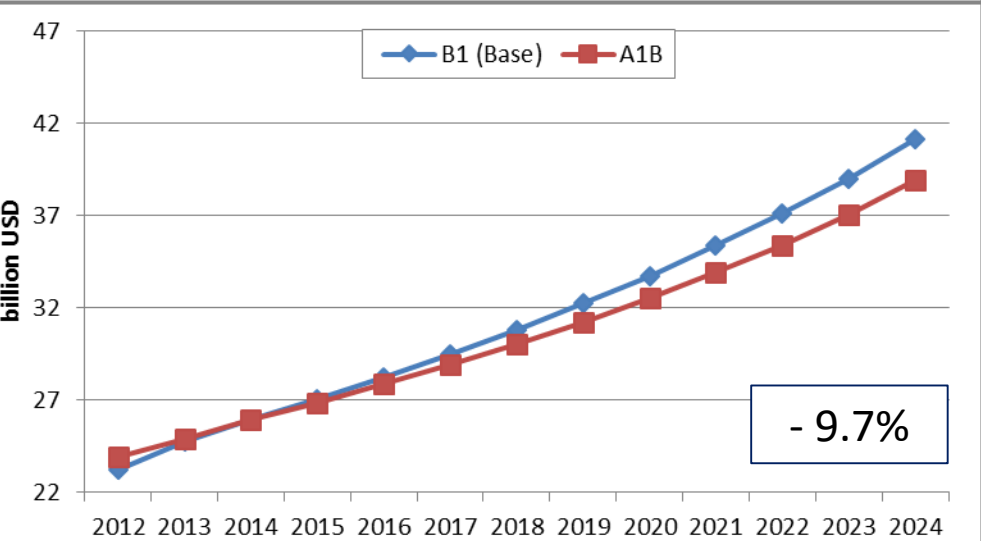
Sheep, Beef and Wool



Cereals



Total Agriculture



# Modelled Impact of Better Market Targeting

New Zealand Net Trade Value, 2024 (US\$ millions)

Commodity	Base Scenario	20% Premium	Per Cent Increase
Beef	1,654	2,054	24.2%
Sheep Meat	1,659	2,119	27.7%
Butter	2,281	2,414	5.8%
Cheese	1,421	1,795	26.3%
Whole milk powder	5,456	5,862	7.4%
Skim milk powder	1,636	1,977	20.8%
Total Dairy	10,795	12,049	11.6%
All selected products	14,108	16,222	15.0%



# 1. Drivers and Credence Attributes

## The Eutrophication Footprint Research Project

- This project has just begun.
- It is led by Dr Stewart Ledgard (Principal Scientist at AgResearch).
- The driver is the European Union's Product Environmental Footprinting (PEF) initiative under its Europe 2020 strategy for sustainable growth.
- PEF may become a requirement for product supply into Europe.



European Commission > Strategy > The European Semester > The framework >

## Europe 2020 strategy

The Europe 2020 strategy is the EU's agenda for growth and jobs for the current decade. It emphasises smart, sustainable and inclusive growth as a way to overcome the structural weaknesses in Europe's economy, improve its competitiveness and productivity and underpin a sustainable social market economy.

The aim is to develop an internationally agreed Eutrophication Indicator that is compliant with the European Union's PEF but also relevant to New Zealand, tested using Taupo Beef exports to overseas markets as a case study.

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# Questions

