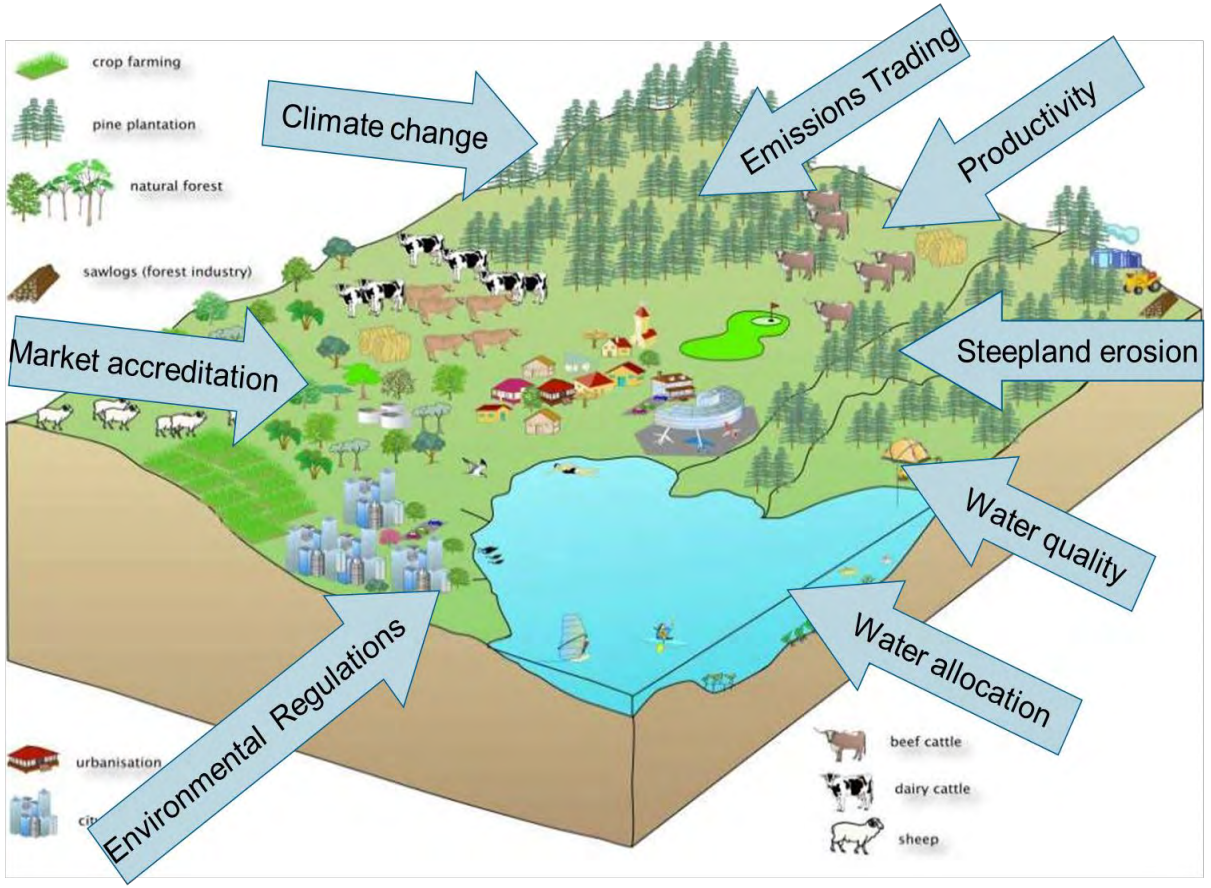
# Opportunities & innovation

**Warren Parker**

# Overview

- Job to done – why innovation is necessary
- Global context and drivers of change
- Livestock sector strategies
- Tips for and owners/farmers for managing
- Wrap-up



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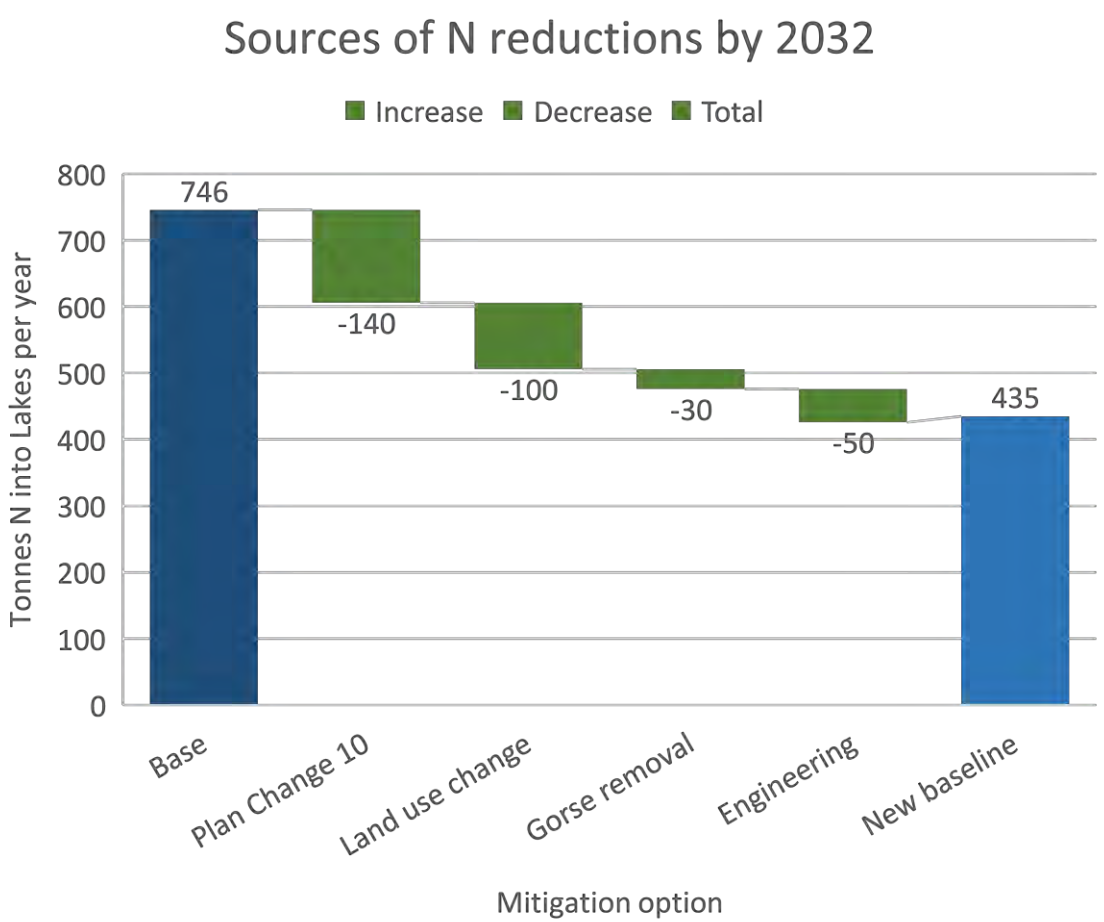
# What is the job to be done?

# Nitrogen (N) removal from Lakes' Catchments




Source: BoPRC

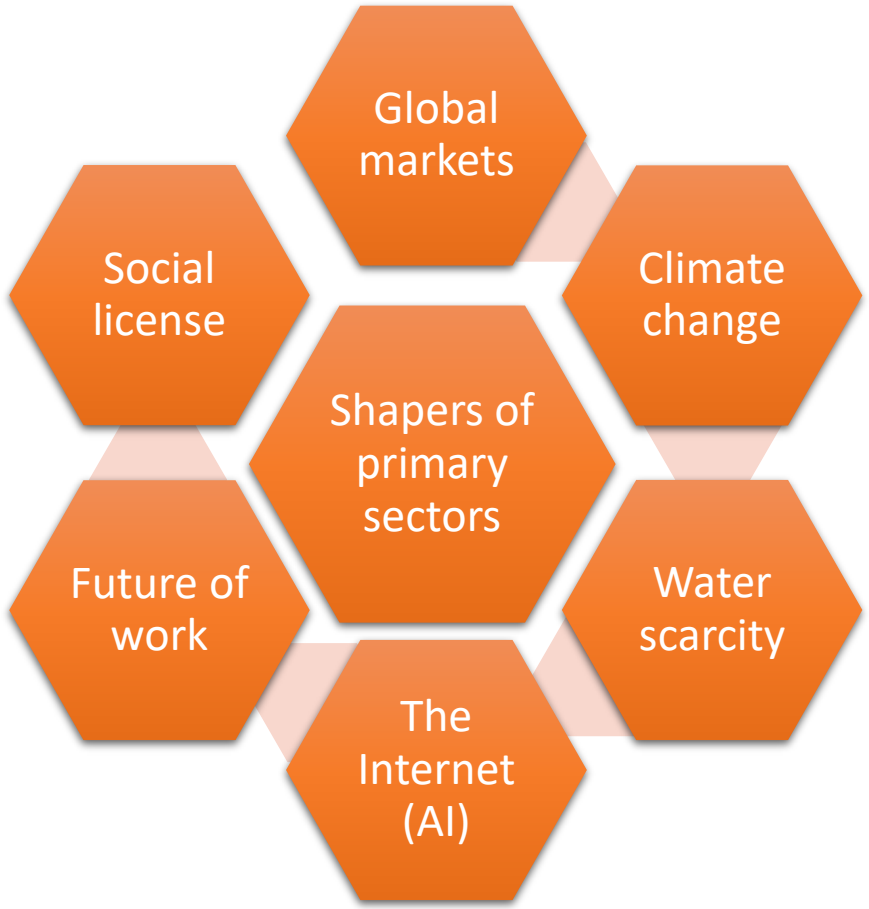
NATIONAL POLICY STATEMENT

# for Freshwater Management 2014

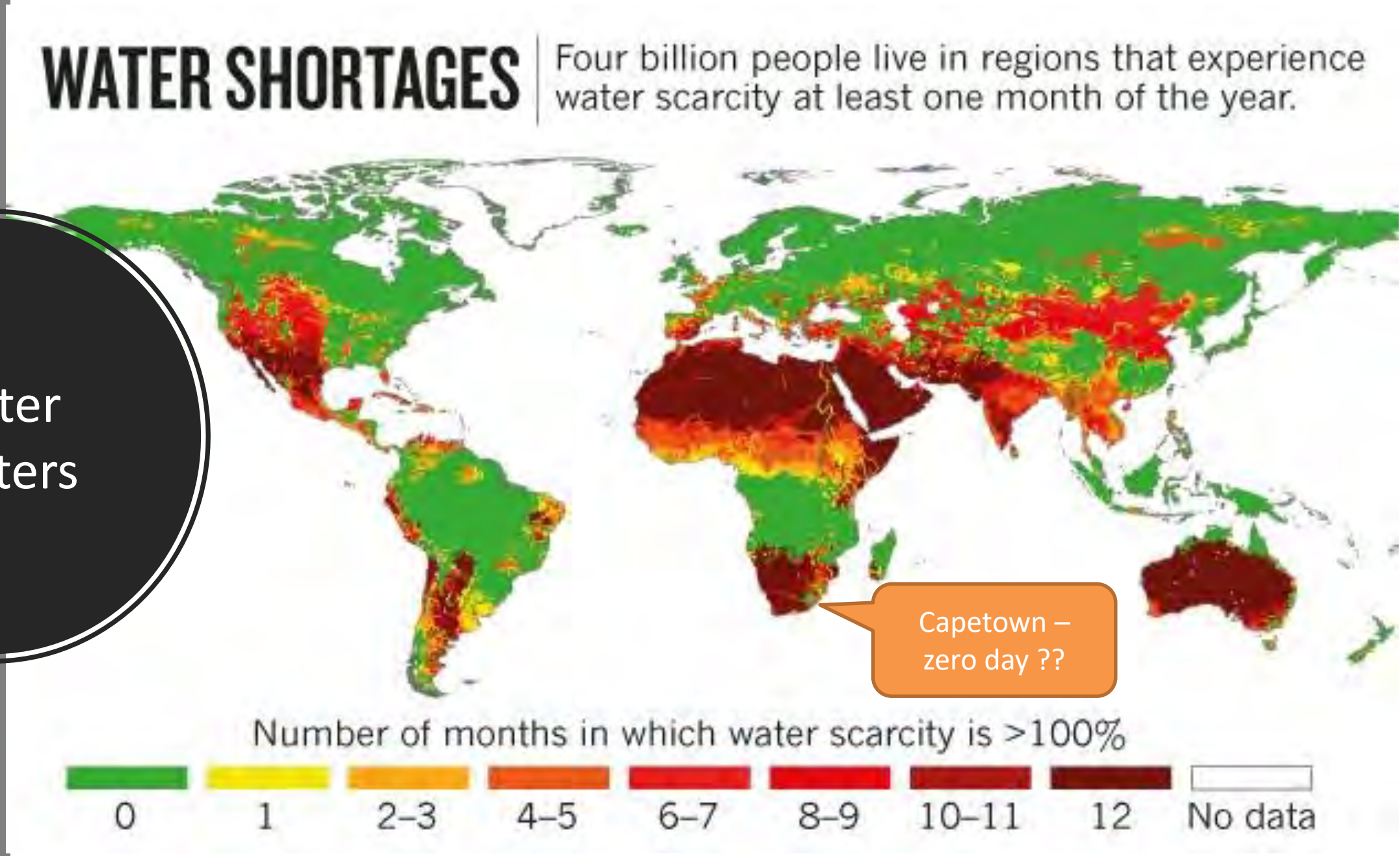
*issued by notice in gazette on 4 July 2014*

newzealand.govt.nz

# Global context – drivers of change




# Water matters



# Our Water Footprint

## How Much Water does it take to Produce...

| 1 Litre Tap Water | 1 Litre Bottled Water | 1 Cup Tea | 1 Cup Coffee | 1 Kg Corn | 1 Kg Wheat | 1 Kg Soybeans | 1 Loaf Bread |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| 1 Litre | 5 Litres | 30 Litres | 140 Litres | 900 Litres | 1300 Litres | 1800 Litres | 960 Litres |

| 1 Whole Orange | 1 Glass Orange Jc | 1 Whole Apple | 1 Glass Apple Jc | 1 Dozen Eggs | 1 Kg Chicken Meat | 1 Kg Pork | 1 Kg Beef |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| 50 Litres | 170 Litres | 70 Litres | 190 Litres | 2400 Litres | 3900 Litres | 4800 Litres | 15,500 Litres |

**Choose more often to DRINK TAP WATER, EAT WHOLE UNPROCESSED FOODS and reduce your carbon footprint by BUYING LOCAL PRODUCTS**

Visit www.waterfootprint.org to learn more

supported by SQUAMISH can climate action network

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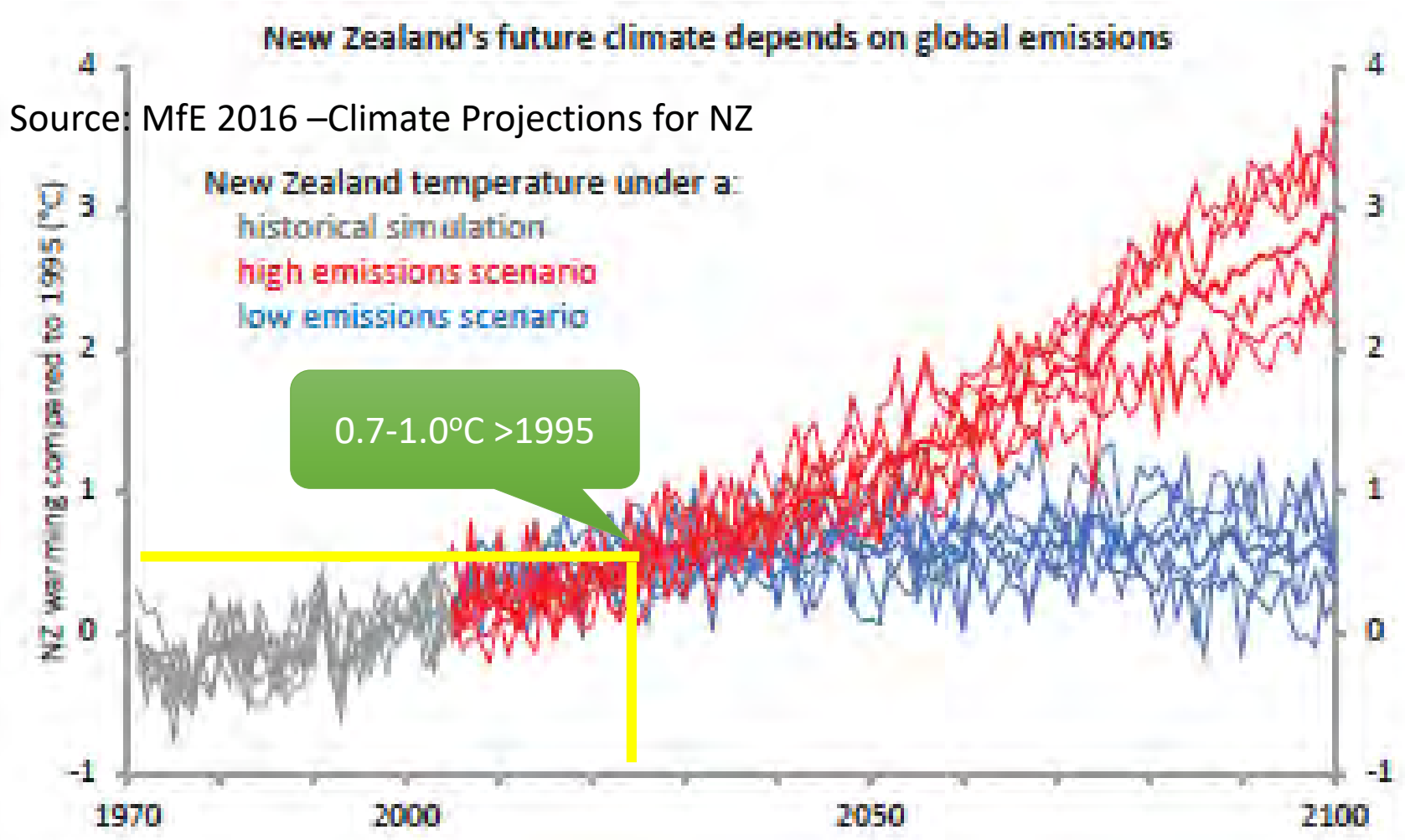
# Weather is changing, getting warmer




**Even with action, it is going to get warmer; (drier/ wetter) and with more extreme events…**

Ngongotaha June 2018

# Tologa Bay area

## 4-5 June 2018

Source: http://gisborneherald.co.nz/

8/6/2018


Thames-Coromandel Road Jan 2018


Mission Bay, Auckland

# Sea level rise actual and projections – capital for infrastructure

# Issues often cascade and are interdependent

**Climate change**

- Weather patterns
  Production risk; new crops/genetics
- Biosecurity risks
- ETS CO2e
  >$50/t (more trees)
- Low GHG systems & products

**Water limits**

- Water consent reallocation
- Pricing & trading
- Land-use change catchment limits
- Export products for $H_2O$ deficit markets

Climate change impacts water – floods, droughts

# Paris 21 Agreement

New Zealand's National Determined Contribution (NDC) is to reduce national 2005 GHG emissions by 30% by 2030, or about 11% below 1990 levels

NDC commitment is expected to increase at 5 year intervals (need to secure a further 1$^{o}$C temperature rise GHG reduction from signatories in order to hold to a 1.5$^{o}$C rise by 2050)

Tougher than first appears – forest removals > forest C stored from early 2020's

# Summary NZ GHG Emissions


Environment

1990–2016

## NEW ZEALAND'S *Greenhouse Gas Emissions*

In 2016, New Zealand's emissions were

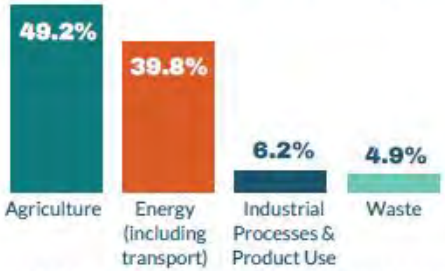
**78.7**

MILLION TONNES

of carbon dioxide equivalent

**2.4% lower** than 2015

Our gross emissions come from

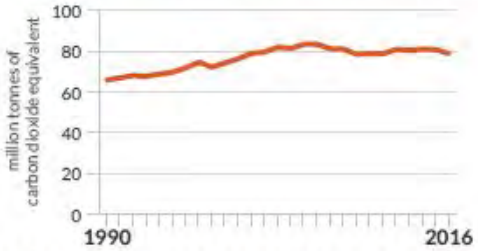



New Zealand's forests absorb carbon dioxide from the atmosphere

They offset nearly **one-third** of our emissions

Since 1990, gross emissions have increased by

**19.6%**



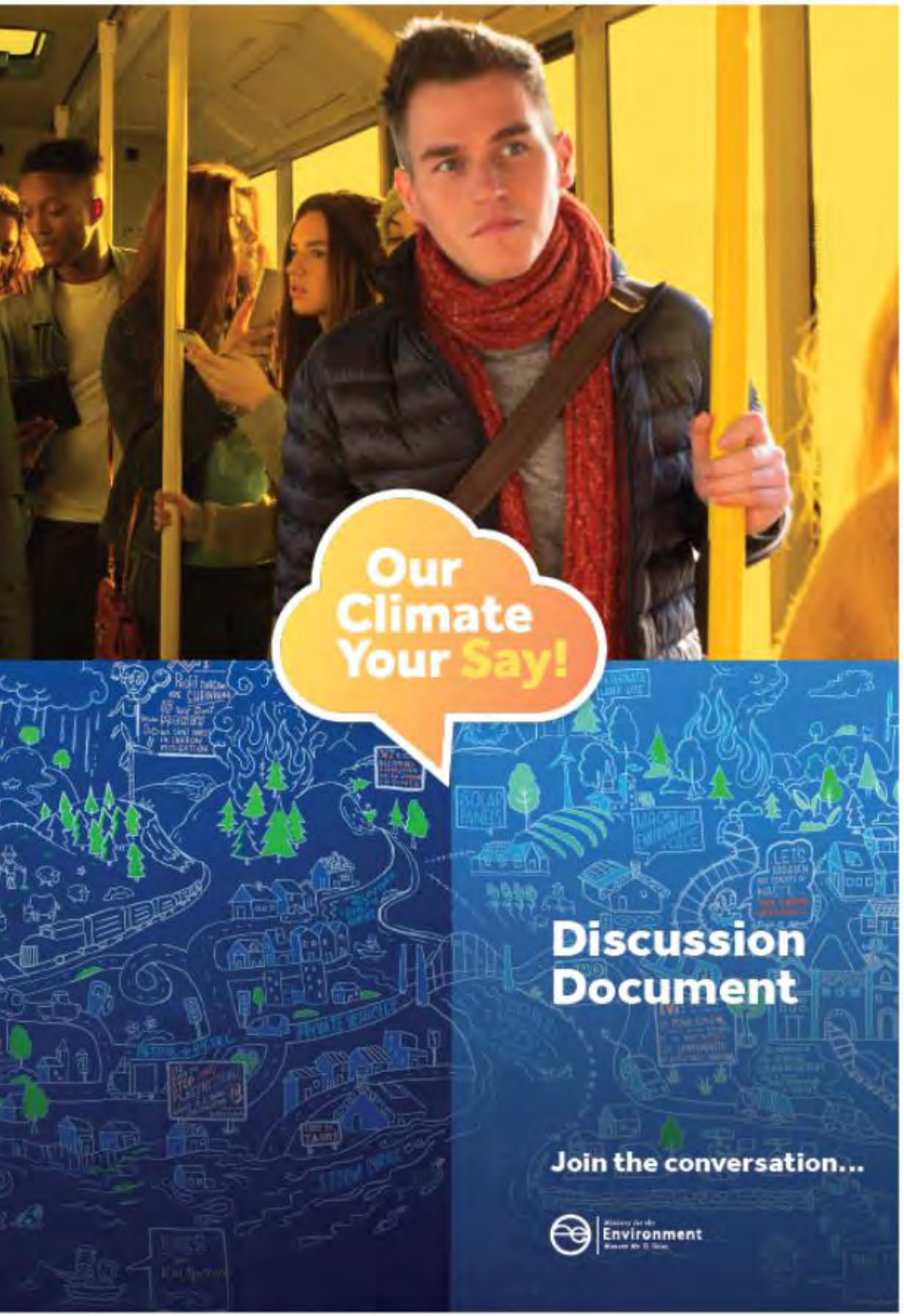

We need to reduce our emissions

*3 things* you can do

- Take public transport, walk, cycle or car pool
- Reduce waste
- Plant a tree

Source: *New Zealand's Greenhouse Gas Inventory* 1990-2016, published April 2018

Publication number: INFO 822, www.mfe.govt.nz




# Three scenarios – Zero Carbon Bill

- **Net zero carbon dioxide by 2050:** reduce net carbon dioxide emissions in New Zealand to zero by 2050 (but not other gases like methane or nitrous oxide, mostly from agriculture).
- **Net zero long-lived gases and stabilised short-lived gases by 2050:** reduce emissions of long-lived gases (including carbon dioxide and nitrous oxide) in NZ to net zero by 2050, while stabilising emissions of short-lived gases (incl. methane).
- **Net zero emissions by 2050:** reduce net emissions across all greenhouse gases to zero by 2050.


https://youtu.be/ut12s2jeP1w

www.restaurantnews.com/wendys-testing-new-black-bean-burger-in-select-markets/

# Urban farming; vertical integration

# Scenario planning – insights on direction


## Overview of what disruption might look like

Four scenarios: how we might respond; and what the strategic responses could look like

| **Scenario:** *What the disruption might look like...* | **Strategic Response:** *How we might respond...* |
|---|---|
| **Scenario 1** Red meat is pushed to the side of the plate<br>Case study: **Dairy Industry** | **INNOVATE** beyond red meat using funding from short-term revenue growth<br>Case study: **Elmhurst Dairy** |
| **Scenario 2** Red meat is the specialty choice<br>Case study: **Bottled Water** | **PREMIUMISE** by building tiers of value and investing in product development<br>Case study: **Dairy 1871** |
| **Scenario 3** Red meat is the reluctant choice<br>Case study: **Coke** | **DIVERSIFY** portfolio beyond red meat and protect current volume (share)<br>Case study: **Danone** |
| **Scenario 4** Red meat is the every day choice<br>Case study: **Wine Industry** | **EXPAND** and grow share in red meat via differentiation and speed to market<br>Case study: **Dairy Industry** |



# Electric trucks (& cars)

trucks 1/5 of oil consumption?

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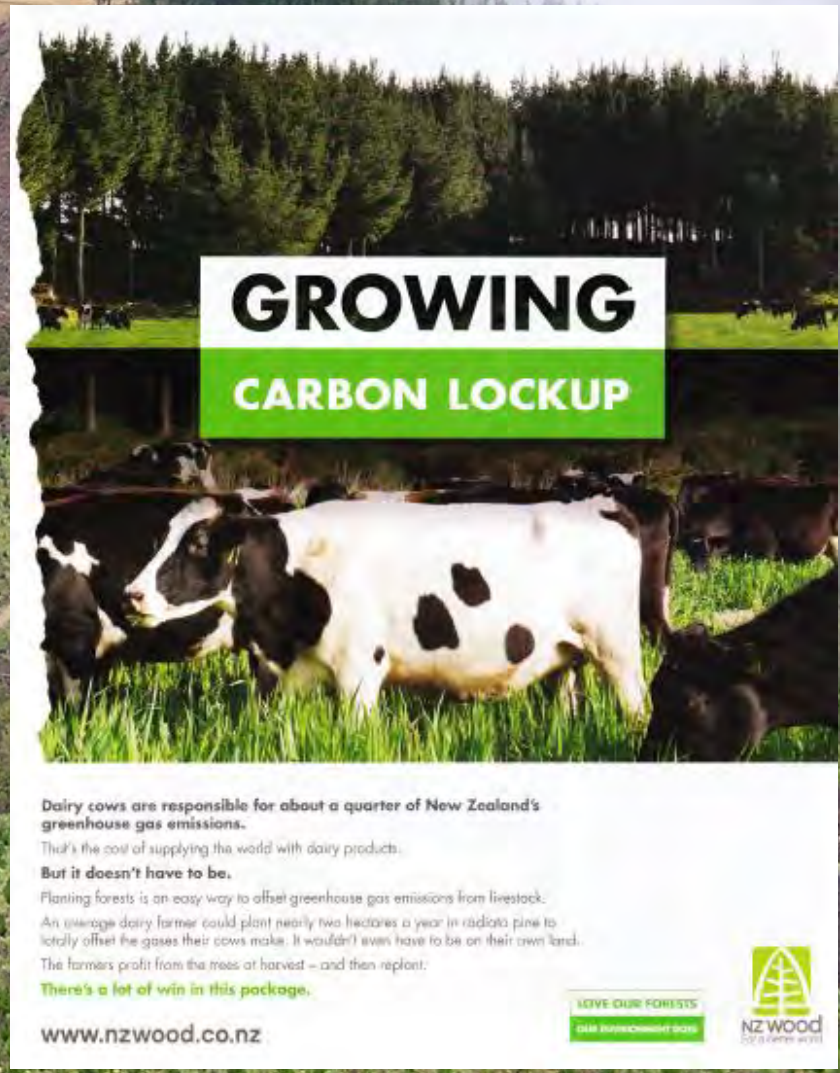
# Ecosystem services - Externalities internalised

- Policy with stronger price (or tax) signals (e.g. ETS)
- New markets for land-owners
  - Carbon
  - Water & nutrients
  - Biodiversity (e.g. AirNZ)
  - Recreation



# Carbon prices

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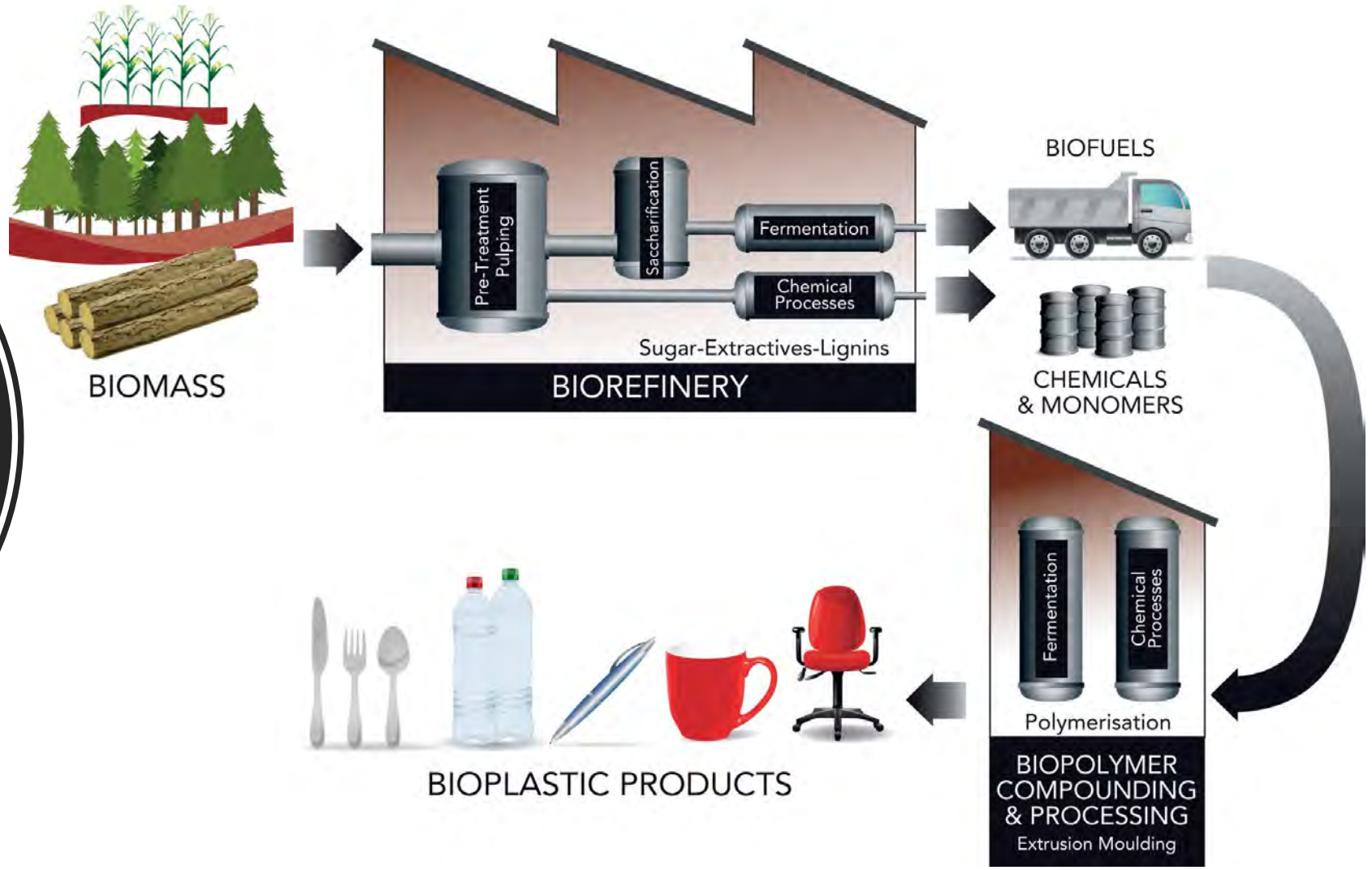
ETS policy remains uncertain – agriculture in the ETS from 2019.

**31 May**
**$20.95**

# Forestry – tomorrow's oil fields (plant, solar, H)




Source: Scion

Traceability, certification, verification

# PRIMARY SECTOR RESPONSE

# Our Strategy 2017-22

INSIGHT ACTION IMPACT

beef+lamb new zealand

## Vision

*Our desired future for NZ's sheep and beef producers*

**Profitable farmers, thriving farming communities, valued by all New Zealanders**

## Purpose

*How and why we do what we do*

**Insights and actions driving tangible impact for farmers**

## Priorities

*How we generate impact*

- Supporting farming excellence
- Government & public insight & engagement
- Enhancing our environmental position
- Unlocking market potential
- Building a great organisation

## What does success look like in 2022

*Key goals that will guide our operational activities over the next 5 years*

1. Through consumer insight the NZ Red Meat Sector Story, NZ Farm Assurance Programme and Market Innovation creates a platform for improved pricing.
2. Market access through FTA's has increased enabling maximum market value to be captured and returned to farmers.
3. Farmers have grown profitability through productivity, efficiency and improved cost of production.
4. The time and cost of regulatory compliance has been streamlined.
5. Farmers are recognised for their commitment to the environment while maintaining the productive capacity of land.
6. Farmers have access to the right people with the right skills and a new generation of leaders is developing.
7. Dairy farmers, beef farmers, and industry working together to maximize opportunities.
8. Insights drive rapid product and service development with tangible value captured by farmers.

## Principles

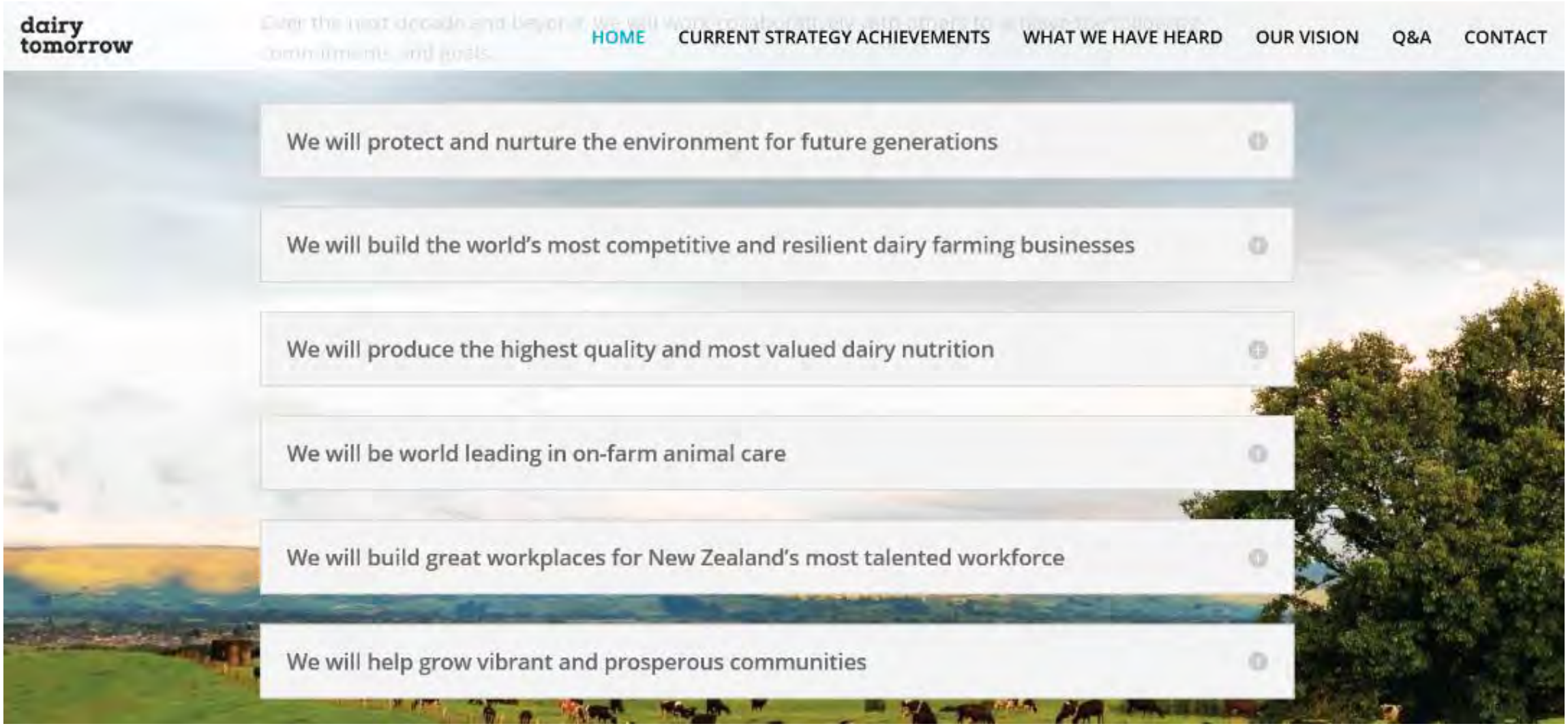
*How and why we do what we do*

By Farmers For Farmers | Partner for impact | Insights driven | Know our communities | Outcomes not outputs

## Values

*What we believe. The essence of B+LNZ*

Positivity and Confidence | Fronting up | Caring about quality and impact | Pushing boundaries | All voices count


dairy tomorrow
HOME
CURRENT STRATEGY ACHIEVEMENTS
WHAT WE HAVE HEARD
OUR VISION
Q&A
CONTACT
We will protect and nurture the environment for future generations
We will build the world's most competitive and resilient dairy farming businesses
We will produce the highest quality and most valued dairy nutrition
We will be world leading in on-farm animal care
We will build great workplaces for New Zealand's most talented workforce
We will help grow vibrant and prosperous communities

## 2 We are committed to successfully farming within environmental limits

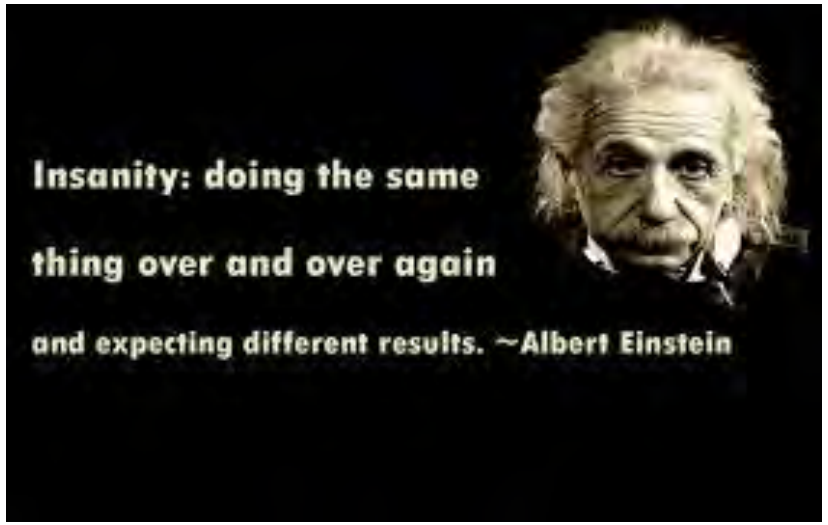
This Strategy commits the sector to working with farmers and other industry stakeholders to successfully farm within environmental limits. With respect to water, where

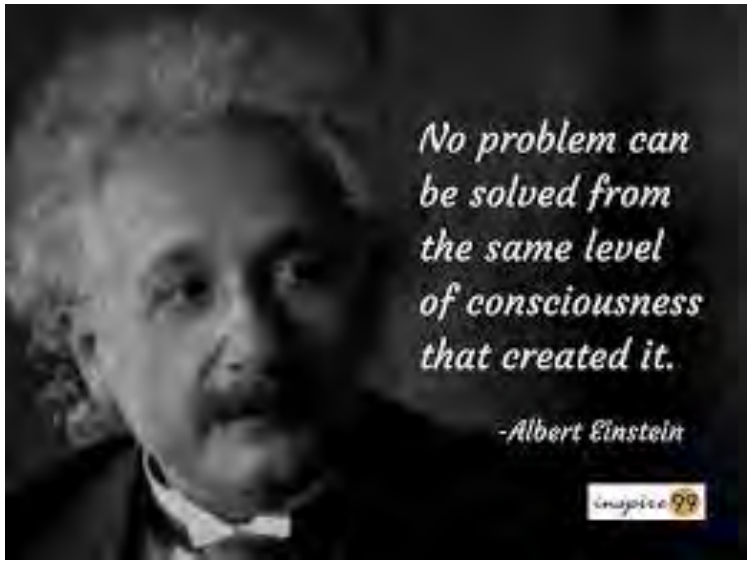
### We will protect and nurture the environment for future generations

- Lead efforts to improve the health of our rivers and streams and protect and enhance biodiversity, beginning in 2018 with collaboration with other rural and urban land users, central and local government and communities on strategies and actions toward achieving swimmable waterways.
- Lead efforts on agriculture's contribution to meeting New Zealand's climate change goals through identifying and implementing strategies to reduce or offset greenhouse gas emissions from dairy farming.
- With communities, government and other land users, develop a blueprint for a 50 year vision of sustainable land use in New Zealand by 2025.
- By 2025, achieve all farms implementing and reporting under certified farm sustainability plans.

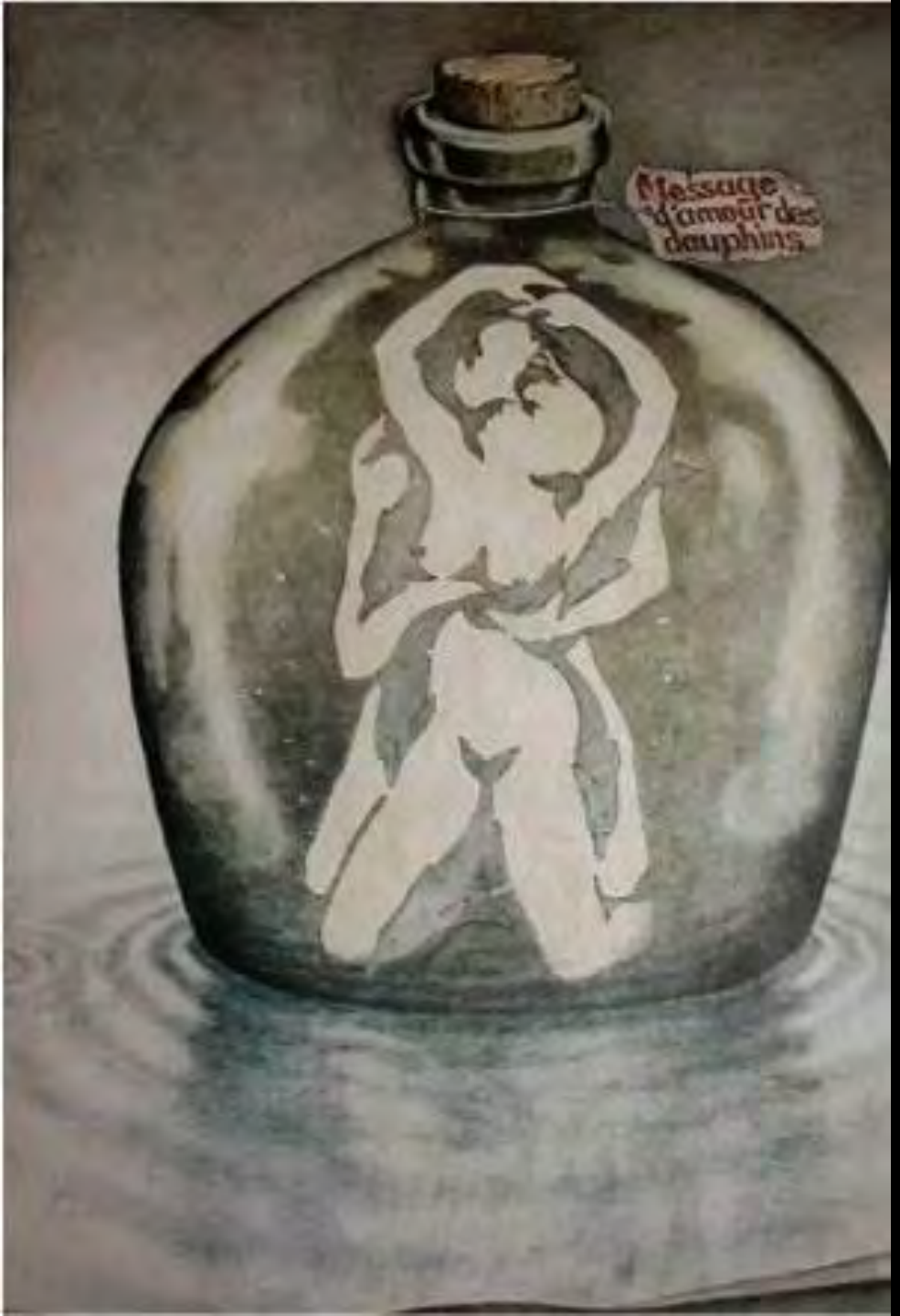
# Managing change

Practical things for you to try




# New thinking required

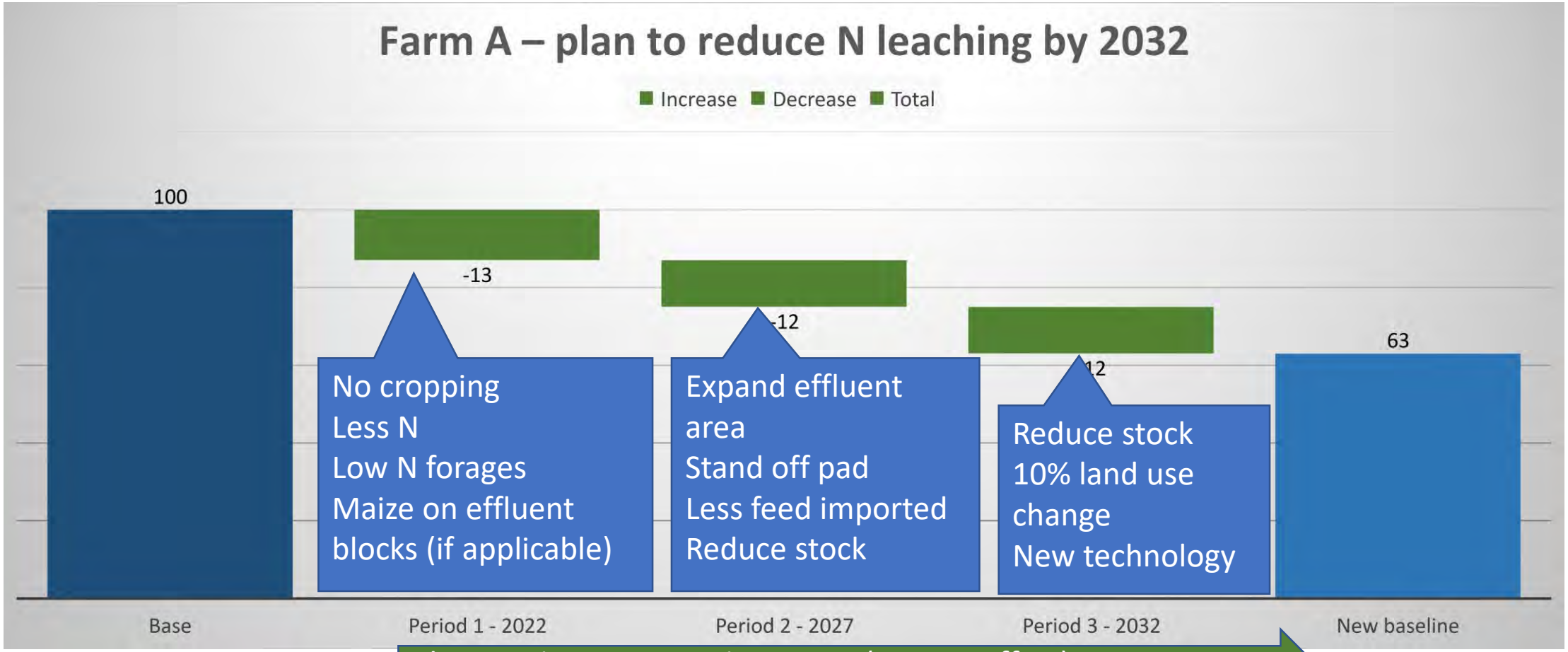



# 1. Get a different perspective

a. “if you keep talking to people who say you can’t then you likely won’t”
b. Look outside your sector – read, visit ….

# Break the challenge down –

Note: Plans will be farm & farm system specific




Plant 10% in trees – 1% per year (ETS = C offset)

Reduce debt – balance sheet options

Acknowledgement: L Matheson, PerrinAg

# 2b. Identify and rank your reduction options

| N reduction option | Size of gain | How easy/costly | Period |
|---|---|---|---|
| Nutrient budget OVERSEER | Medium | Easy (less & better use of fertiliser) | 1 |
| Maize on effluent areas | Small | Easy | 1 |
| Reduce stock – 0.1 cows/ha | Medium | Easy | 2 & 3 |
| Reduce stock - 0.2 cows/ha | Medium | Hard | 3 |
| Land for trees | Large | 5 ha easy; 10 ha harder | 1 & 2 |
| Breed cows for low N | Small, steady | Easy? | 1 |
| Establish a wetland | Medium | Medium | 2 |
| Plantain, N efficient grasses | Small-medium | Small-medium | 1, 2, 3 |
| N winter crop | Medium | Easy | 1 |
| Build a stand-off pad | Small | Medium | 2 |

# 4. Test options in a financial plan & monitor progress

1. Scenarios – 3, 10+year view
   a) Break-even (production, price)
   b) Most likely, low – high (sensitivity to change in key variables)
   c) Contingencies – ‘If ‘A’ happened what would you do?’

2. Balance sheet
   a) Capital asset plan – 10 year view
   b) Debt/asset – liquidity

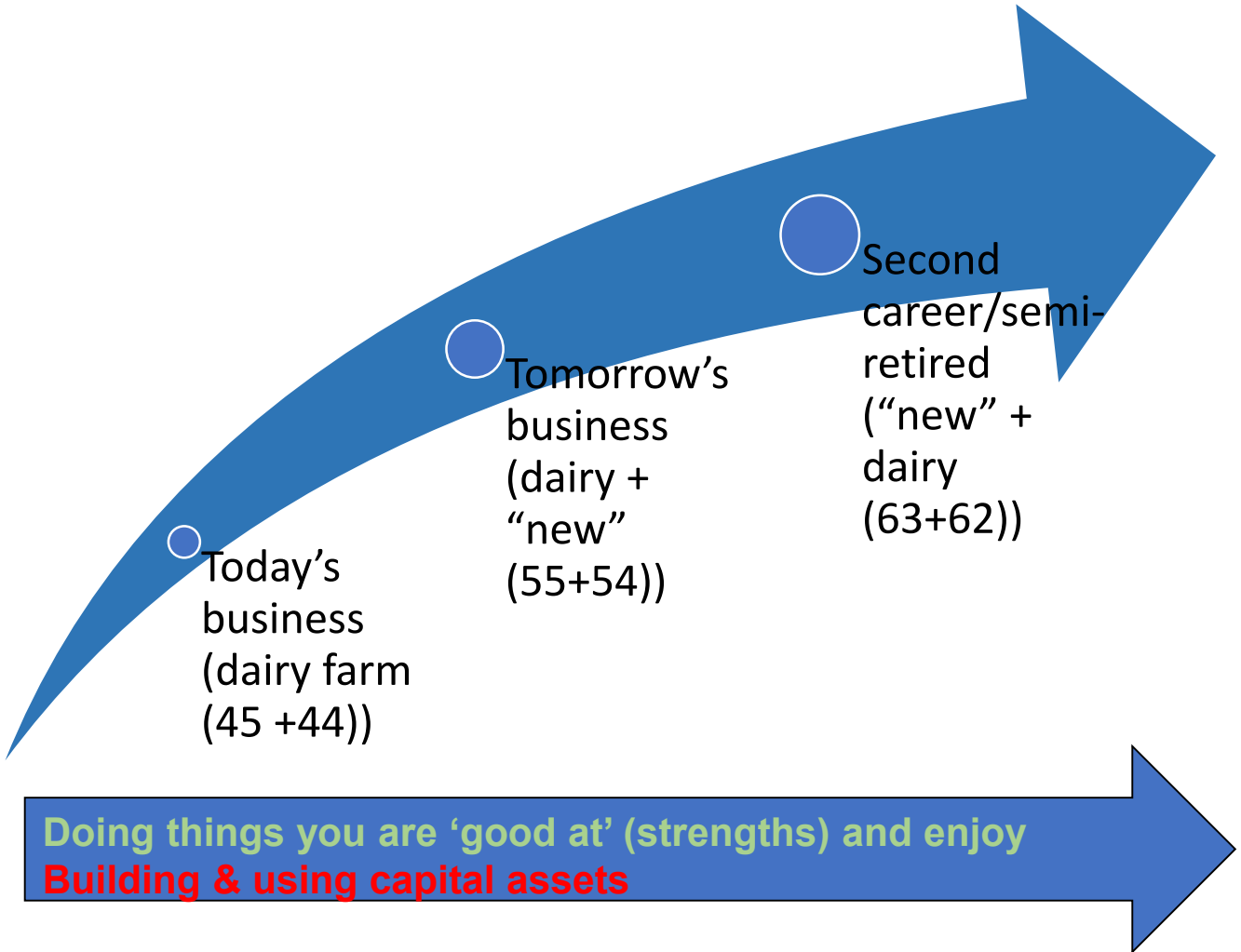
# Change to land owner balance sheet

| Asset | 2032 |
|---|---|
| Land & improvements | ↓ ? |
| Plant & Equipment | = |
| Livestock | High BW, low N |
| Chain shares (value add margin) | ++ |
| Environment & landscape | C, N, water, biodiversity |

**Banks now value/lend on ‘water rights’; pre-purchase compliance WoF**

# 4. Overlay transition with personal goals

Don’t rush to a solution; explore options then develop transition/migration from “current” to “new”

# Concluding remarks

- Current systems (not all) are not meeting new water quality limits
- Manage change –
  - Understand the job to be done (size of problem)
  - Break the challenge down
  - Get outside/fresh perspectives
  - Figure out where the easy, early gains are
  - Use time – in 2027 there will be new solutions for today's harder problems