

Waikato



REGIONAL COUNCIL

Te Kaunihera ā Rohe o Waikato

WAIKATO REGIONAL

COUNCIL

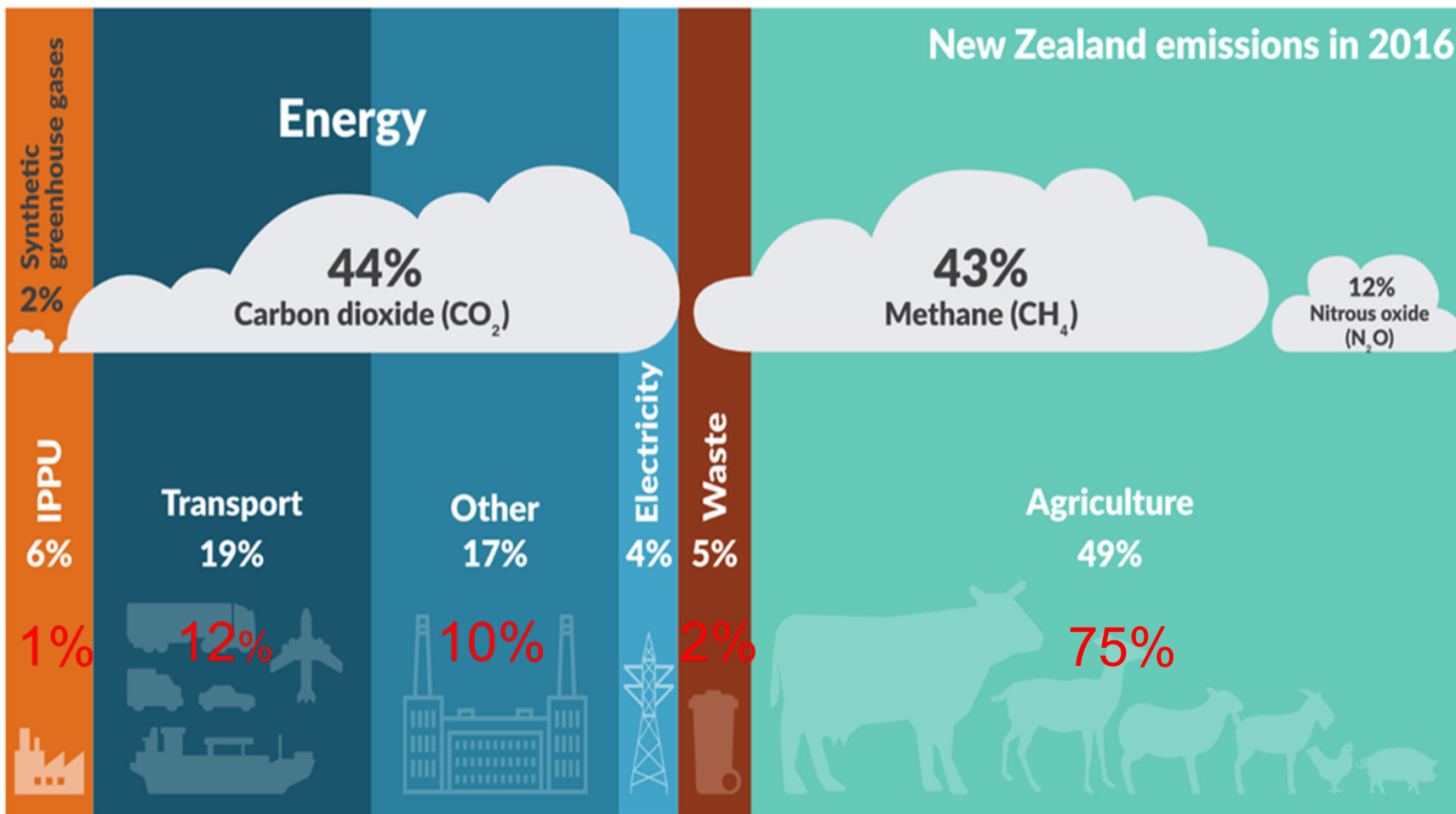
Lake Taupo Zone Committee

02 August 2019

Waikato region: - Climate
change in context



National and regional emissions



- Waikato regional emissions – 2015 / 2016 year by sector in **RED**

17.2%	GHG emissions
10%	Land area
9.6%	Population
8.4%	GDP



Climate change projections and impacts

- Varies with season and spatially over time (2014, IPCC, AR5 CMIP5 data)
- Less frosts in the north of the region
- More intensive rain events in the south and west of the region - higher flows to west coast harbours - lake Taupō and Waipa sub catchments
- Less wind average but higher winds speeds during storm events
- Similar average rainfall in the north-eastern part of the region - shift in delivery with late summer rainfall events and increased droughts

Government Directions

- Regional development
 - 1 Billion trees
- Shift in Transport priorities
 - Mode shift to rail, public transport, walking
- New zero emissions target for 2050
- Establishment of an Interim Climate Change Committee
 - National Climate Change Risk Assessment Framework
 - National Adaptation Plan
 - Roadmap of 5 yearly carbon budgets
 - ETS review

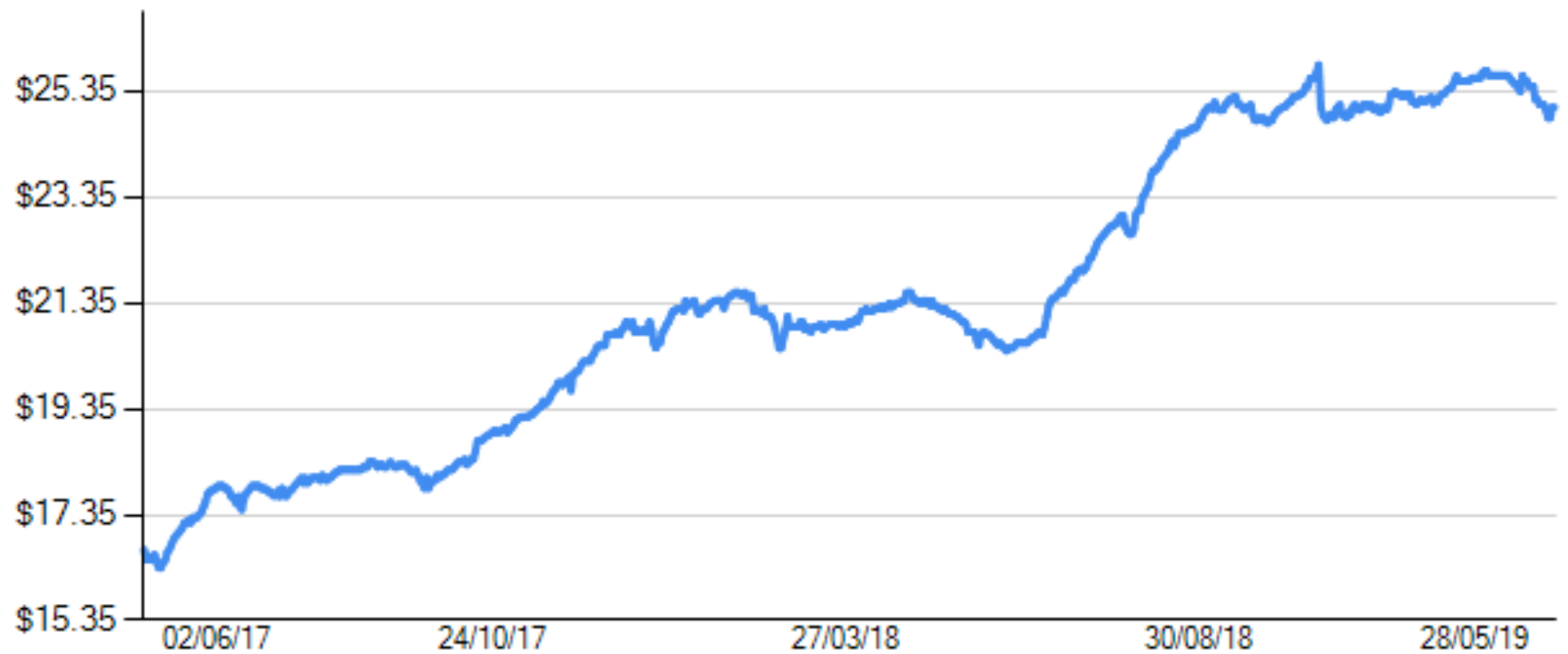




ETS - NZ Emission Unit price

PRICE HISTORY

SPOT NZUS



30 July 2019
23.50

Climate Change Responses: Mitigation or Adaptation or both?

“Climate **mitigation** is about carbon emissions, climate **adaptation** is about water”

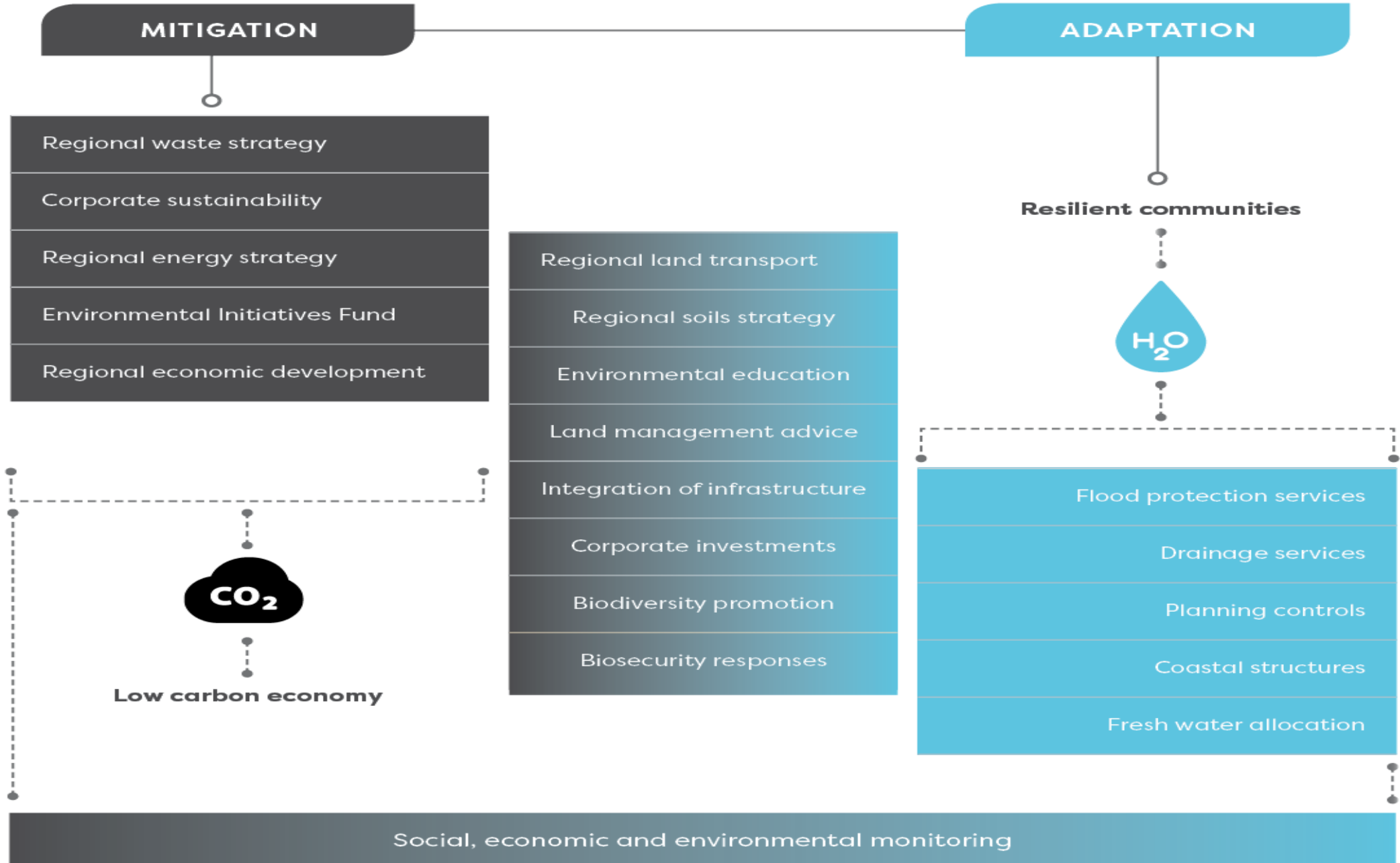
14 January 2016

The logo for the World Economic Forum, featuring the words "WORLD ECONOMIC FORUM" in a bold, sans-serif font. A blue arc is positioned behind the text, starting from the left of "WORLD" and ending at the right of "FORUM".

WORLD
ECONOMIC
FORUM

universalweather.com/blog

REGIONAL ACTIVITIES



Adaptation as a transition - starting now - Forever





Water

1. Too much water – floods – land use change
 2. Not enough water – water allocation increased storage
 3. Sea level rise / Coastal & groundwater
- } Manage for extremes

Tairua River 2002



Morrinsville, March 2013



Scotsman's Valley, Waikato March 2013



Thames Coast 05 January 2018



Tsunami – Maximum Credible Event

✓ Inundation

i Overview

Legend

Pre-defined water levels

+ Additional information

Whitianga:
Highest storm
tide (Current) +
locked – in 0.4m
SLR





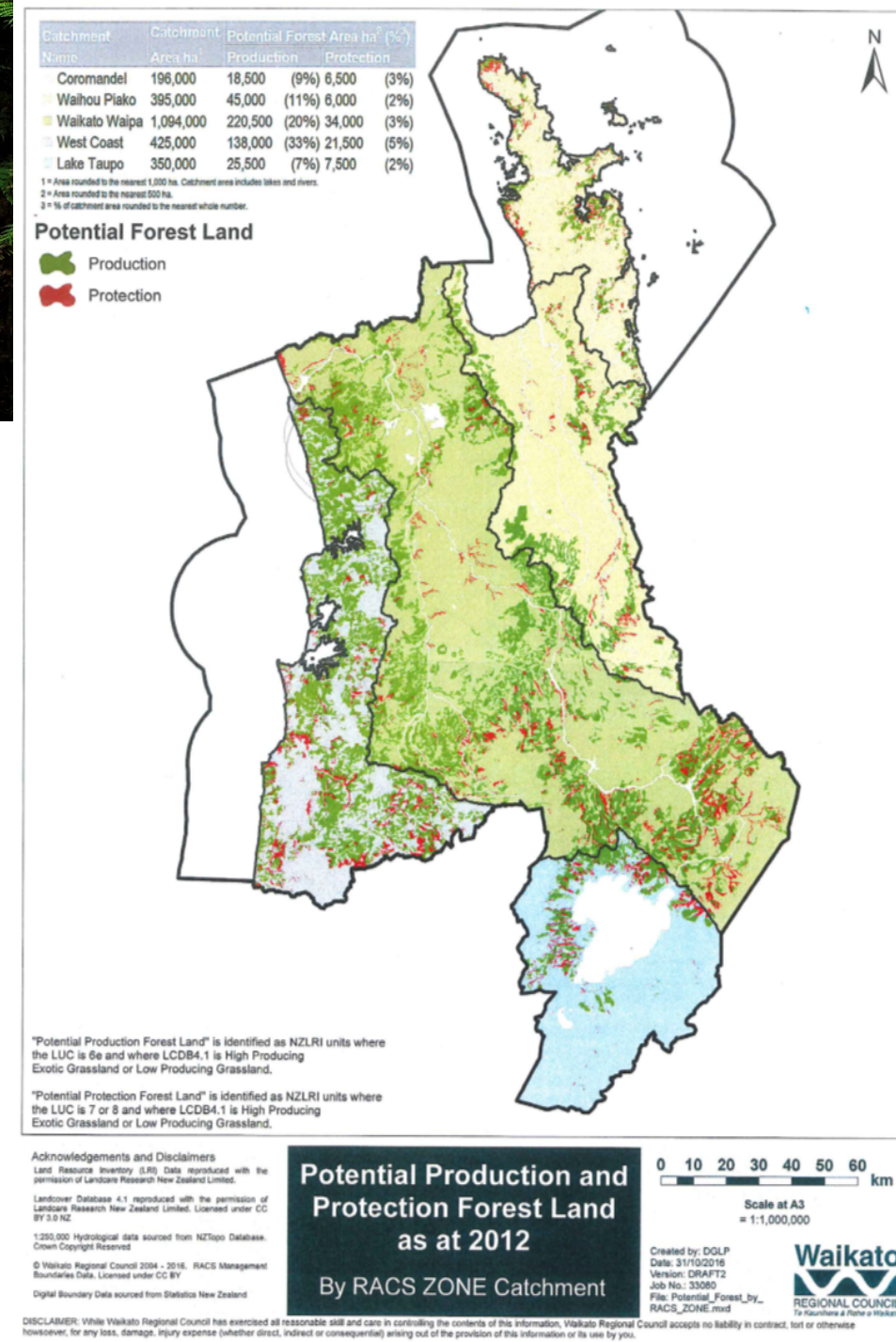
Carbon sequestration: Right tree, Right place, Right purpose

- Focus on carbon sequestration may favour and direct afforestation towards *P. radiata*
- Would not be suitable in all applications
- Some land would suit other species or native protection planting
- Regeneration of natives may be an even better option
- Enhanced property scale riparian plantings would deliver co-benefits:
 - Enhanced water quality
 - Biodiversity
 - Reduced bank erosion
 - Aquatic habitat protection,
 - Flood attenuation and
 - Carbon sequestration

Opportunities

- Waikato region has 523,000 ha marginal land* in pasture (2012)
- Current use is mostly dry stock and dairy support
- Could be used for mix of production (447,00ha) forestry and protection (76,000ha) plantings
- 65,000ha only of 'commercial' land
- Co-benefits for water quality and estuarine habitat

* LUC Classes VIe, VII & VIII



Tolaga Bay 05 June 2018



Tolaga Bay 05 June 2018

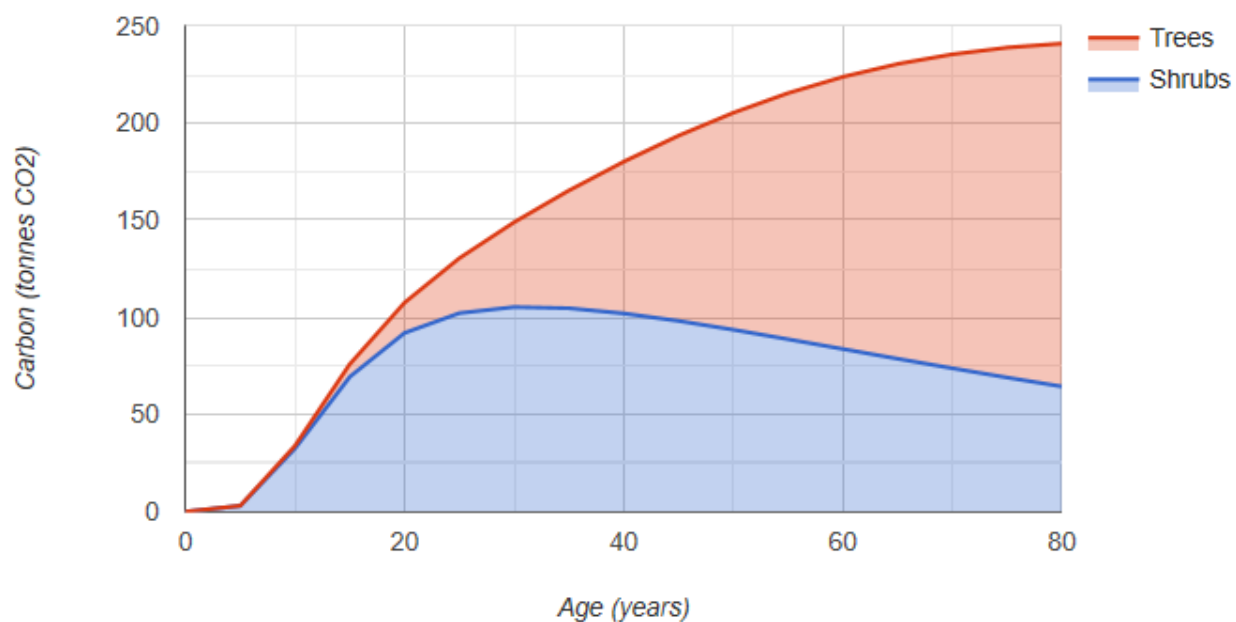


Hunua Ranges January 2017

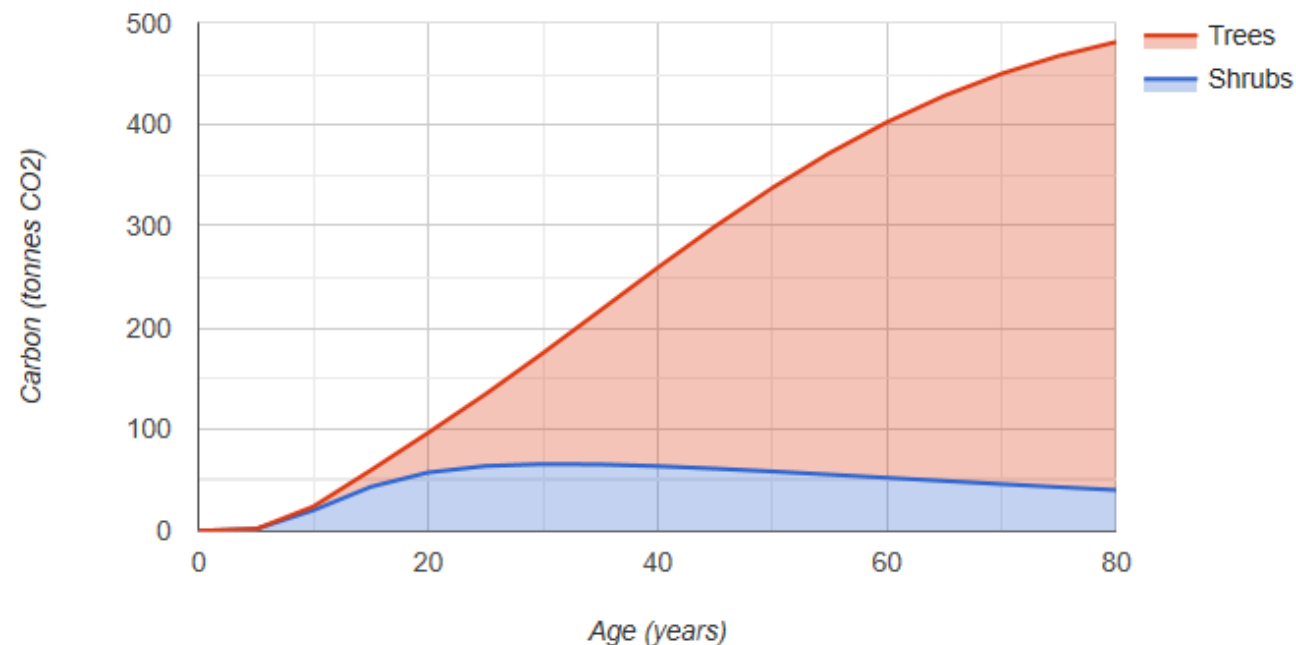


Waikato region -carbon sequestration opportunities using natives

80% shrubs, 20% trees, 75% survival
1ha, 1000 stems: 205.4 tonnes CO₂
after 50 years



50% shrubs, 50% trees, 75% survival
1ha, 1000 stems: 337.8 tonnes
after 50 years



Way Forward

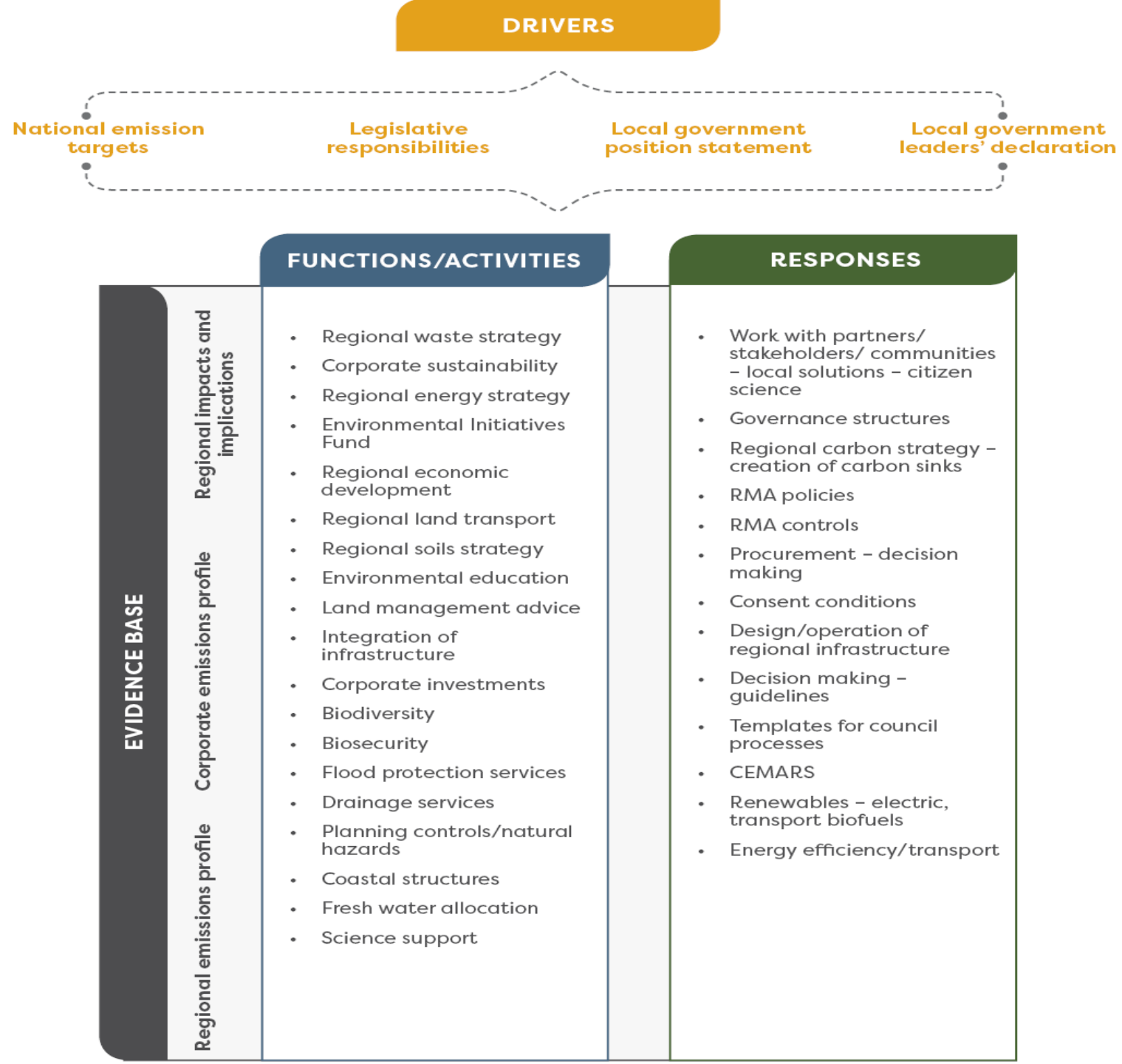


- Can't do it alone - Work with Iwi partners, stakeholders, businesses and communities
 - Understand local climate projections and impacts
 - Understand local greenhouse gas emissions
 - Measure corporate emissions
 - Understand exposure of current activities to climate impacts
 - Understand local issues - seek local solutions
 - Factor climate projections into all long term decision-making
 - Reduce exposure to carbon e.g. through procurements / contracts
 - Embed low carbon and climate awareness into corporate culture - policies, recruitment, systems, templates, training, rewards.
 - Review and amend external policies, rules and design / operation of infrastructure
- } Establish the science base



Influences and Responses

Bringing it all together in the WRC context





Thank you
Ngā mihi

HE TAIAO MAURIORA

HEALTHY ENVIRONMENT

HE ŌHANGA PAKARI

STRONG ECONOMY

HE HAPORI HIHIRI

VIBRANT COMMUNITIES