



Maori economy emissions profile

Understanding and enabling the Māori economy to
transition to a low emissions future



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What is the Māori economy emissions profile?

How was the profile created?

- The profile was created by BERL by taking their Māori economy analysis (2018) and overlaying Statistics NZ data on New Zealand greenhouse gas emissions.
- The profile looks at Māori economy emissions in comparison with the NZ economy by sector, greenhouse gas type, and region.
- The profile also looks at how different parts of the Māori economy (collectives, employers, employees) are located across sectors with different emissions intensity.

Why was the profile created?

- NZ has committed to reducing its greenhouse gas emissions and transitioning to a low emissions future.
- In 2021 the Government will set its first emissions budgets and the plan to deliver those budgets.
- The Government wants to understand the particular challenges and opportunities the Māori economy will face so it can better support the Māori transition.

The Māori economy is located in relatively emissions intensive sectors

Key finding

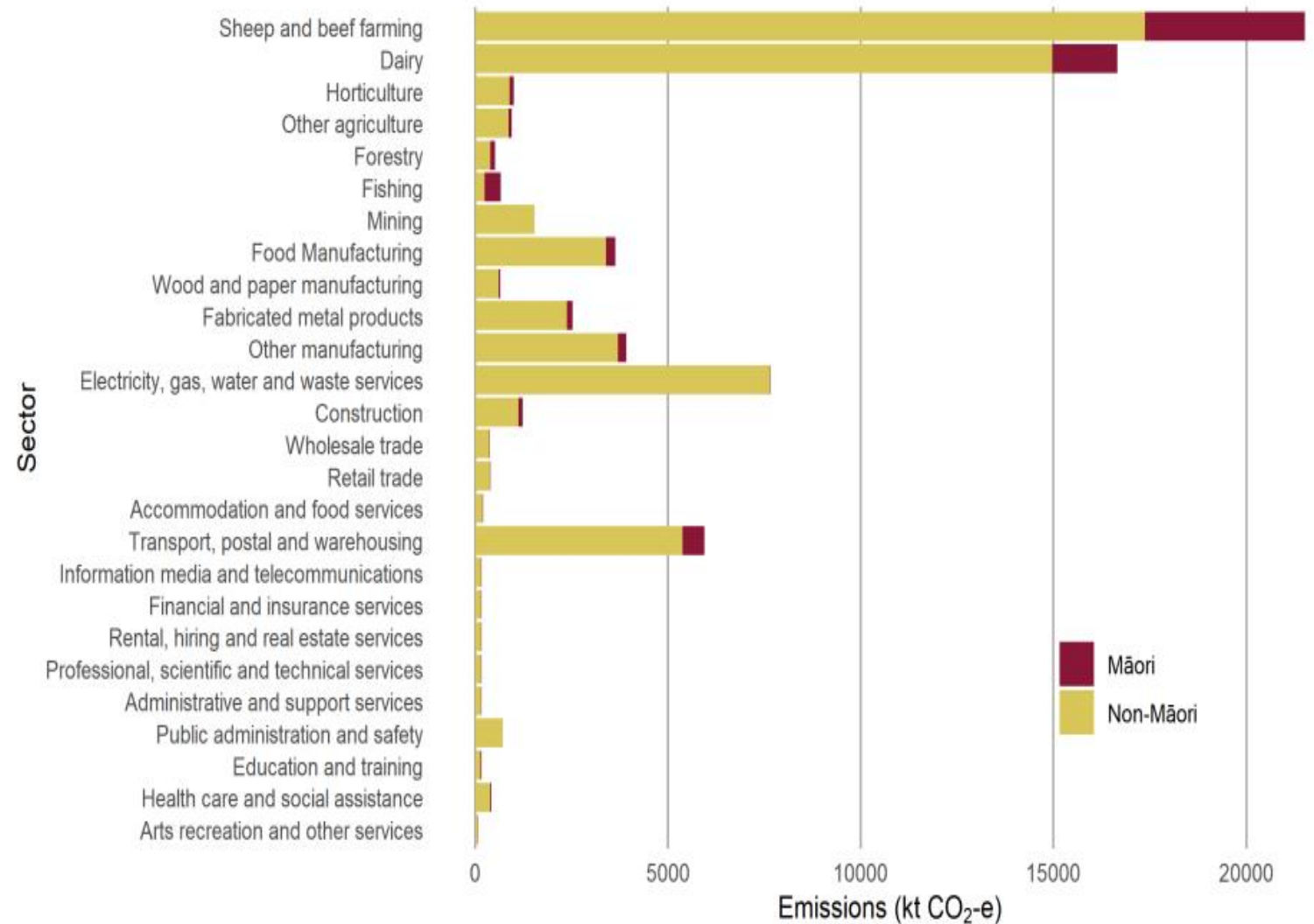
- The Māori economy represents 6.4% of NZ gross domestic product but generates 11.2% of NZ emissions.
- The relatively high emissions intensity of the Māori economy is driven by the predominant presence of Māori collectives in sheep and beef farming.



NZ and Māori emissions profile by industry

Pastoral farming dominates NZ greenhouse gas emissions and Māori emissions even more so.

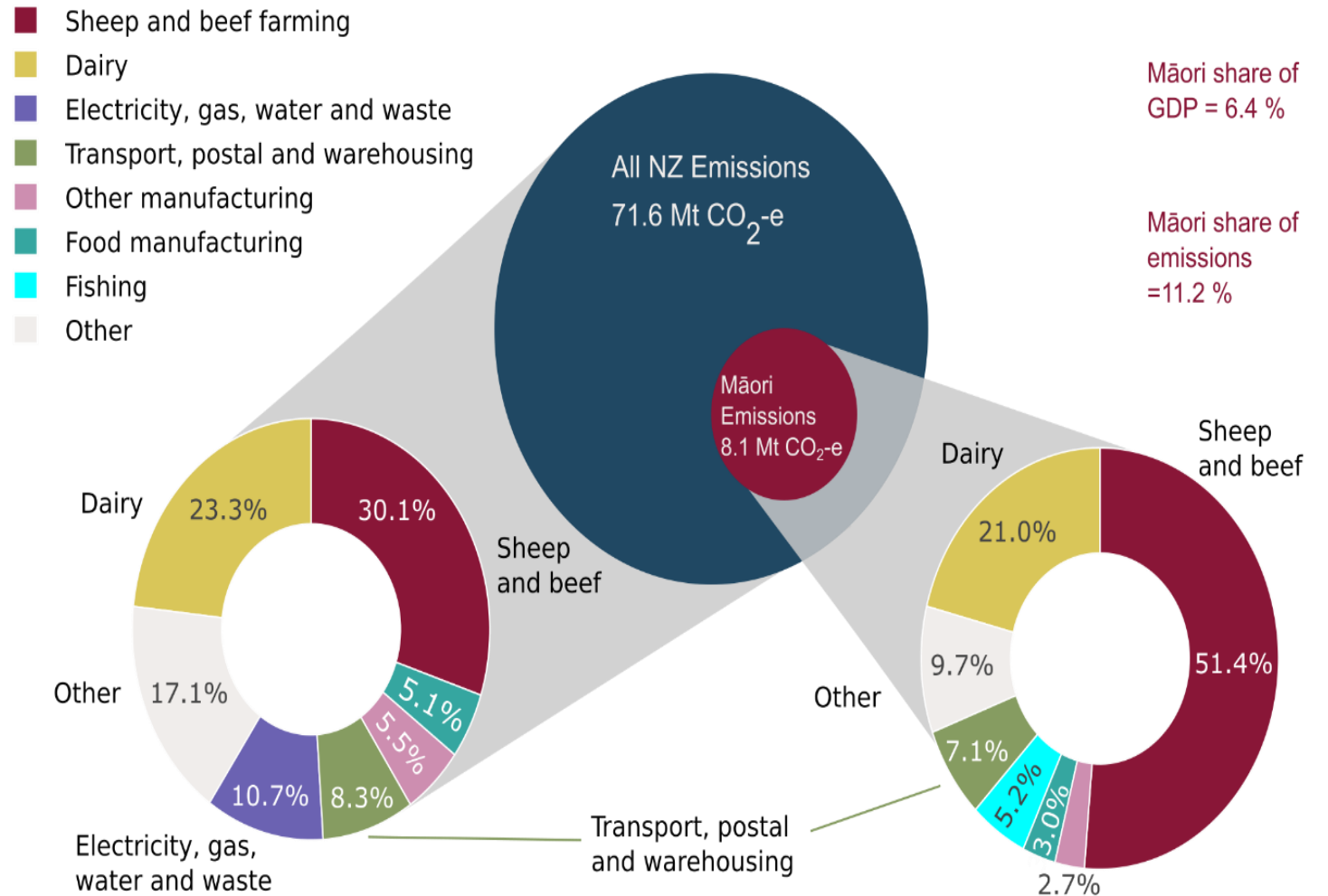
Figure 3 New Zealand and Māori economy gross emissions by industry



Source: Statistics New Zealand, BERL, and LUC Assessments analysis

NZ and Māori emissions profile by industry

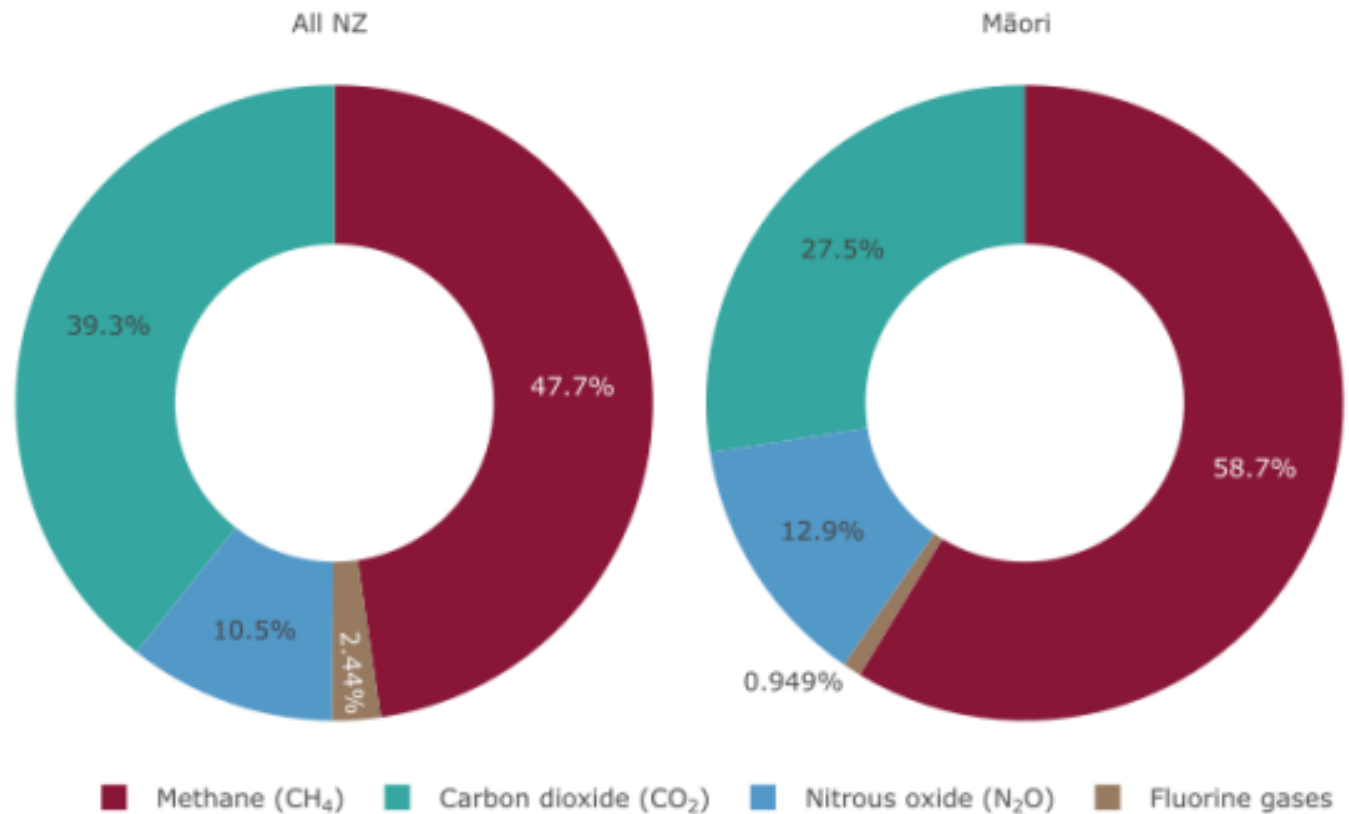
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NZ and Māori emissions broken down by gas

Māori have a disproportionately high percentage of methane and nitrous oxide emissions because of their significant involvement in the pastoral farming.

Figure 4 New Zealand and Māori economy emissions broken down by gas



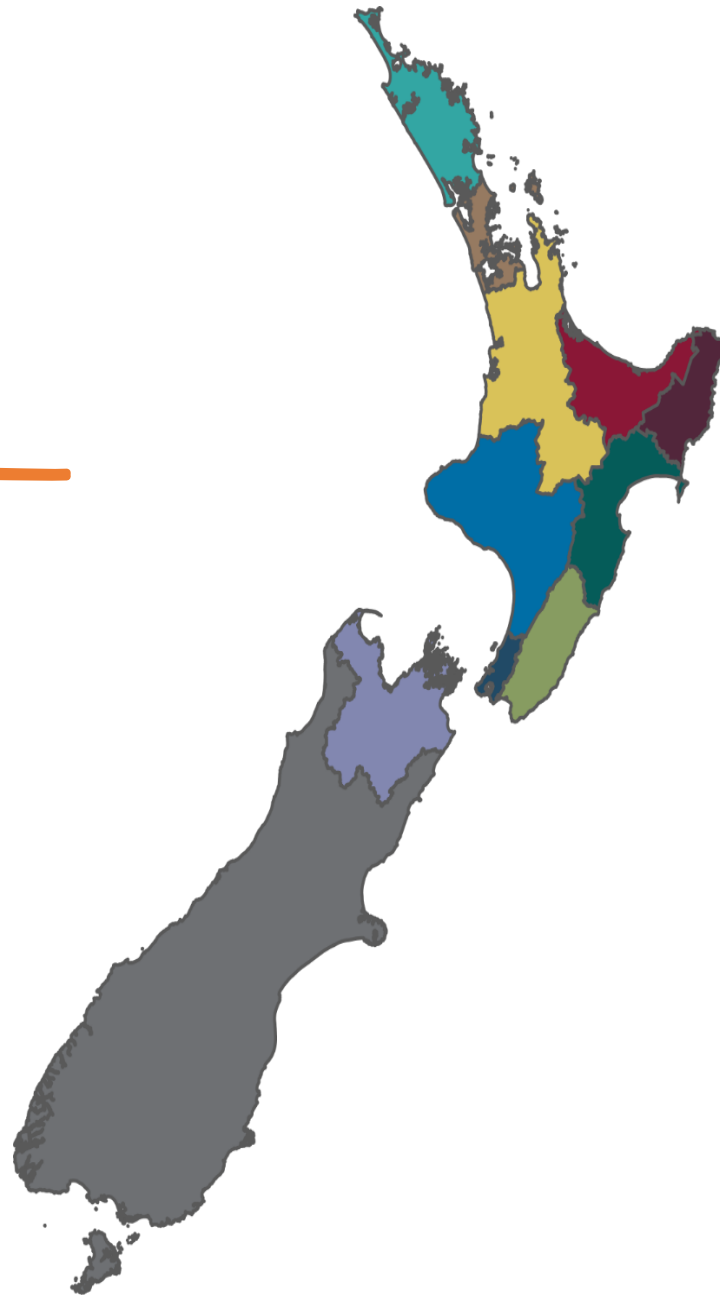
Source: Statistics New Zealand, BERL, and LUC Assessments analysis



Emissions by region and sector

Rohe boundaries, emissions and population

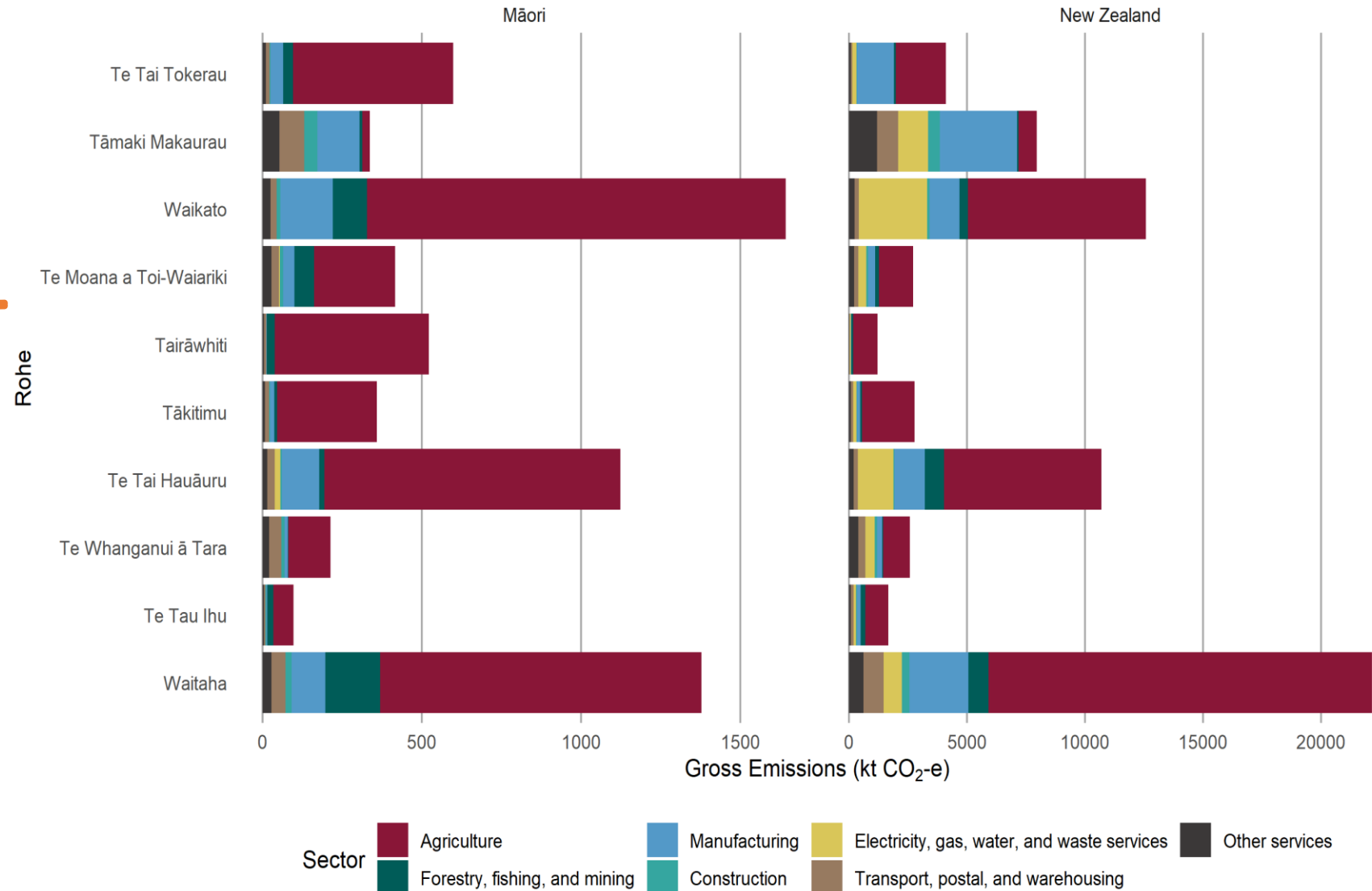
- Rohe vary considerably in geographical and population size (and this affects rohe emissions)
- Statistical rohe boundaries are *not* iwi rohe boundaries



Rohe	Emissions (kt CO2-e)	Māori share of rohe emissions (%)	Māori population count and proportion (%)
Te Tai Tokerau	597	14.6%	64,461 (36.0%)
Tāmaki Makaurau	337	4.2%	181,194 (11.5%)
Waikato	1,642	13.1%	108,609 (23.9%)
Te Moana a Toi-Waiariki	415	15.3%	90,666 (29.1%)
Tairāwhiti	522	42.8%	25,572 (53.1%)
Tākitimu	359	12.9%	44,913 (27.0%)
Kurahaupō	-	-	12,588 (19.9%)
Te Tai Hauāuru	1,123	10.5%	73,434 (21.7%)
Te Whanganui ā Tara	212	8.2%	64,083 (13.9%)
Te Tau Ihu	96.2	5.8%	16,311 (10.8%)
Waitaha	1,377	6.2%	93,987 (9.9%)

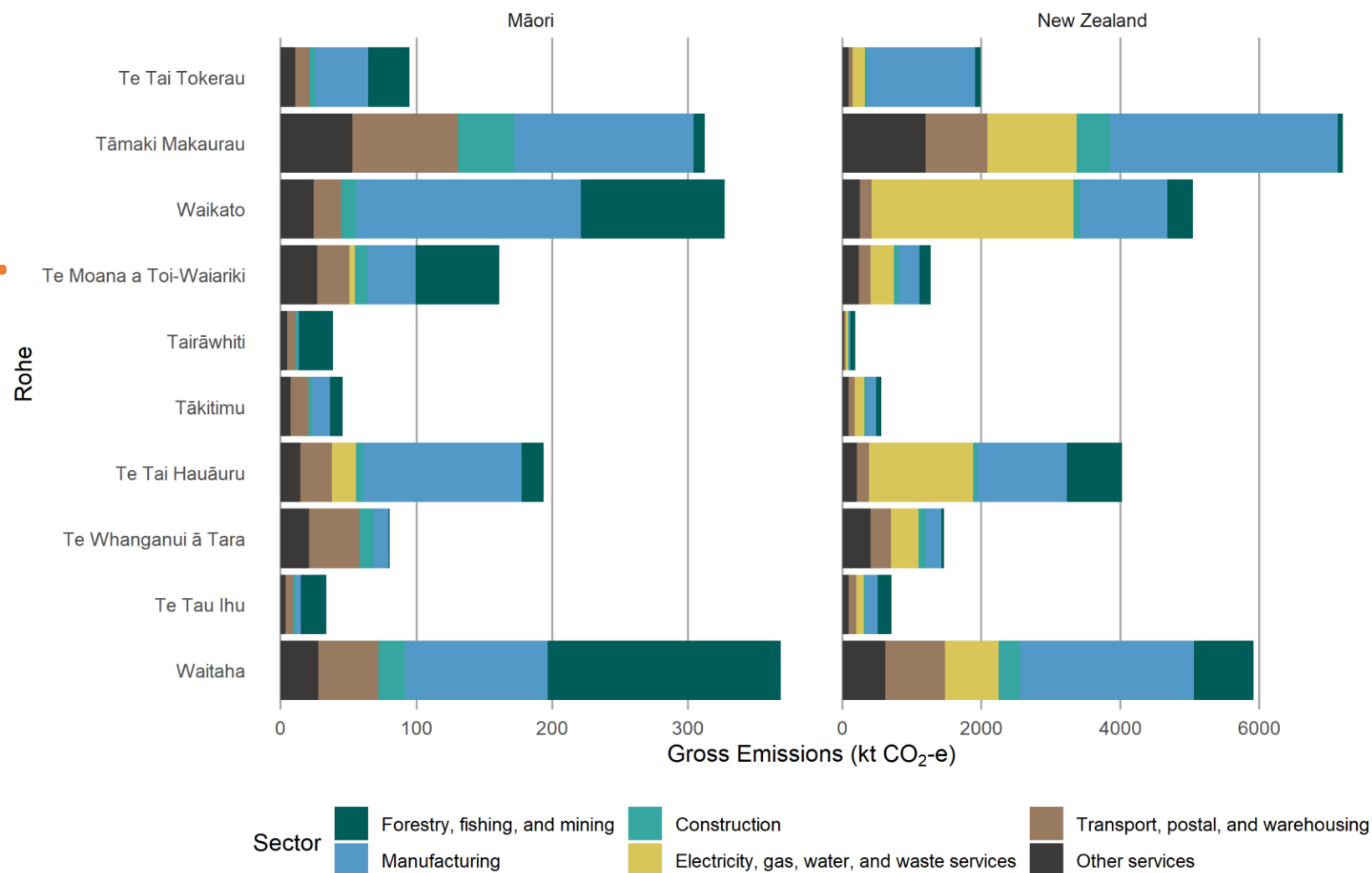
Emissions by region and sector, Māori and NZ

- Agricultural emissions dominate sectoral emissions in all regions except Tāmaki.
- In some regions the dominance of agriculture is more pronounced e.g. Tairāwhiti, Takitimu.



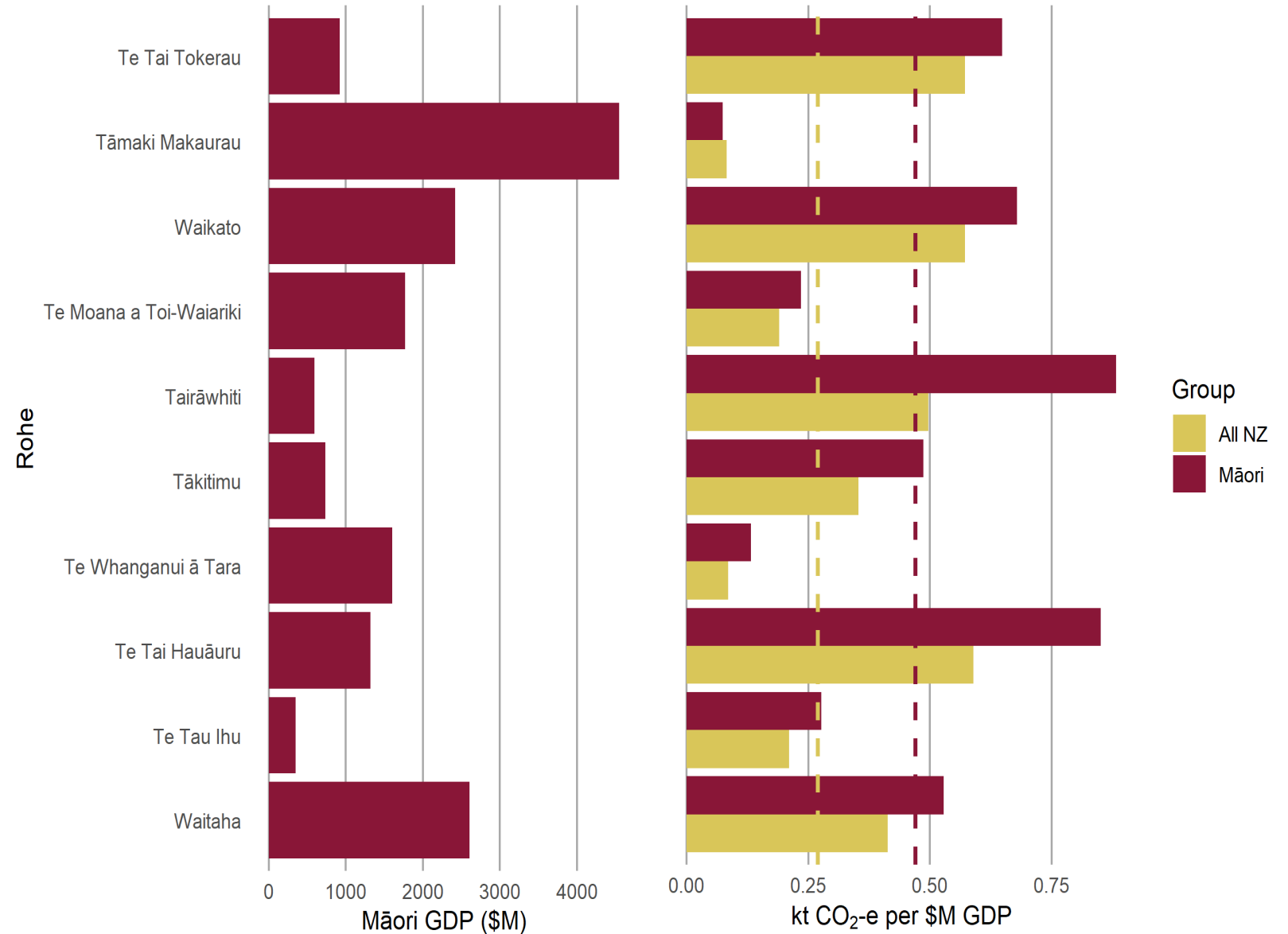
Emissions by region and sector, excluding agriculture

- Excluding agriculture, shows the Māori regional emissions profile by sector is similar to that for the NZ overall but with:
 - an increased emphasis on forestry and fishing, and
 - the absence of utilities (power, water, waste).



Maori GDP and emissions intensity by rohe

- Māori economy emissions intensity varies between rohe reflecting the relative importance of pastoral agriculture.
- The average Māori economy emissions intensity is higher than all NZ.

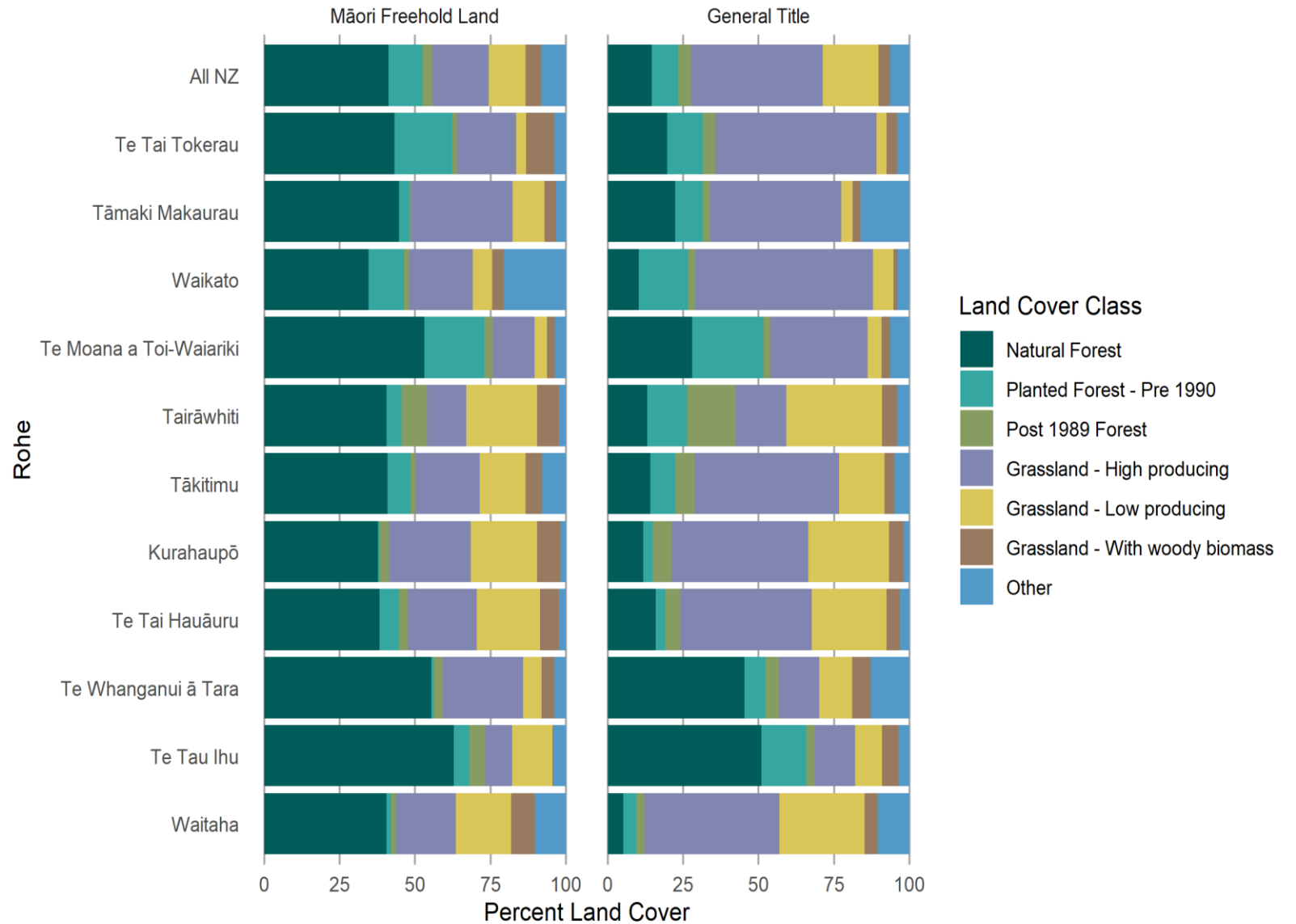


Māori freehold land cover and forestry potential

- Forestry is important in the Māori economy and in offsetting NZ emissions.
- Previous analysis does not show the impact of forestry removals on the emissions from the Māori economy because the Statistics NZ data records gross, not net, GHG emissions.
- A parallel analysis of Māori freehold land cover provides an indication of both challenges and opportunity for forestry in the transition to a low-emissions economy.

Land cover on Māori freehold & general title by rohe

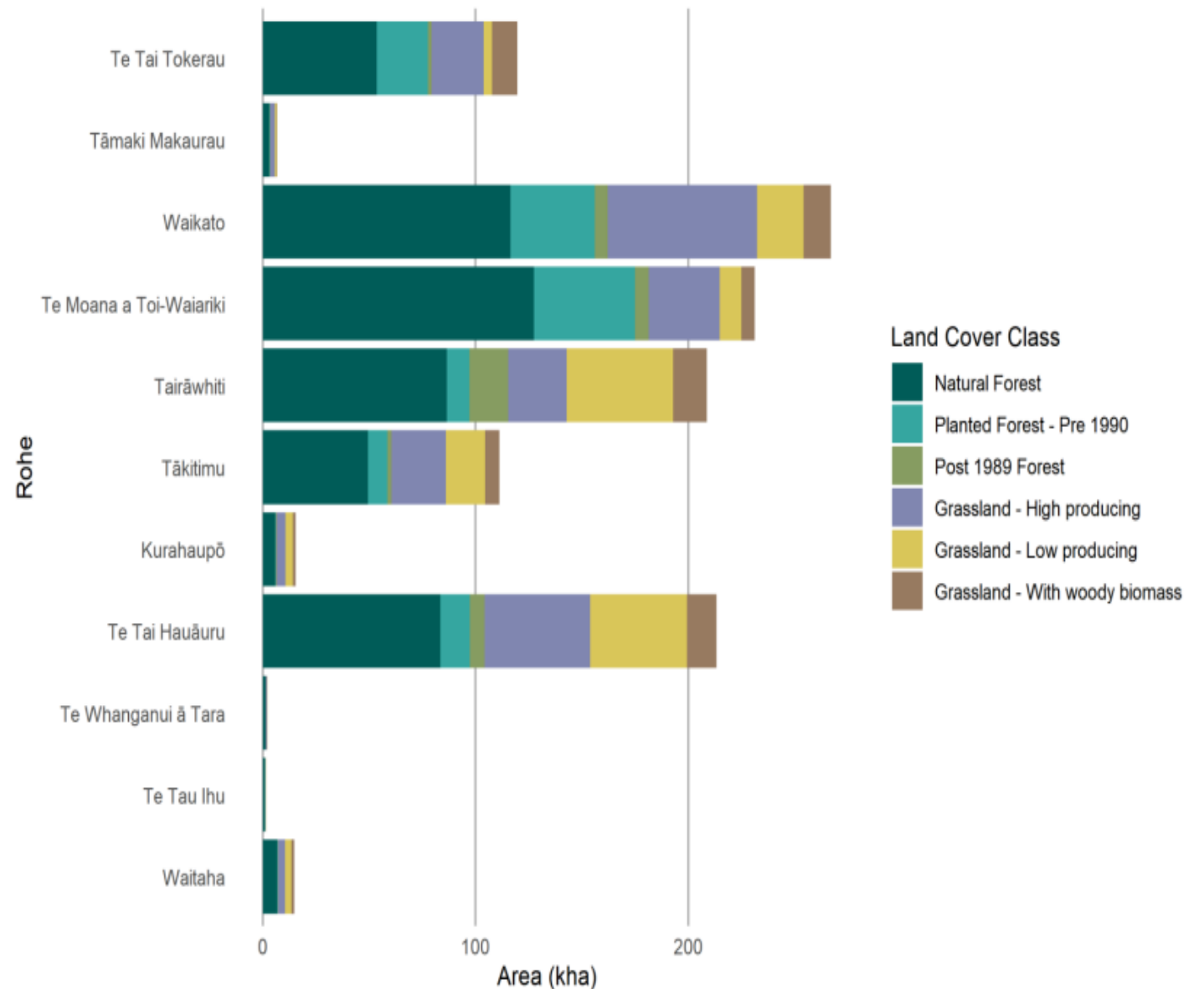
- Forestry on Māori freehold land is disproportionately P90.
- P90 forest is not eligible for carbon credits, and for planted forests, is subject to liability if deforested.



Areas of forest and grassland on Māori freehold land

Māori freehold land has considerable low producing grassland potentially suitable for afforestation. The potential for grassland with woody biomass to have additional sequestration recognised is of interest to Māori land-owners.

Figure 12 Areas of forest and grassland on Māori freehold land



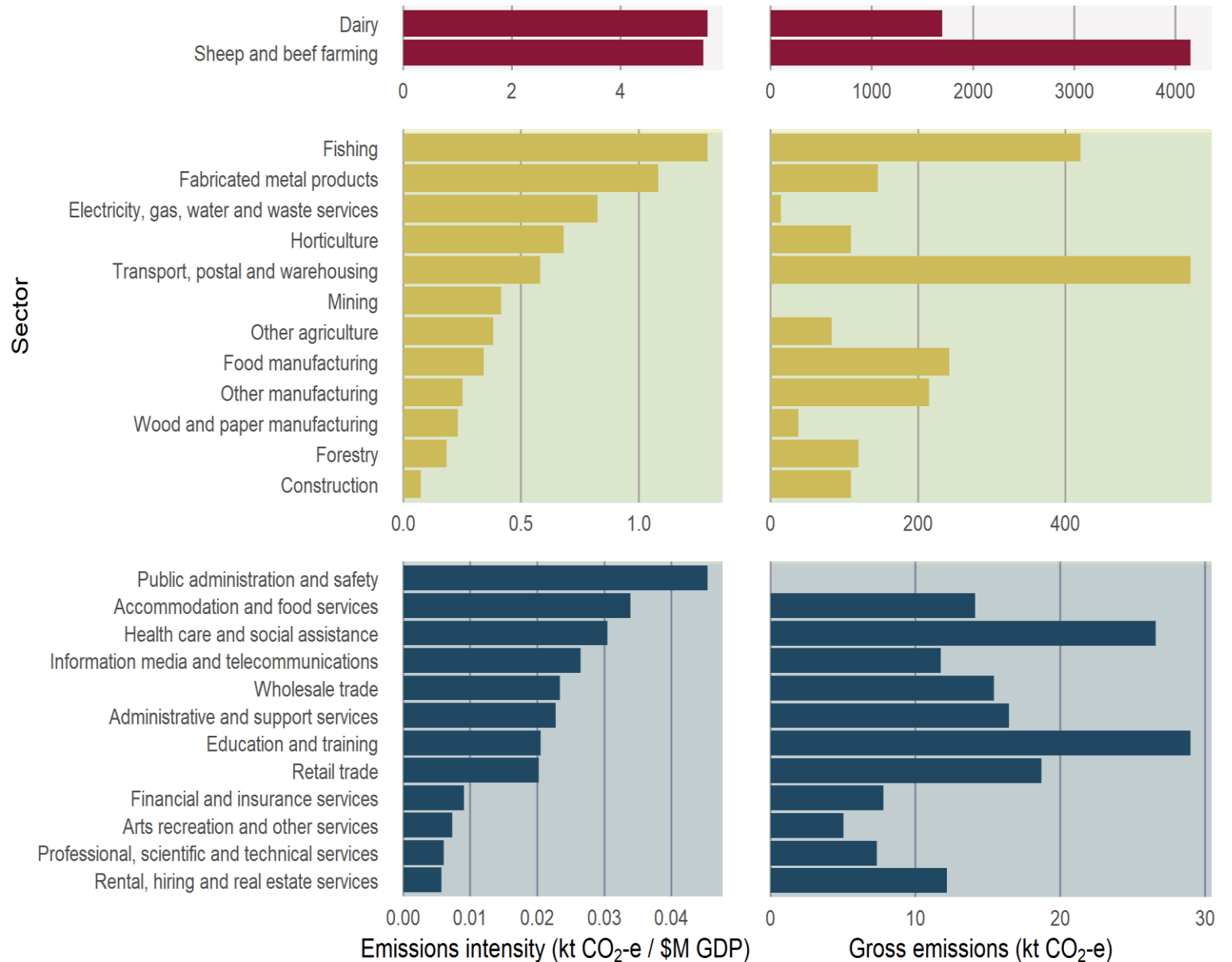
Source: LUCAS LUM, BERL, and LUC Assessments analysis



Maori ownership types
and workforce
distribution across
sectors of different
emissions intensity

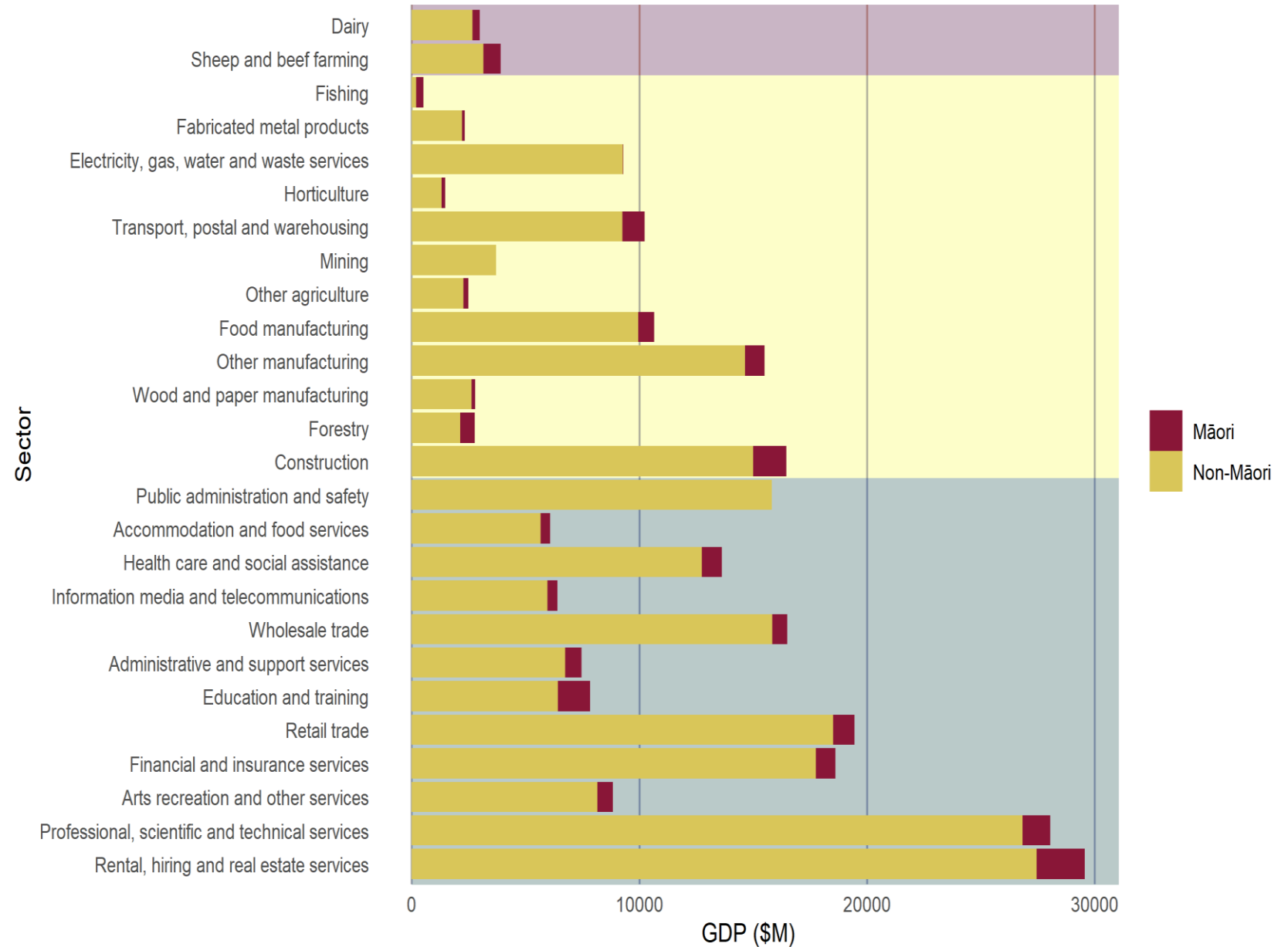
Māori economy emissions intensity by GDP and gross emissions, by sector

- Sectors can be grouped by their emissions intensity (volume/GDP).
- The right-hand graphs shows absolute emissions for each sector for the Māori economy.
- The left set of graphs group sectors into three emissions intensity bands: high intensity in red, medium intensity in yellow, and low intensity in blue.



Māori and NZ GDP by sector and emissions intensity

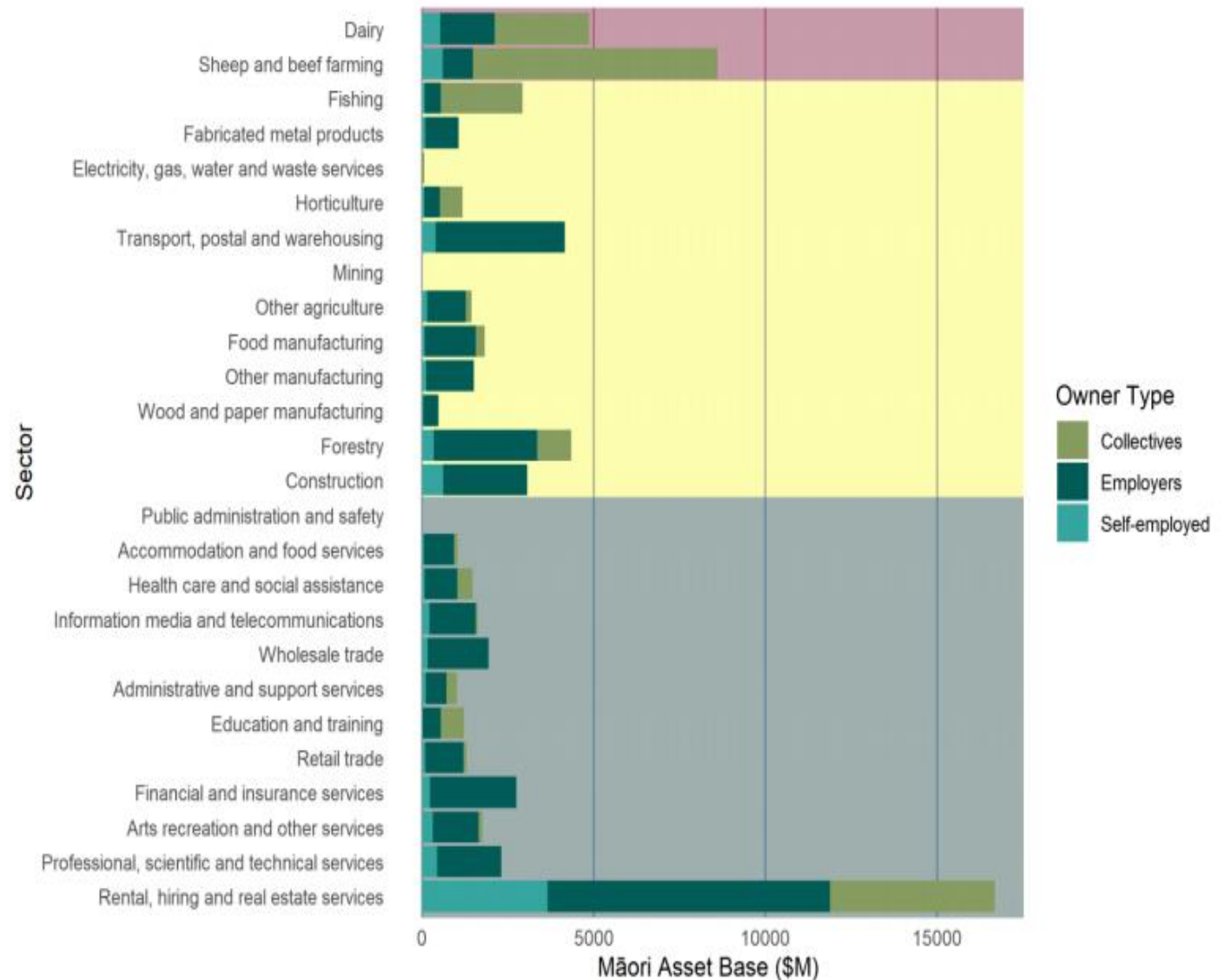
- Māori are represented across sectors with medium and low emissions intensity, in addition to their presence in high emissions intensity pastoral farming.



Māori economy by sector, owner type (collectives, employers and self-employed) and emissions intensity band

- Māori collectives dominate the pastoral farming sectors, which are the main drivers of the high emissions intensity of the Māori economy.
- Collective, employers/SMEs and self-employed are all operating in low emissions sectors such as rental & real estate.
- Employers and self-employed dominate in medium and low intensity sectors profile, and are likely to need different tools to transition.

Figure 15 Māori economy asset base, broken down by sector and employment status⁶

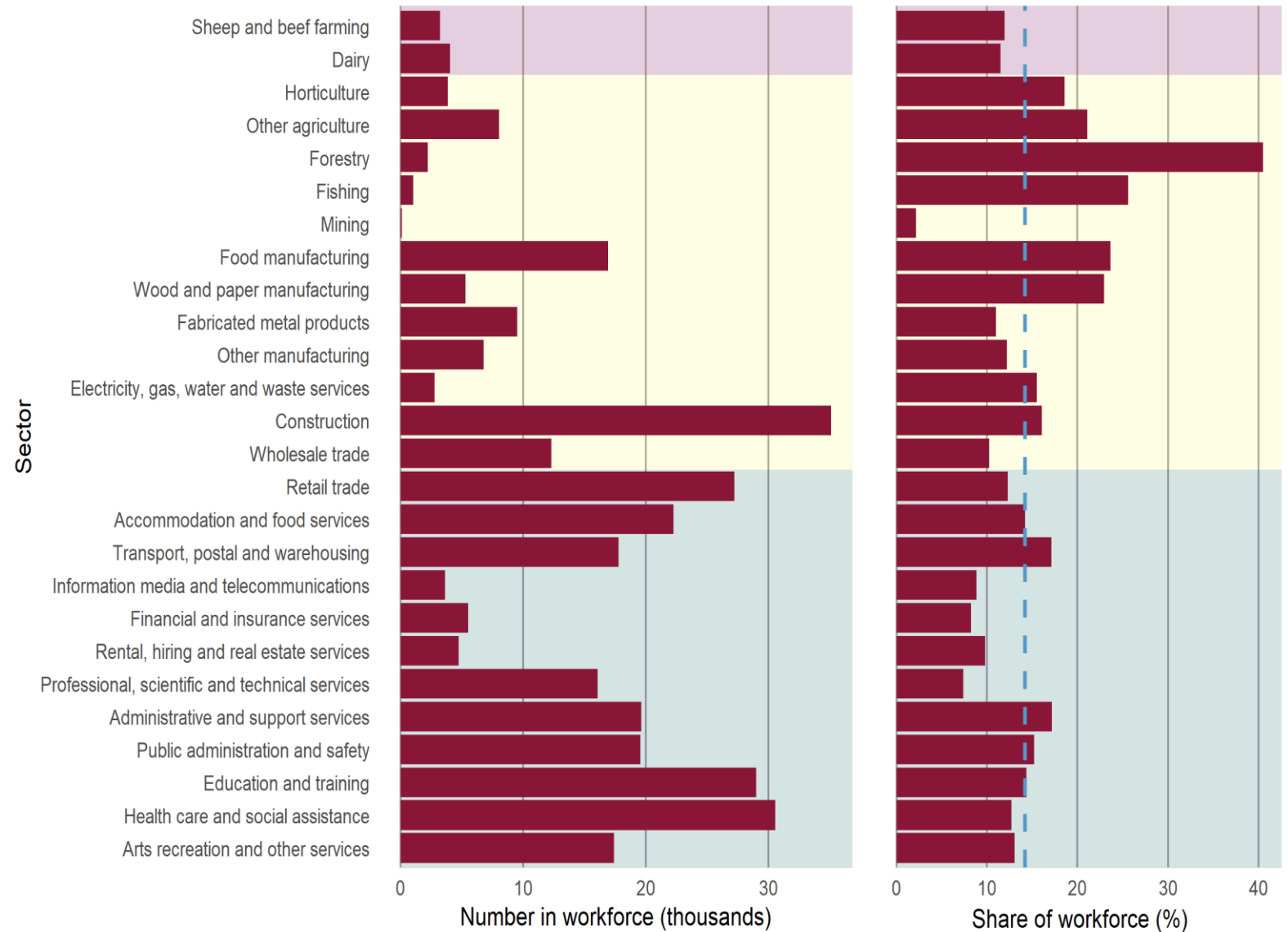


Source: Statistics New Zealand, BERL, and LUC Assessments analysis

⁶ Coloured shading indicates ranking of sector by emissions intensity (red = high, yellow = moderate, blue = low).

Māori workforce and workforce share, by sector and emissions intensity

- Māori are under-represented in the workforce of high-emissions sectors, aggregated at a national level (although this differs from other studies).
- Māori are over-represented in a majority of medium emissions sectors.
- Māori are under-represented in a majority of low emissions sectors.



Conclusions

- Understanding the Māori economy emissions profile helps the government understand where it needs to pay particular attention to support the Māori transition.
- This analysis confirms that for Māori collectives a continued focus will be on land: mitigating emissions from pastoral farming, expanding existing low emissions activities such as forestry and horticulture, and moving into new opportunities – in the bio-economy, or novel foods.
- The Māori economy is more than Māori collectives, and ensuring that Māori SMEs and Māori workers are equipped for the transition will also be important. These groups are less concentrated in high-emissions sectors, but may still need focused policies to support adjust.



He patai?