

Ministry for Primary Industries
Manatū Ahu Matua



New Zealand farmers producing more with less

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Innovation

Efficiency


Policy disruption



**Climate change
resilience**

TE MANA – or Wagyu LAMB

Disruption... 1984;

A photograph of a flock of sheep grazing in a field of green plants. The sheep are white and woolly, and the field is filled with lush green vegetation. The background is dark and out of focus.

Removal of family benefit for sheep
30 different production subsidies and export incentives
were cut - **OVERNIGHT.....**
It was not easy... BUT....
Farmers responded to market signals,
Efficiency and yield increased

Since the 1990s, the sheep and beef sector has made major productivity and eco-efficiency gains and is producing more from less.

Sheep numbers have dropped from 57.9 million to 27.6 million (-52%); resulting in significant reductions in GHG emissions; but lamb export volumes have only declined 8%.



Absolute greenhouse gas emissions from sheep and beef farms

↓ **30%**

Exceeding NZ's international commitment of 11% below 1990 levels by 2030.

Compared to 1990:

Land under sheep and beef farming

↓ **28%**

Beef cattle numbers

↓ **23%**

GHG emissions per kilogram of saleable product

↓ **40%**

Nitrate leaching per kilogram of saleable product

↓ **21%**

Sector contribution to GDP has doubled

↑ **\$5 billion**

But sheep and beef farmers recognise that there is still work to be done, especially around erosion, sediment loss and climate change.

The agricultural sector is larger

Gross domestic product (GDP) rose from 14.2% in 1986-87 to 16.6% in 1999-2000

Agriculture accounts for 11.4% of the total workforce.

Employment on farms has fallen BUT...

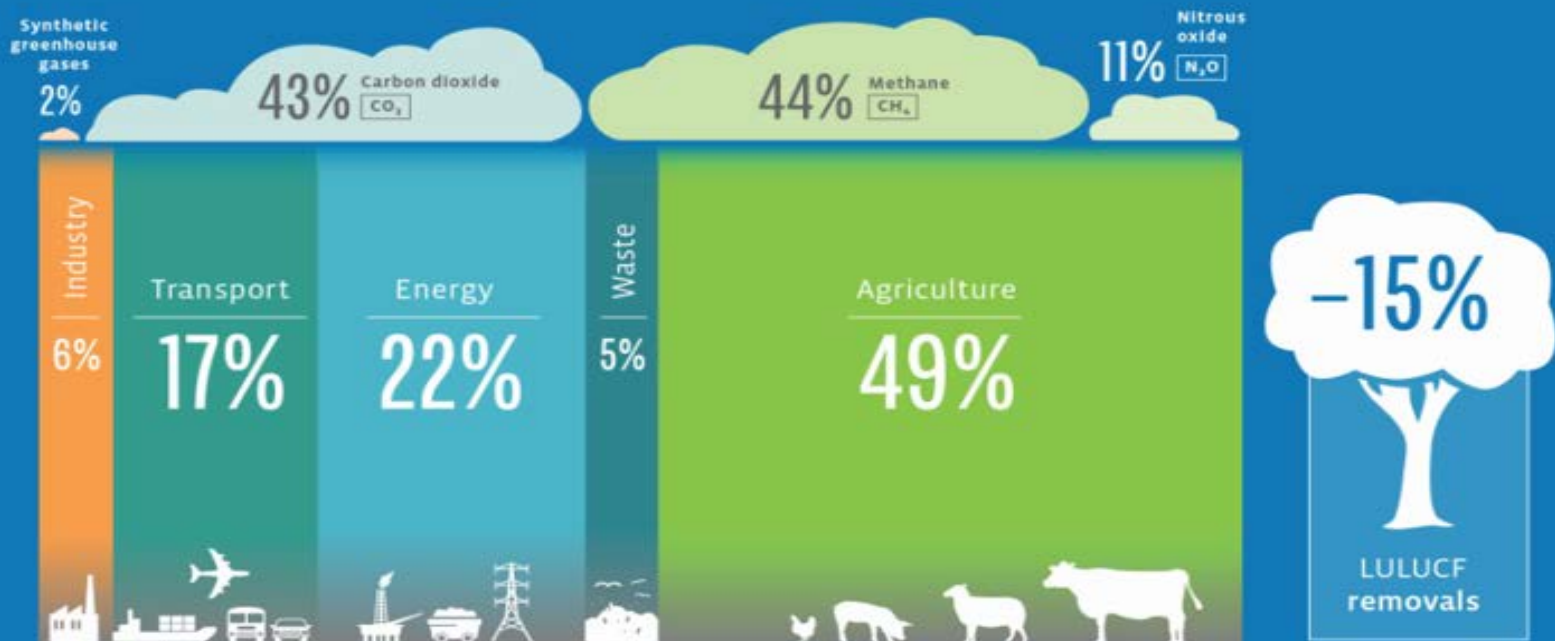
Rural employment has increased

Rural economy has diversified

Rural communities are now less vulnerable to cyclical downturns in agriculture

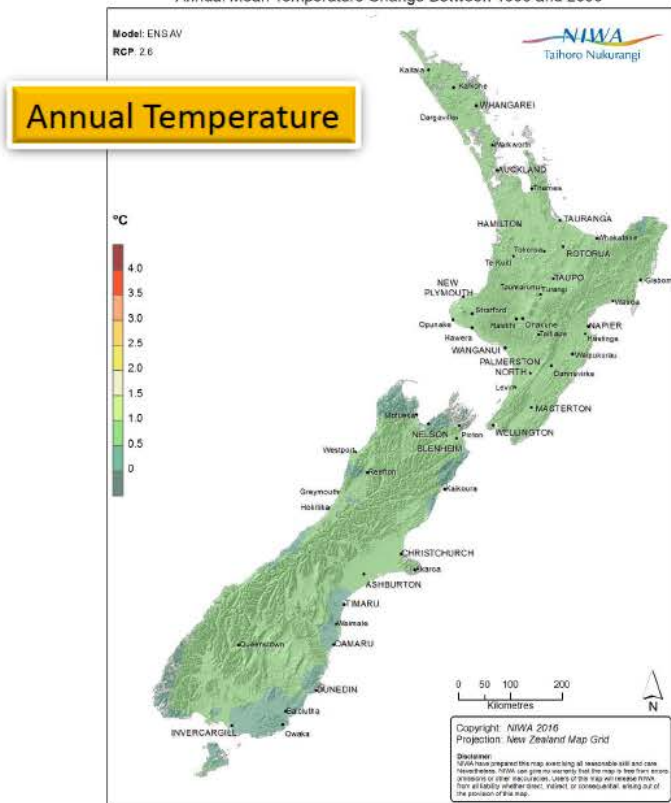
EMISSIONS PROFILE

- High proportion of emissions from the agriculture sector
- Over **40%** of emissions are methane emissions
- Emissions intensity of our economy has decreased by **34%** since 1990



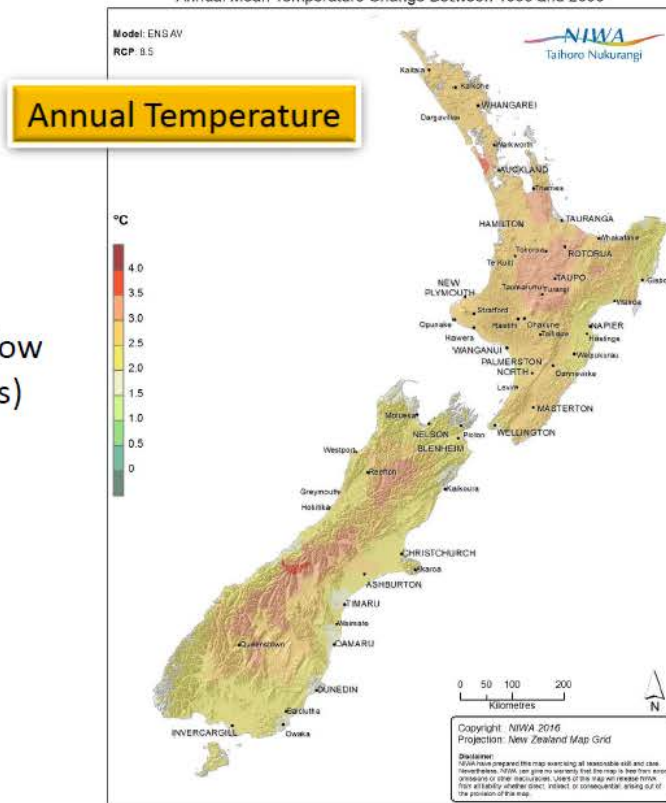
Latest climate projections for NZ

Annual Mean Temperature Change Between 1995 and 2090



RCP2.6 (low emissions)

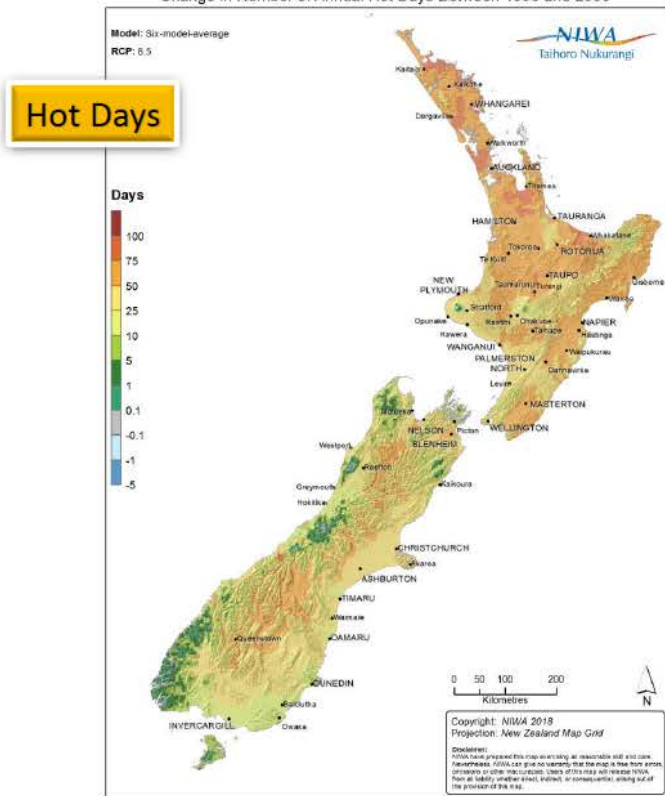
Annual Mean Temperature Change Between 1995 and 2090



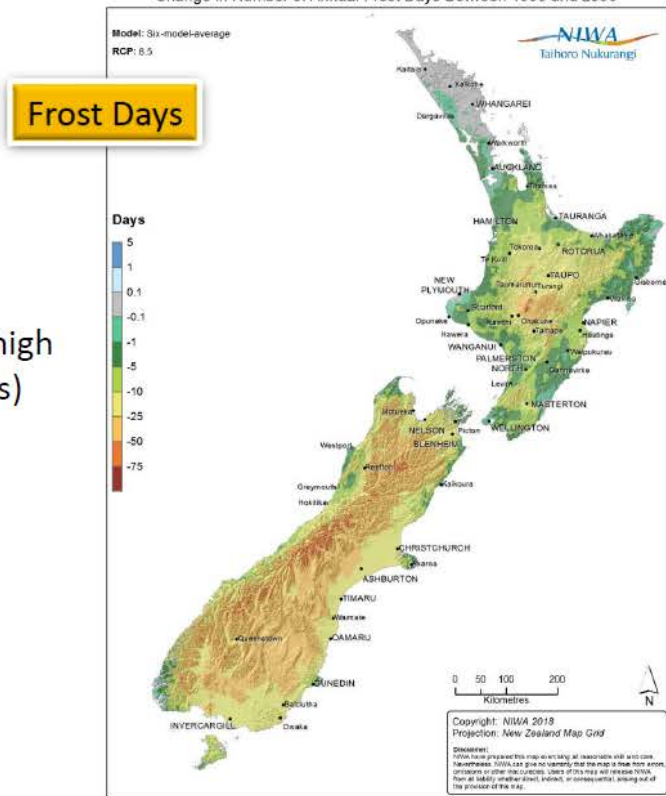
RCP8.5 (high emissions)

Latest climate projections for NZ

Change in Number of Annual Hot Days Between 1995 and 2090



Change in Number of Annual Frost Days Between 1995 and 2090



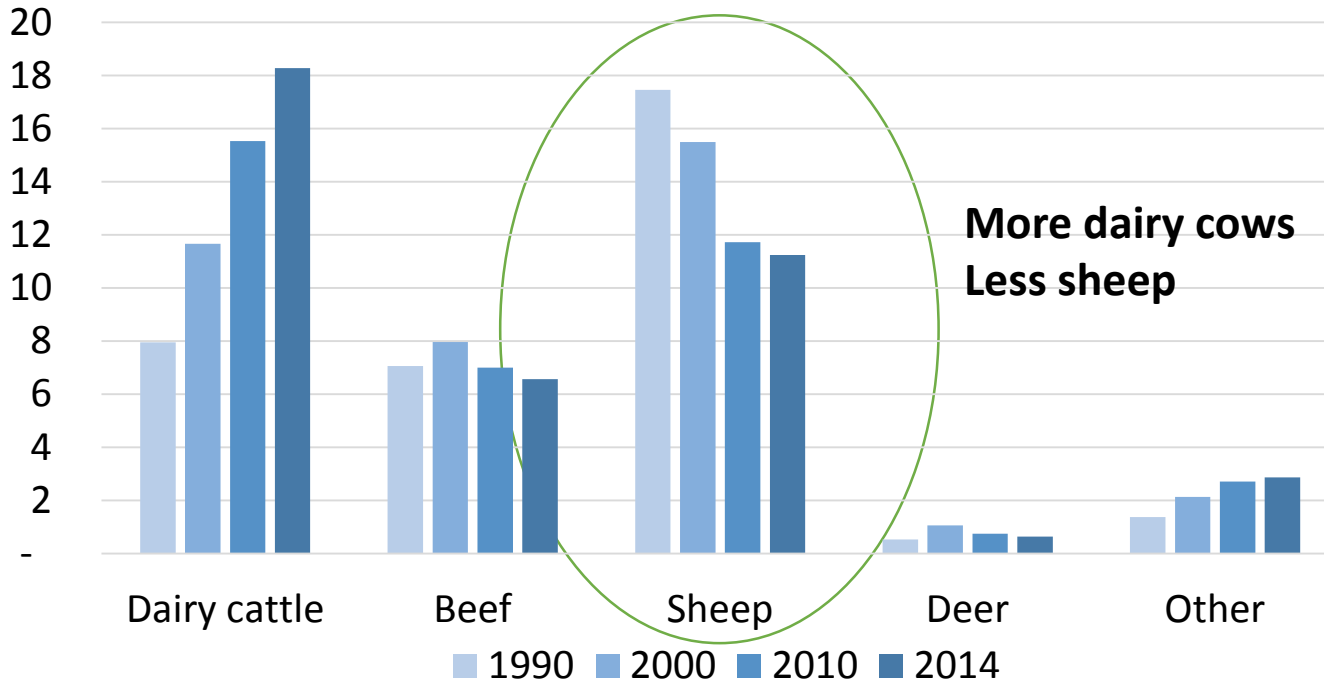
RCP8.5 (high emissions)

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Agricultural Emissions Trend by Activity

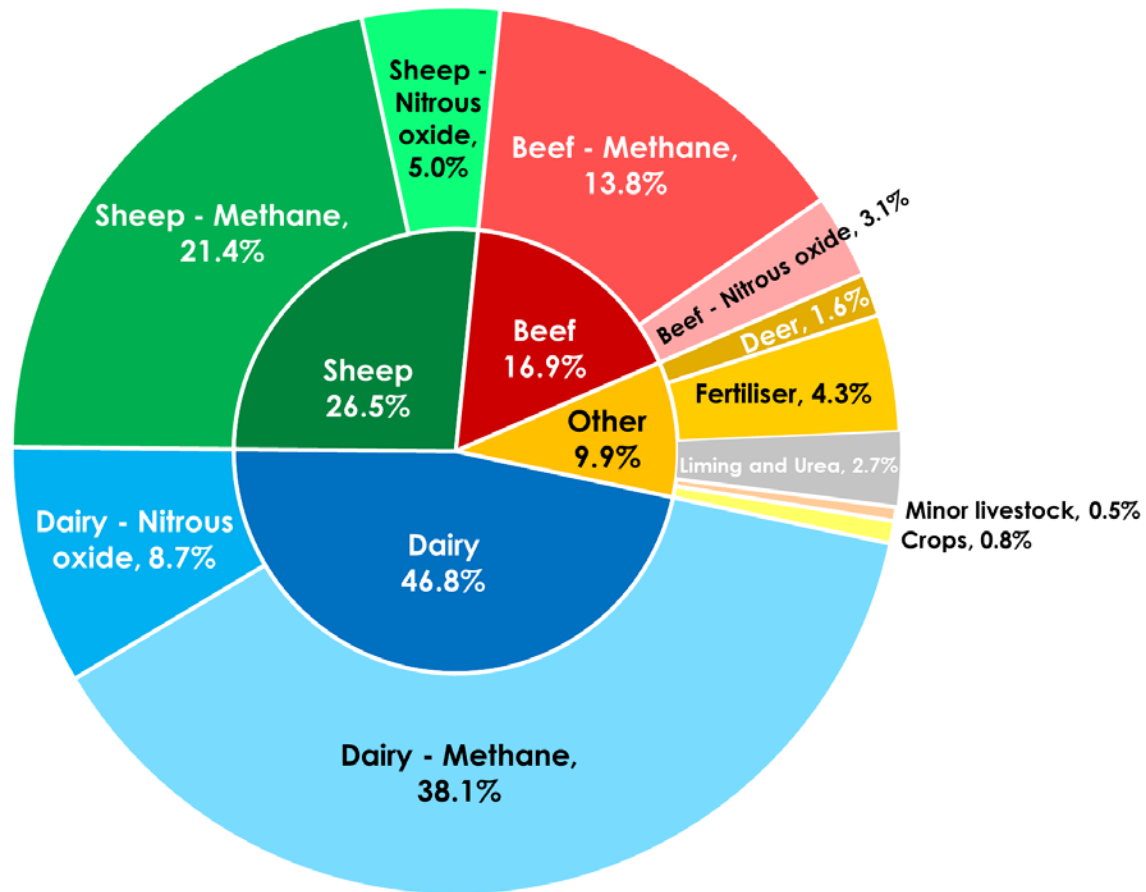
Greenhouse Gas Emissions from Agriculture for Different Activities

For selected years 1990, 2000, 2010, 2014



New Zealand Agricultural Emissions Profile in 2017

Percentage of total agricultural emissions



So where too
from here?



In short its all about.....

better genetics, weights at key times, animal health, feed quality and feed management, meteorological information, access to internet for up-to-date market information

More fertile soils

Farmer training including through Commodity Levy Act funded organisations – Beef+Lamb etc

Data, data and more data – economic, environmental and production information

How.....

Policy and Practice

Climate Change Adaptation

Zero Carbon Bill

Farm Plan (by 2022) – all farms

Extension services

Carbon neutral red meat – Beef and Lamb NZ

Precision agriculture

The Primary Growth Partnership - \$708m

National Science Challenges

Innovation

**2018 national lambing percentage 129% - up 1.7% on 2017
increased hogget lambing**

**There is a sheep breeding programme to create a climate resilient
high performance New Zealand sheep flock using imported world-
leading genetics**

**Improved pastures, dryland species e.g. Lucerne, chicory,
plantain, sub-clover (lower N fertilizer)**

Demonstration farms

Tools to monitor and measure climate impact

Inventory development and improvement

Enabled through funding



STAG VALLEY

Questions?

