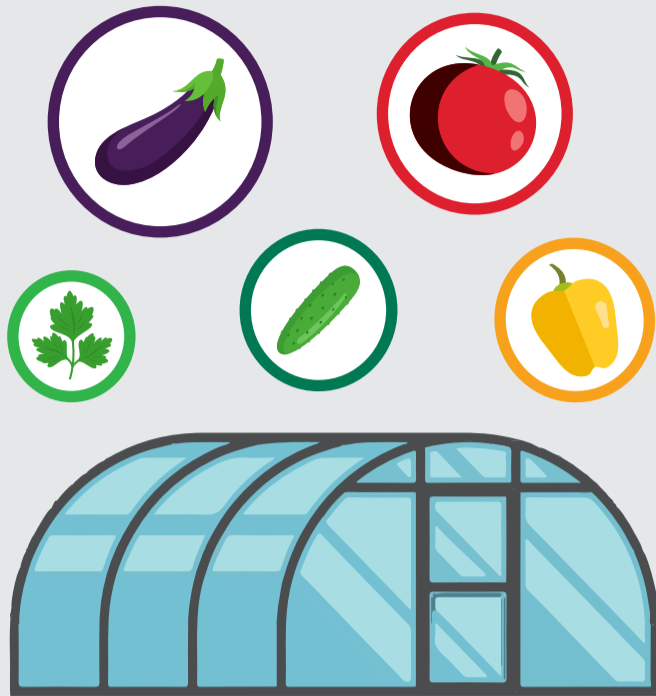


Greenhouse Energy Challenges



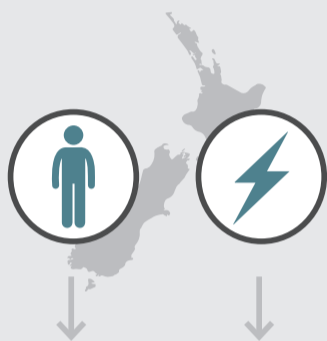
Why is New Zealand's greenhouse tomato, capsicum, cucumber, eggplant, and leafy greens industry important?

Our greenhouse industry helps provide New Zealanders with year-round, locally grown produce.

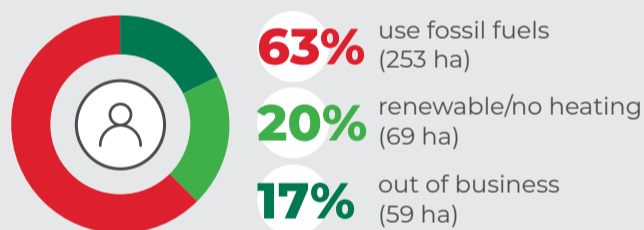
Without the industry, New Zealand would be reliant on imports of these products, which could compromise our food security, particularly if supply lines were disrupted due to biosecurity or other threats. Economically, decarbonisation is difficult for growers because they are price takers, not price setters meaning they cannot offset rising costs like some other businesses can. Additionally, decarbonising their greenhouses typically doesn't lead to significantly lower operating costs or higher productivity, creating challenges in repaying the large capital investments required for fuel switching. In any case, many of the foods produced in greenhouses cannot be easily imported due to low shelf life.

Statistics*

Breakdown of grower base, and energy sources used

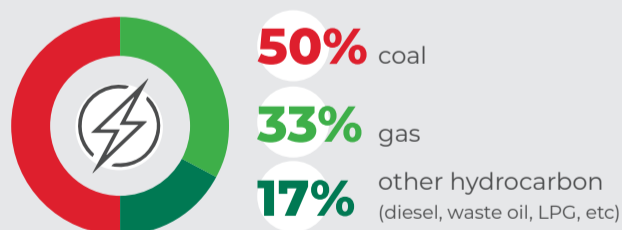


Greenhouse growers 2024
~359 ha covered cropping



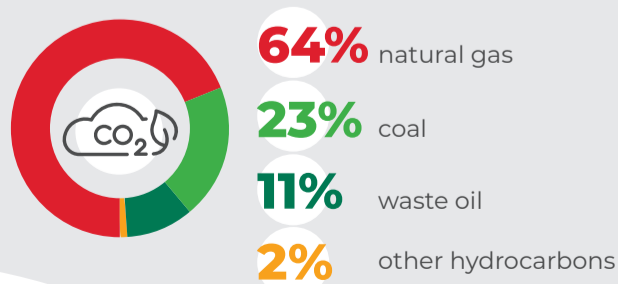
Energy use 2019

Initial industry baseline (2019) was 212,000 tonnes of CO₂, broken down as:



Energy use 2024

New industry estimate for emissions is 137,000 tonnes of CO₂:



Projects

- 15 energy assessments for covered crop growers and packhouses, with an additional 10 completed through connections made by Vegetables NZ
- 16 grower tools and case study videos created for growers to better understand how to reduce energy demand, improve technology use, and their options for fuel switching
- 5 energy events for covered crop growers
- 3 addresses at national conferences about growing and decarbonisation
- Engagement with suppliers of industry technology and fuel switching technologies: 18 demand reduction opportunities and 5 methods of fuel switching identified

What's holding the industry back?

- High capital cost of decarbonising: \$750k to \$1m per hectare
- Uncertainty in the renewables market and the high operating costs associated with alternative fuels lead to extended and unreasonable payback periods
- Need access to CO₂, which is not a byproduct of renewables, for the crops to thrive. This is particularly true for the largest growers
- Skepticism of technology. Needs additional incentive to invest into new innovative pieces of technology. Needs case studies before it can be implemented around the industry
- Growers are independent and want to run projects themselves. They need tools and access to fair funding to do this

Outcomes

- 27,000 tonnes of CO₂ has been directly addressed through an energy transition plan, energy assessment or energy audit. What this means is that these emissions have a pathway to eliminate them, through demand reduction or fuel switching
- Emissions reduction consenting support, templates to be released through EECA and support provided by Vegetables NZ

What's next from Vegetables NZ?

- More tools to support emissions reduction plans for consents
- Geothermal tools and biomass pathways to provide direction for growers transitioning
- Case studies showcasing successful transitions and technologies

Trends

- Continued trend to see growers exit the industry because of increasing Fossil fuel prices
- Growers shifting to waste oil as an alternative to expensive fossil fuels like natural gas

What do we want the Government to do?

- The establishment of a Sustainable Food Systems Fund to reinvest ETS proceeds in greenhouse decarbonisation to support the transition