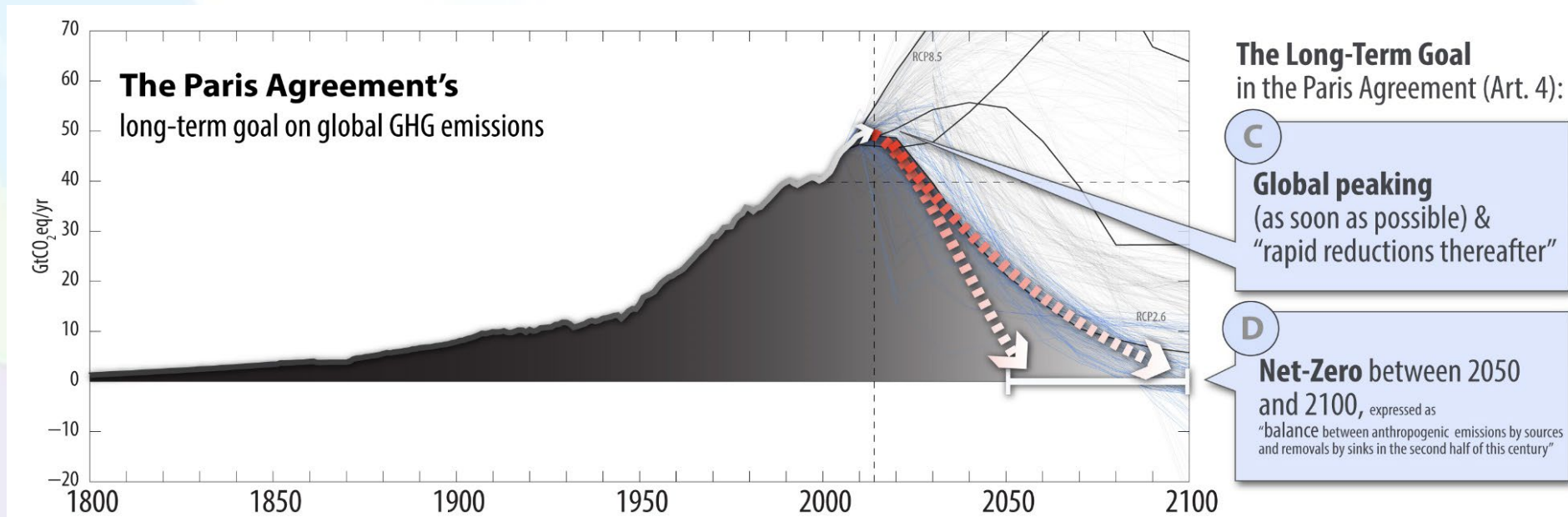


# Carbon Neutral Olives?

Richard Eckard



- Reach global peaking GHG emissions as soon as possible
  - Balance between emissions and removals by 2050
- COP26 Glasgow
  - Increased 2030 ambition



# International Policy Drivers: Nationally Determined Contributions (NDC)

Country	Target
Australia	43% by 2030 and net zero by 2050
Canada	40-45%% below 2005 by 2030 and net-zero by 2050
China	Peak in emissions by 2030 and achieve “carbon neutrality” before 2060
European Union	55% in greenhouse gas emissions by 2030 compared to 1990.
India	A 45% in EI by 2030 compared to 2005
Mexico	35% below business-as-usual by 2030
Norway	At least 55% below 1990 by 2030
Switzerland	50% below 1990 by 2030 and net-zero emissions by 2050
Russia	70% below 1990 by 2030 (but assuming forest absorption)
United Kingdom	68% by 2030 compared to 1990 levels.
United States	50 to 52% by 2030 over 2005 and 83 per cent by 2050.

- Unilever, Nestle, Danone, Mars
  - 50% by 2030 & net zero by 2050
- Fonterra
  - 30% EI by 2030 (from a 2018 baseline)
- Mondelez
  - Net zero by 2050 and SBTi by 2030
- Heineken
  - Net zero by 2030
  - Carbon neutral barley-malt
- Rabobank & NAB/BNZ, ANZ
  - 20-50% by 2030
  - Net zero financed emissions by 2050
  - Hold 50% of Australia agri-debt market
- Pfizer, Goodman Fielder, Wilmar, JBS
  - Net Zero by 2040
- Kellogg Company
  - 50% reduction by 2050
- Inghams
  - Reduce Scope 1 & 2 by 43% by 2030 from 2019
  - Scope 3 target by 2030, net zero 2050
- Olam, SunRice
  - Net zero by 2050
- Cargil
  - 30% by 2030, net zero by 2050

**BUT these targets are your farm!**

# In case you think you are buried in reporting requirements?

Snapshot of what your bank and supply chain are facing



The image displays a collection of logos for various sustainability and reporting frameworks, including:

- TCFD** (Task Force on Climate-related Financial Disclosures)
- GREENHOUSE GAS PROTOCOL**
- GRI** (Global Reporting Initiative) - Empowering Sustainable Decisions
- SASB** (Sustainability Accounting Standards Board)
- PRI** (Principles for Responsible Investment)
- FASB** (Financial Accounting Standards Board)
- SDG Impact**
- SCIENCE BASED TARGETS** (Driving Ambitious Corporate Climate Action)
- OECD GUIDELINES FOR MULTINATIONAL ENTERPRISES**
- ISSB** (International Sustainability Standards Board)
- CDSB** (Climate Disclosure Standards Board)
- UN GUIDING PRINCIPLES REPORTING FRAMEWORK**
- IFRS** (International Financial Reporting Standards)
- CDP** (Carbon Disclosure Project)
- EFRA** (European Financial Reporting Advisory Group)
- ISO 26000** (Social Responsibility)
- SFDR** (Sustainable Finance Disclosure Regulation)
- UNEP FINANCE INITIATIVE**
- PSI** (Principles for Sustainable Insurance)
- VOLUNTARY PRINCIPLES ON SECURITY & HUMAN RIGHTS**
- UN SUSTAINABLE DEVELOPMENT GOALS** (represented by a grid of 17 icons)
- Impact Assessment**
- wbcscd** (World Business Council on Sustainable Development)
- EQUATOR PRINCIPLES**
- TNFD** (Taskforce on Nature-related Financial Disclosures)
- INTEGRATED REPORTING <IR>**
- PCAF** (Partnership for Carbon Accounting Financials)

- Climate-related financial disclosure (CRFD) legislation
  - Australia will have mandatory GHG emission reporting for large companies as of January 2025
  - Includes Scope 3 greenhouse gas (GHG) reporting
- Based on International Financial Reporting Standards (IFRS)
  - Japan 2022; USA is proposing similar
  - The EU's Corporate Sustainability Reporting Directive
  - New Zealand, do mandate inclusion of Scope 3 emissions
- Aligned with GHG Protocol



## Absolute targets

- GHG/business unit
- GHG/State or Country
- What:
  - 30-40% by 2030
  - Net Zero by 2050
- Who: States, Countries
  - Australia 43% by 2030
- Who: Industry strategies
  - Red meat industry (CN30)

## Emissions intensity target

- GHG/ LWT
- GHG/ L olive oil
- What:
  - 30% by 2030
  - Net Zero by 2050
- Who: Supply chains & banks
  - **Your farm**

The day your bank or supply chain set a GHG target

**Insetting** was born (assumed)!

*The worst outcome for your value chain is that you sell  
carbon credits outside of the 'family'*

BUT what does this business model look like?



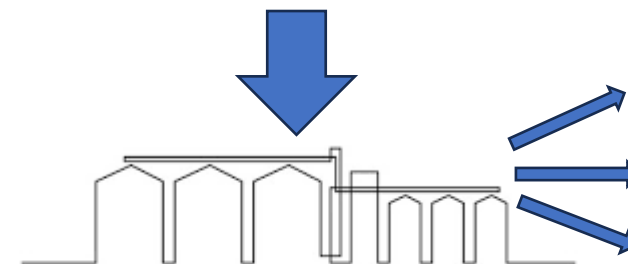
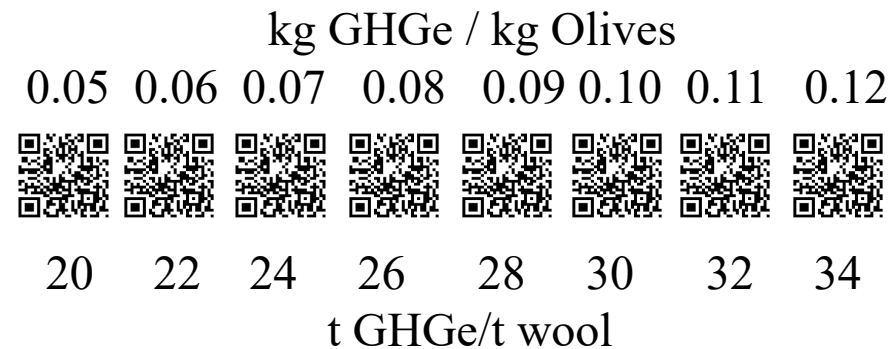
- **Offsetting**

- The buying and cancelling (retiring) of carbon credits by an organisation to compensate for the emissions it produces.

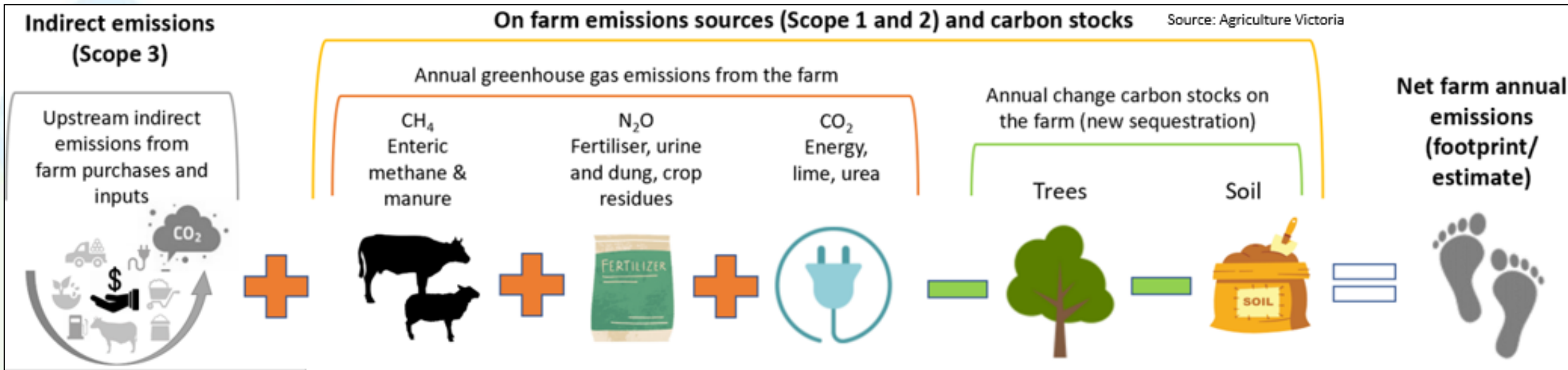
- **Insetting**

- Activities that reduce or avoid emissions, or store carbon within a value chain, which may comprise a farm and its supply chain, and counting the emissions reductions or carbon storage towards the operation's total emissions
  - *Socialising your low GHG footprint along your supply chain*

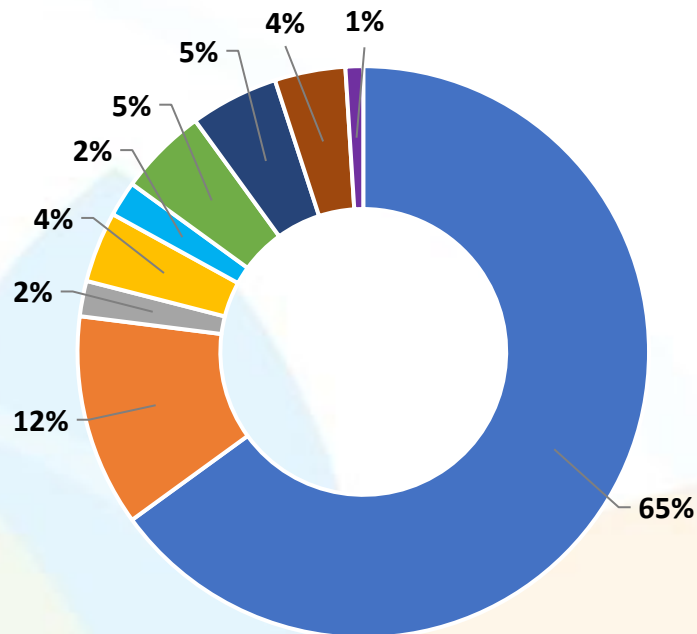
- Who wants a slice of your carbon?
  - Your supply chain, Your bank, Your industry
- Who pays?
  - Your carbon is worth \$35 per ACCU
- Possible solution - The Supply Shed concept
  - A group of suppliers, in a defined market, providing similar goods and services, within a supply chain
  - Enabling credible (audited, traceable), co-claiming and shared-investment in low GHG product



- National standard being developed
- International standards already in place

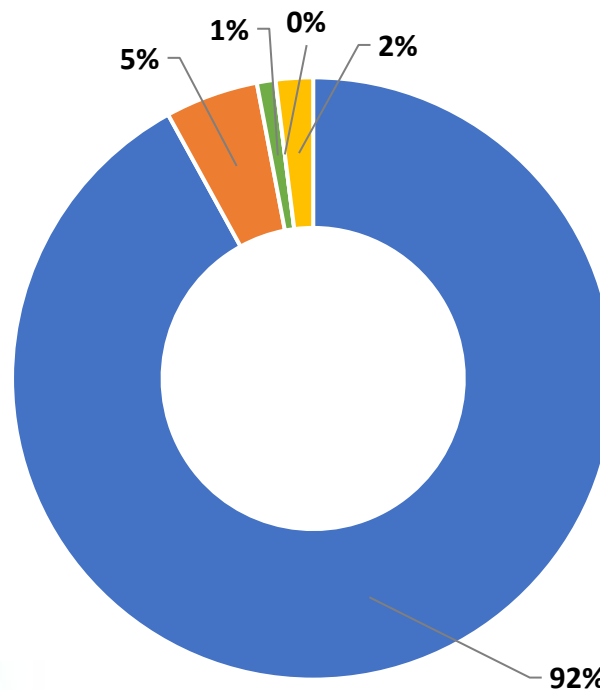


**Dairy: 8 – 21 t CO<sub>2</sub>e/t MS**



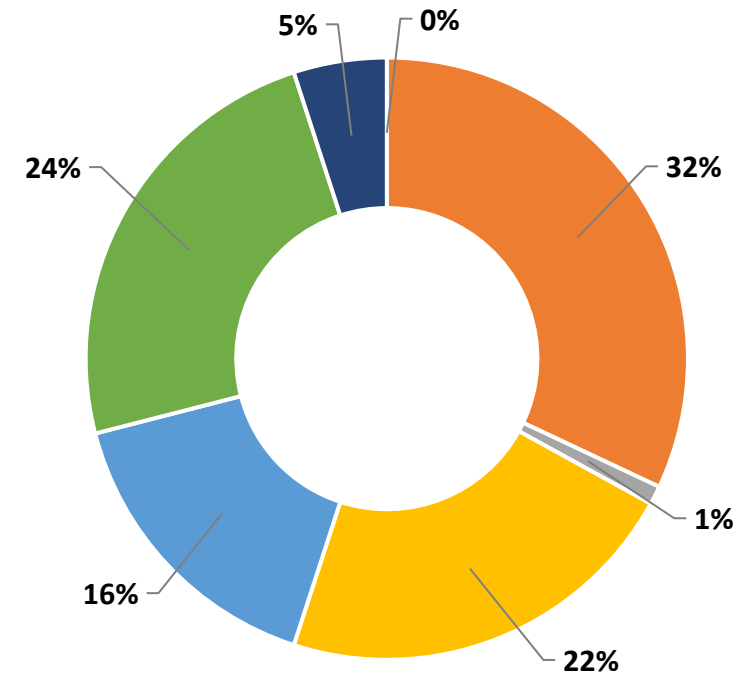
- CH4 - Enteric
- CH4 - Manure Management
- N2O - Direct Fertiliser
- N2O - Dung & Urine
- N2O - Atmospheric Deposition
- N2O - Leaching
- CO2 - Energy
- CO2 - Lime
- Other

**Beef: 11 - 14 t CO<sub>2</sub>e/t LWT**



- CH4 - Enteric
- N2O - Urine & Dung
- N2O - Deposition
- N2O - Leaching
- Other

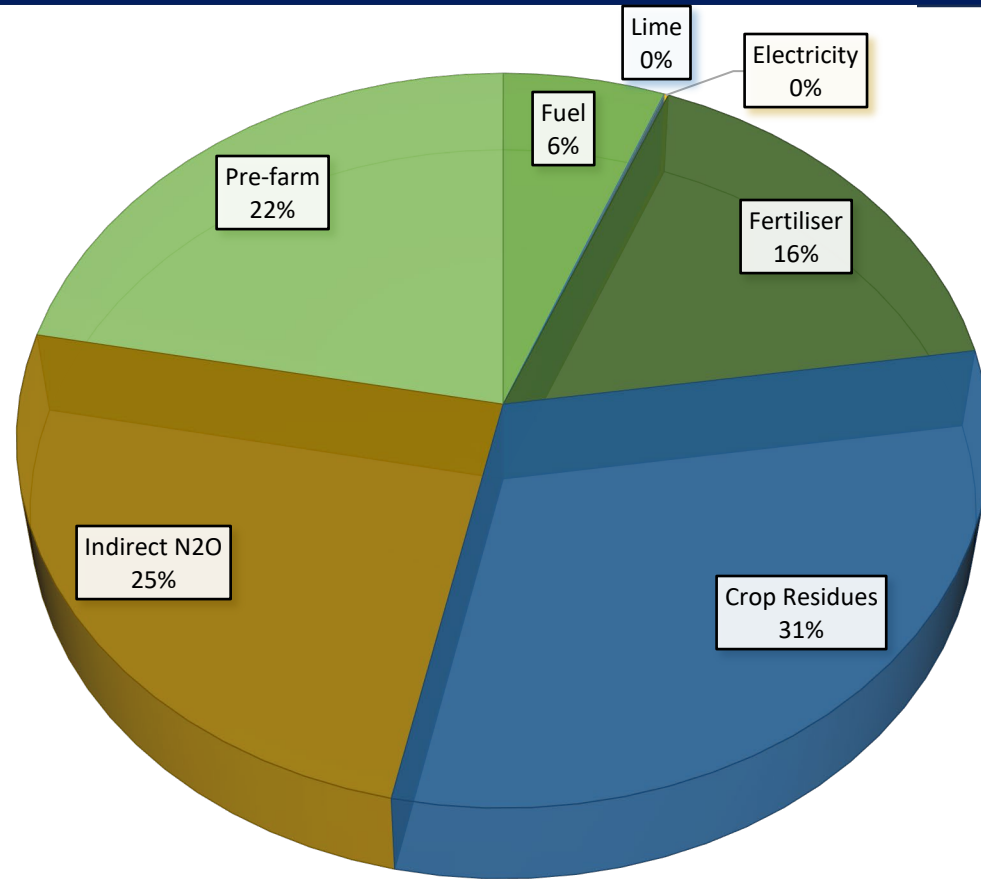
**Grains / pulses: 0.1 – 0.5 t CO<sub>2</sub>e/t grain**



- Electricity
- Fertiliser
- Indirect N2O
- Pre-Farm
- Burning
- Fuel
- Crop residues

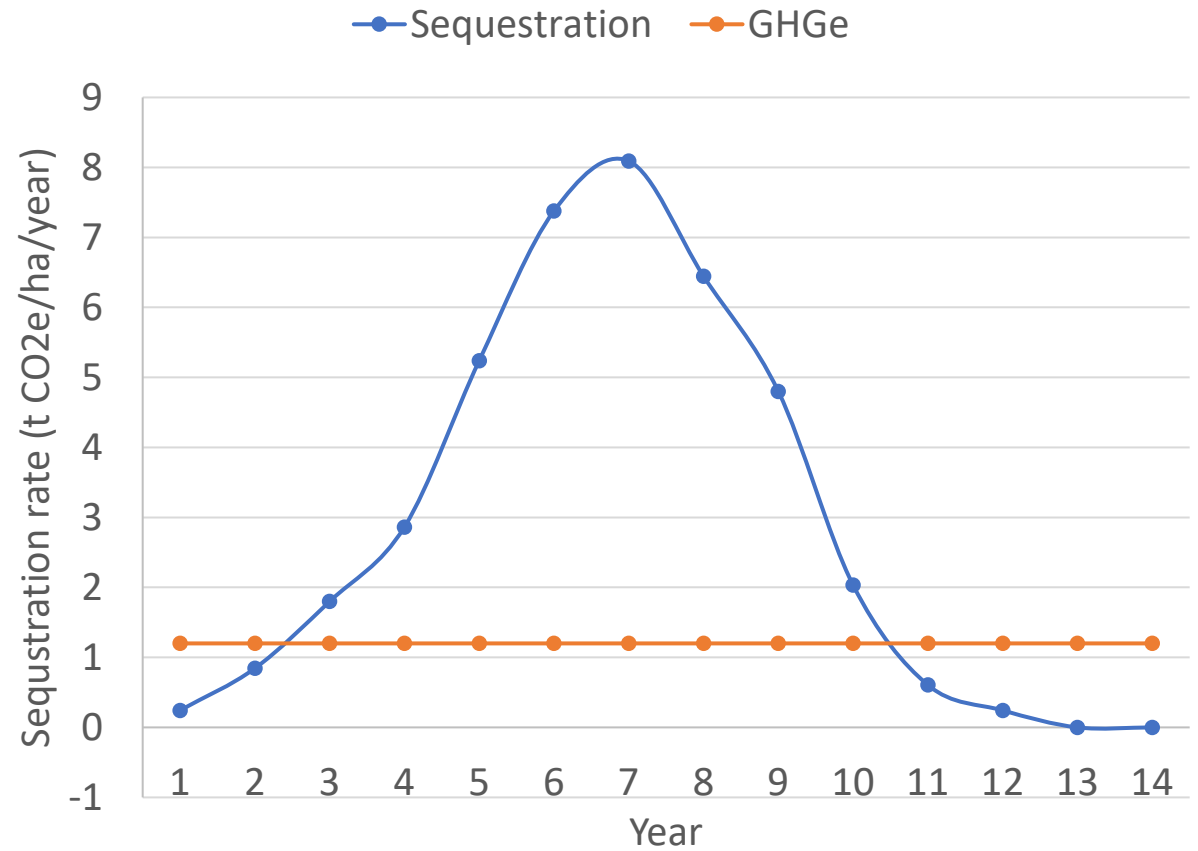
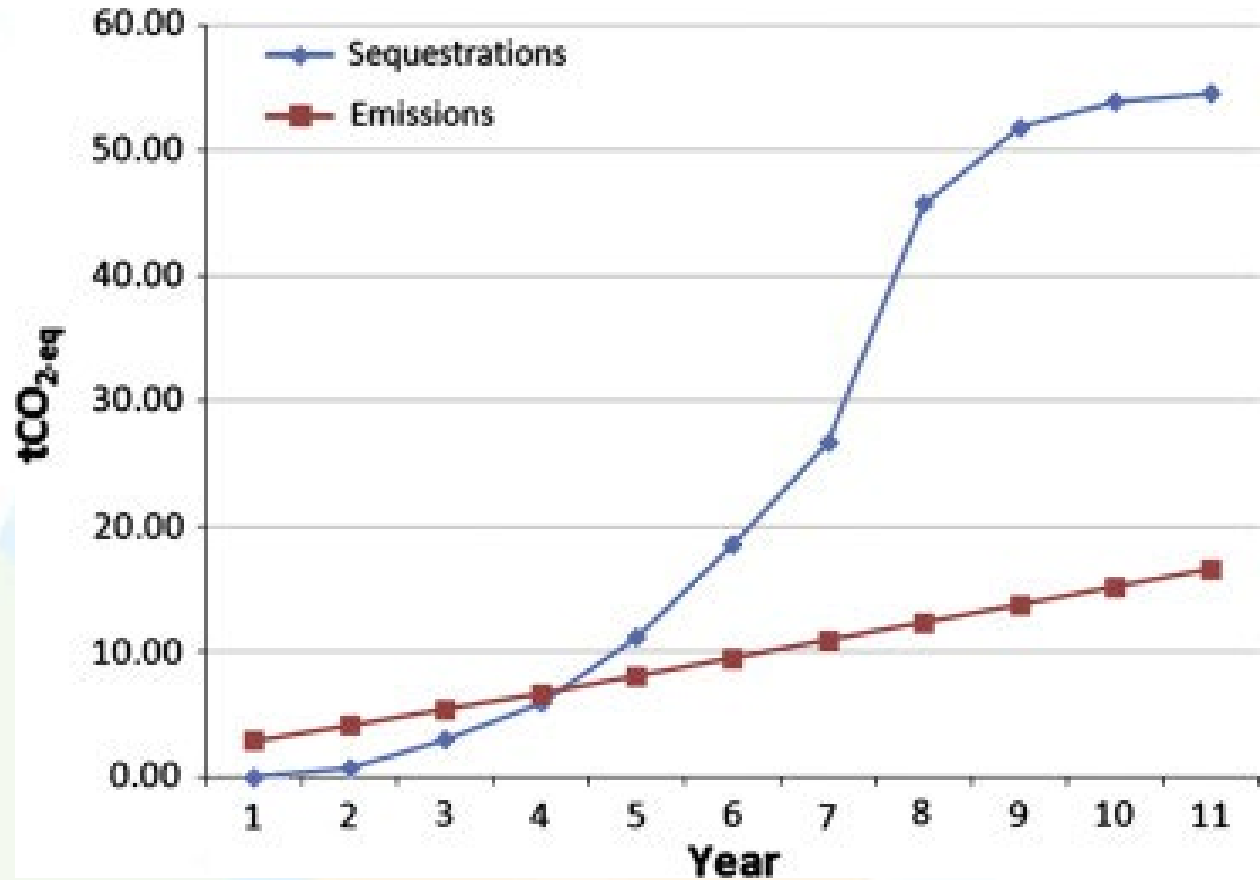
## Emissions

- 1.2 t CO<sub>2</sub>e/ ha
- 0.06 t CO<sub>2</sub>e/t crop

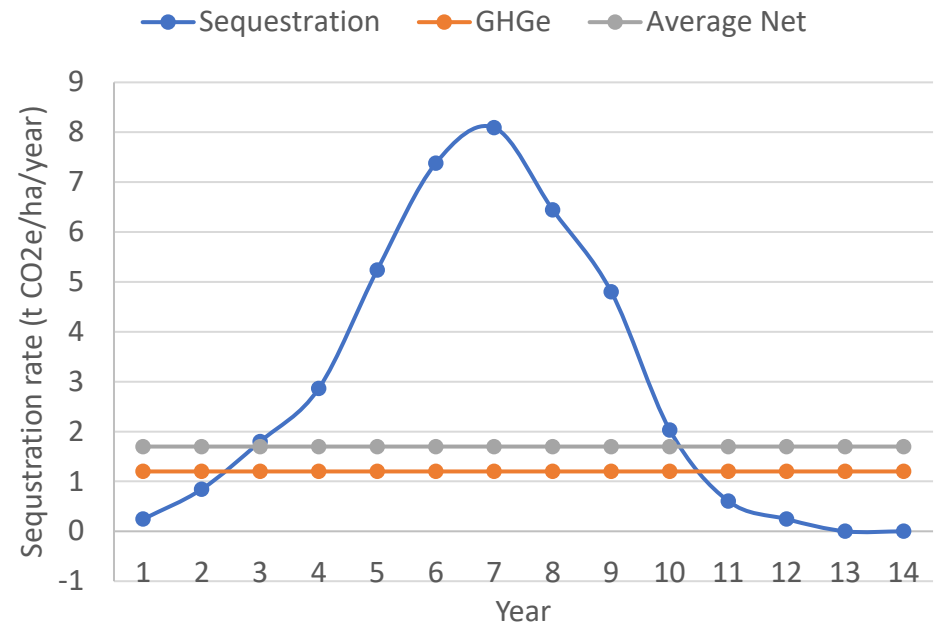


## Sequestration \*\*

- 5-8 t CO<sub>2</sub>/ha/y between Y5 and Y10

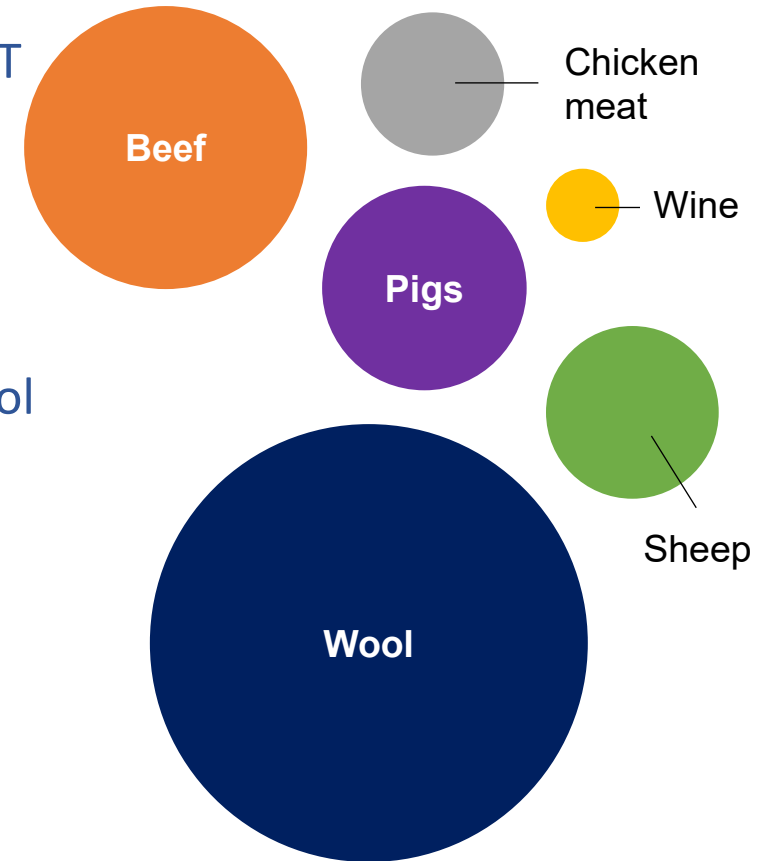


- Years before
  - First harvest (5 years?) & Maximum yield (8 years?)
  - Use an average sequestration over the lifetime?
- Age to maximum size (15 years?)
  - No further net sequestration
- Pruning removals
  - Deducted from annual sequestration



- Chicken meat
  - 3 to 5 kg CO<sub>2</sub>e/kg LWT
- Pigs
  - 4 to 7 kg CO<sub>2</sub>e/kg LWT
- Wheat
  - 0.1 to 0.5 kg CO<sub>2</sub>e/kg grain
- Canola
  - 0.5 to 0.75 kg CO<sub>2</sub>e/kg grain
- Dairy
  - 13 to 18 kg CO<sub>2</sub>e/kg MS
  - 0.9 to 1.3 kg CO<sub>2</sub>e/L

- Beef
  - 11 to 18 kg CO<sub>2</sub>e/kg LWT
- Sheep
  - 6 to 8 kg CO<sub>2</sub>e/kg LWT
- Wool
  - 21 to 28 kg CO<sub>2</sub>e/kg wool
- Wine
  - 0.6 to 4.7 kg CO<sub>2</sub>e/L
- Olives
  - <0.06 t CO<sub>2</sub>e/tonne (?)
  - 1.5 kg CO<sub>2</sub>e/L





- Nitrogen fertiliser
  - Use inhibitor coated N?
  - Source from low emissions supplier
- Energy
  - Generating or purchasing renewable energy
- Carbon sequestration for olive trees
  - Check that SBTI/value chain accept this



Image: Australian Olives

- Olive production could already be carbon neutral
  - If net sequestration in trees is taken into account
  - If sequestration can be averaged over the tree life cycle
- Know what your supply chain target is?
  - Know your GHG number
- Know if they accept tree sequestration
  - And on what basis (running mean vs annual)

[piccc.org.au](http://piccc.org.au)  
[piccc.org.au/education/carbonneutraltraining](http://piccc.org.au/education/carbonneutraltraining)

