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# Mitigating GHG emissions in Europe: a view from down under

Suzi Kerr

Contributed paper prepared for presentation at the 59th AARES Annual Conference,  
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# Mitigating GHG emissions in Europe: a view from down under

Suzi Kerr

Motu Economic and Public Policy Research

AARES, Rotorua 2015

# What can Europe do?

1. Reduce fossil fuel and other CO<sub>2</sub> emissions in agriculture
2. Change land use
  - Forestry / Natives
  - Other food crops
3. Reduce emissions per unit of output
4. Help others produce food with lower GHG intensity



# What NZ thinking is relevant to Europe?

- Our upstream emissions trading system automatically covers all CO<sub>2</sub> emissions
  - Could add an upstream layer in the EUETS with exclusions for existing points of regulation (unless they opt out)
- Soil carbon is not a big issue in NZ



# Land-use change

Significant potential for reforestation in NZ  
(maybe not in Europe)

- our forestry ETS offers a simple model with low transaction costs –

- non-additionality is a fixed cost to government(similar to free allocation)

- Land-use change is slow and requires policy certainty

Need to think of land-use change in context of global needs

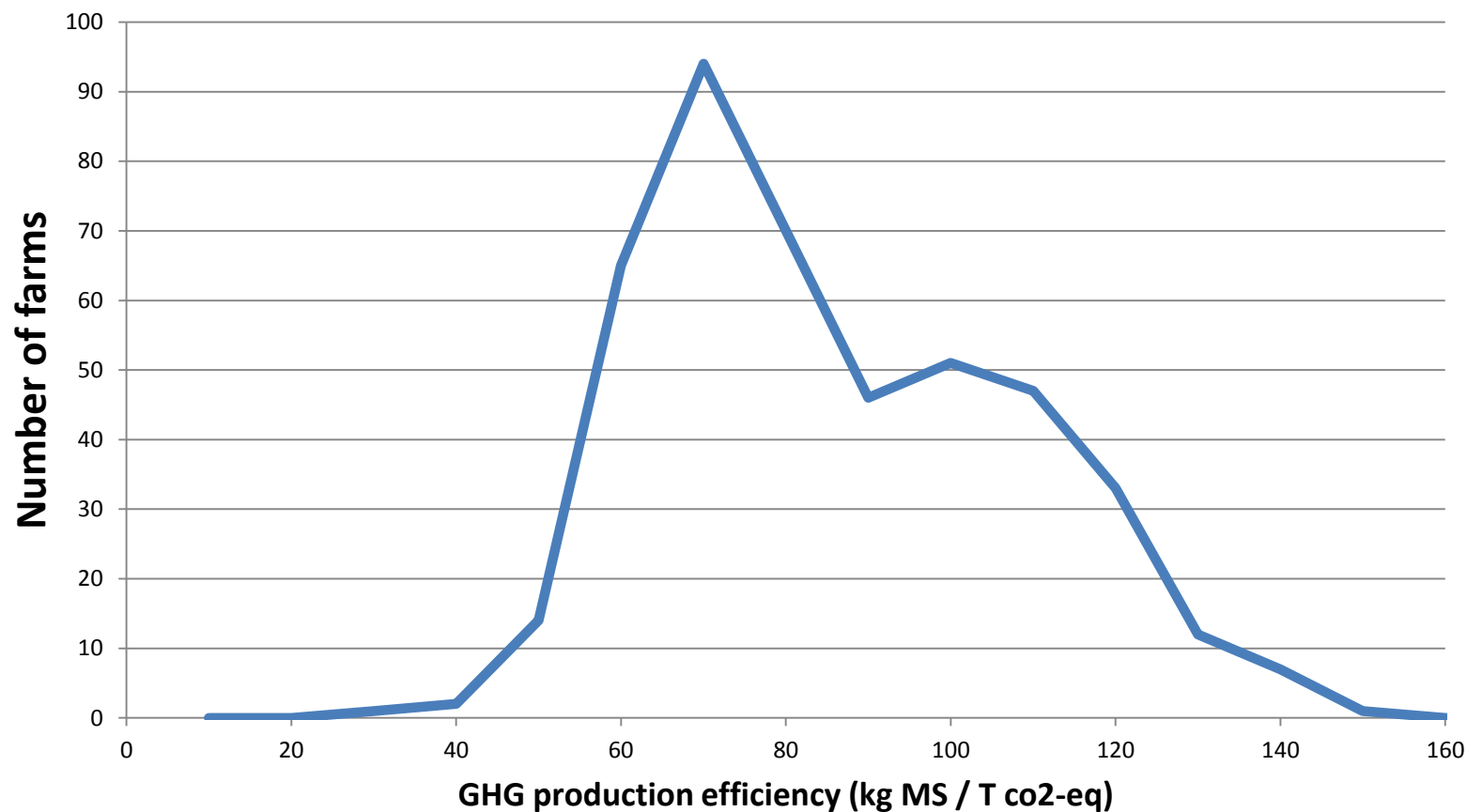
- e.g. biofuel and food

# Farmer uptake of existing mitigation options

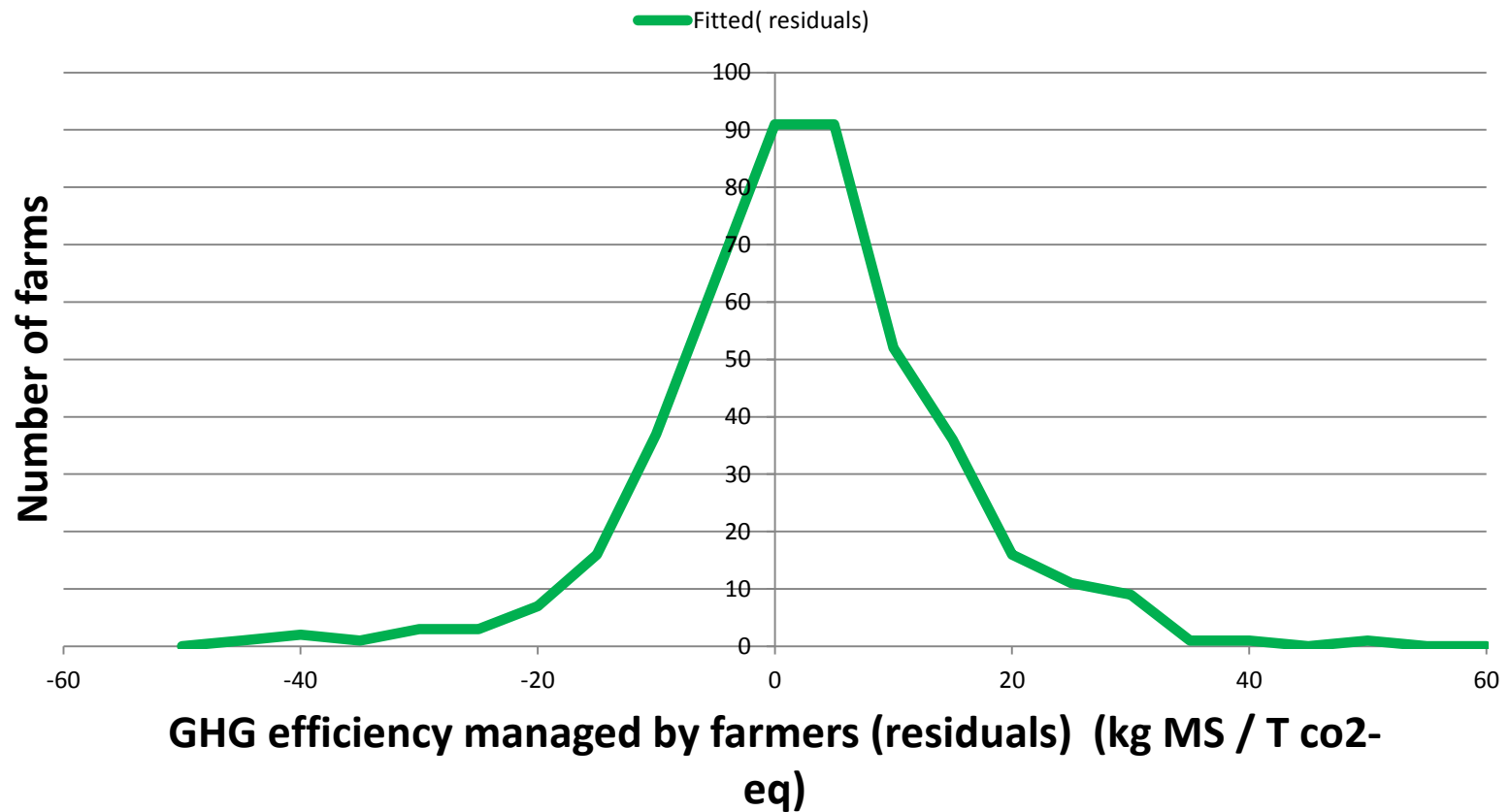
## Existing options:

- Methane: Farm management
  - Productivity improvements
  - Manure management – plug-flow digesters and covered anaerobic lagoons
- Nitrous oxide: also soil management
  - Nitrogen inhibitors: DCDs – significant relatively certain impact on  $\text{N}_2\text{O}$ ; Urease inhibitors
  - Reduced fertiliser use
  - Effluent management
  - Grazing off poorly drained soils in winter (need to be careful to account for animals elsewhere).
  - Feed pads

# Dairy: range of MS per tonne emissions



# Adjusted distribution – for physical heterogeneity among farms



# Reducing emissions per unit output

- NZ regulates farmers
  - Even with trading (Taupo Nitrogen Trading Market)
- ETS for nitrous and methane would be possible technically
  - Have the tool OVERSEER
  - But high transaction cost relative to mitigation potential
  - Large transfers of wealth are inevitable. Politically very challenging
- Agricultural offsets were rejected in New Zealand: extreme leakage and non-additionality/adverse selection

# Significant mitigation potential but is it price responsive?

- Start with education
- Include nitrogen fertiliser in ETS – easy to implement. May have some small effect
- Research
- Experiment with adoption
- Experiment with information and technical assistance programmes



# It's a big world – don't just look in Europe

Make international assistance for more GHG efficient agriculture part of our 'Intended Nationally Determined Contributions'

Working with the developing countries, create mechanisms to encourage private sector transfer of skills and development of locally appropriate practices