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FARM 300 – boosting
livestock production
efficiency and reducing
greenhouse gas
emissions



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FARM300 Partners



Meat & Livestock Australia with:

- Australian Farm Institute
- Australian Wool Innovation
- Dairy Australia

F300 Steering Committee:

Richard Eckard (Uni Melb), Beverly Henry, Cathy Phelps (Dairy Aust), Adam Tomlinson (AFI), Gus Manatsu (AWI), Tom Davison & Jane Weatherley (MLA)

Project supported by funding from the Australian Government's E&O program



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FARM300 – key objective



Improve the knowledge and skills of Australian livestock producers leading to a 10% increase in on-farm productivity and profitability and a 30% decrease in GHG emissions intensity.





Australian GHG emissions

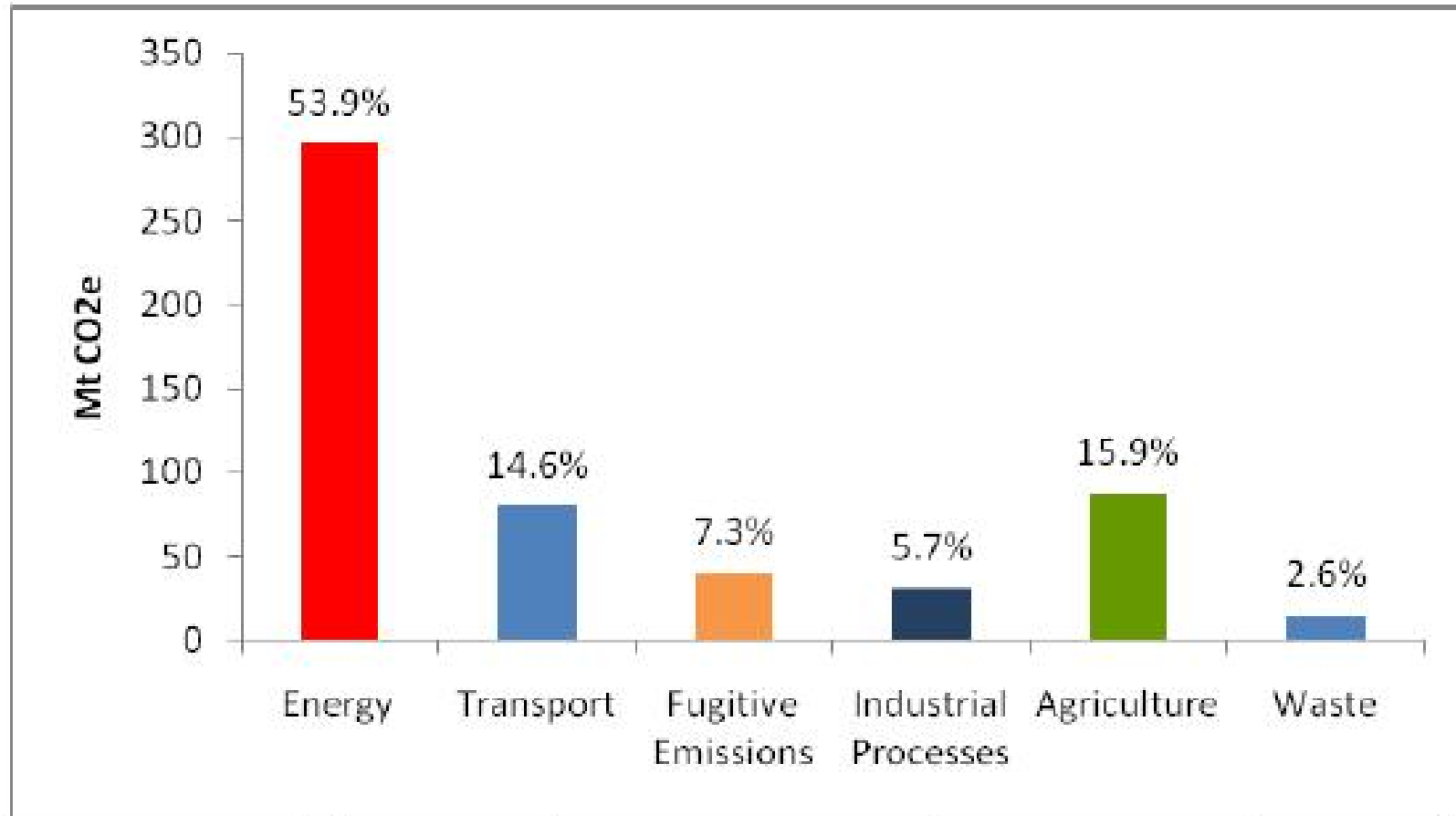


Figure 1. Australia's net greenhouse gas emissions by sector in 2008 (DCC 2010²)



Australian GHG emissions - agriculture

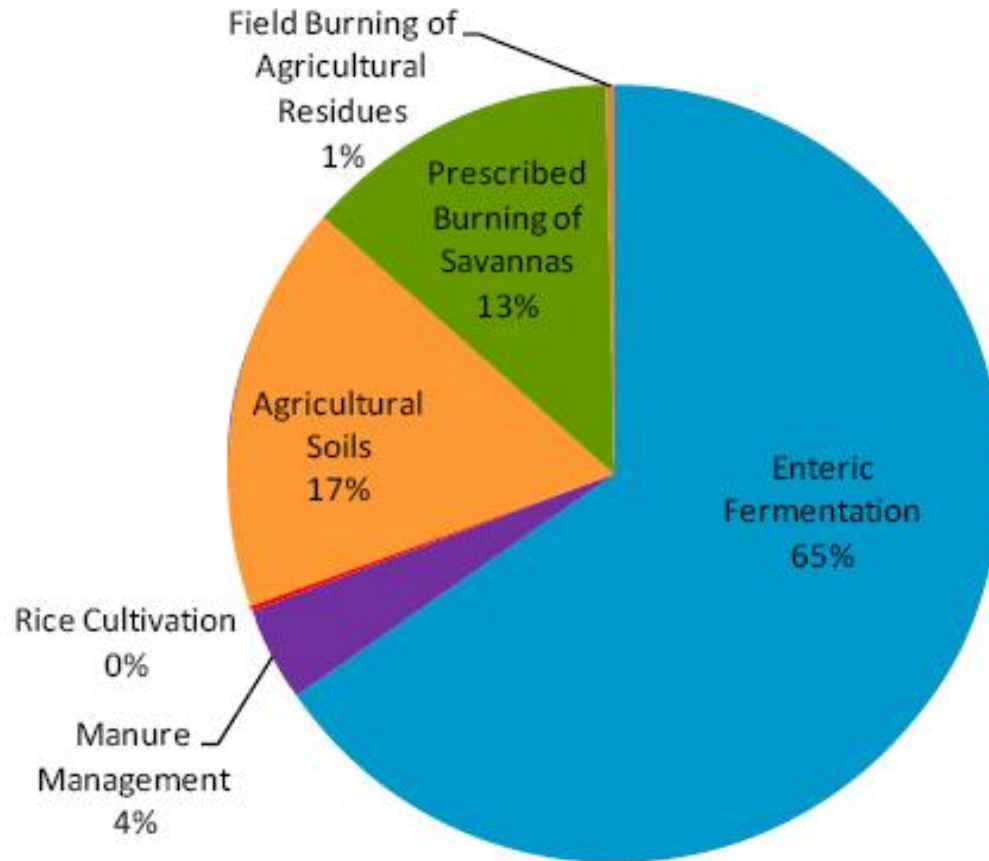


Figure 2. Sources of agricultural emissions in Australia in 2008 (DCC 2010²).

Data from: DCC (2010) National Inventory Report 2008 – Volume 1. The Australian Government Submission to the UN Framework Convention on Climate Change May 2010. Department of Climate Change



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Markets

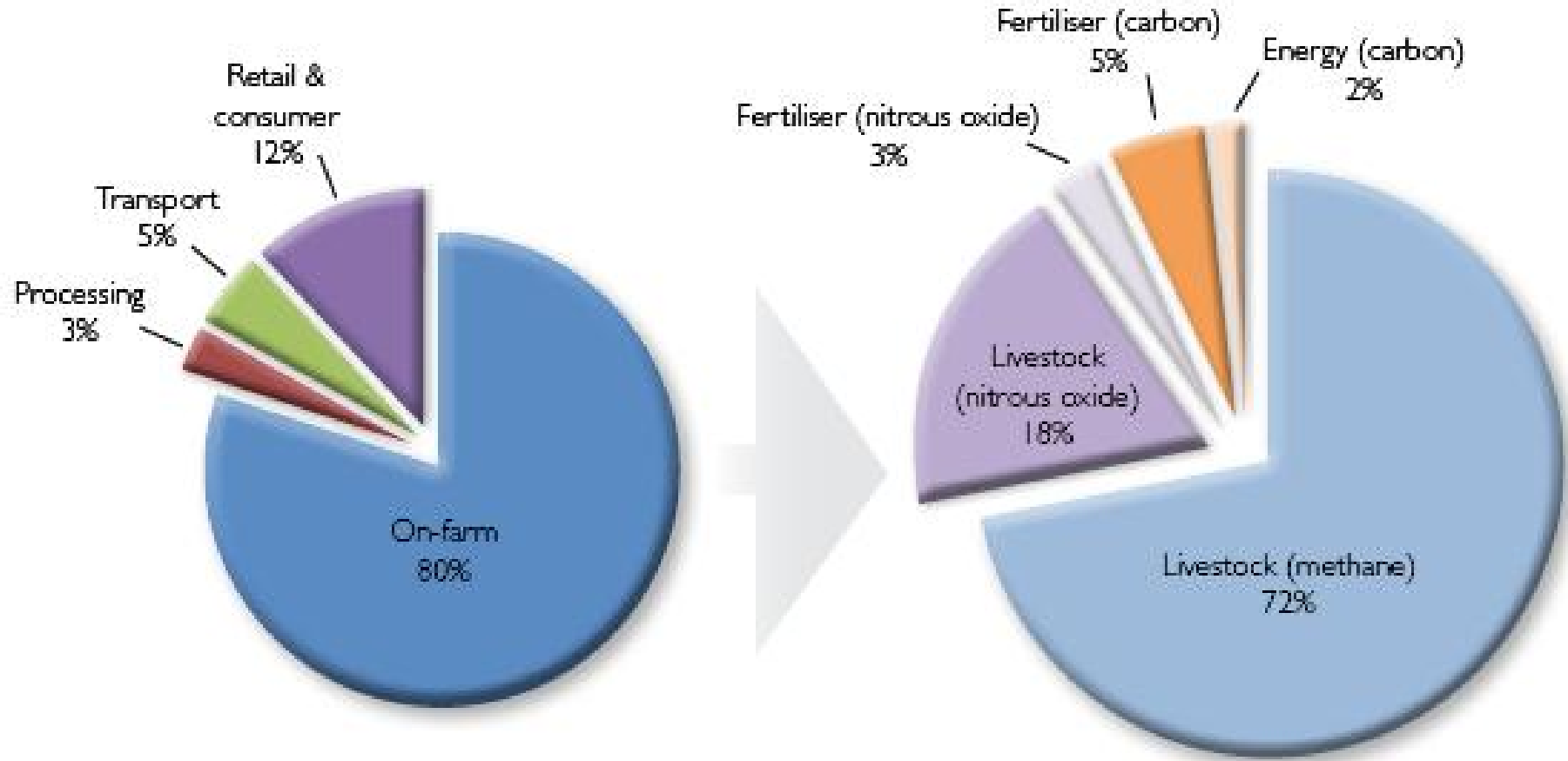


- Consumer & corporate awareness of climate change is growing
- Responsible sourcing & standards commonplace for a range of products, including red meat
 - E.g. Pasturefed / HGP-free / Antibiotic-free beef Certification (PCAS)
- Major retailers, driven by consumers & NGOs, already looking at GHGs across supply chain
- Finance sector is also becoming more interested and involved in sustainability and climate change



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C foot print of NZ lamb from farm to fork



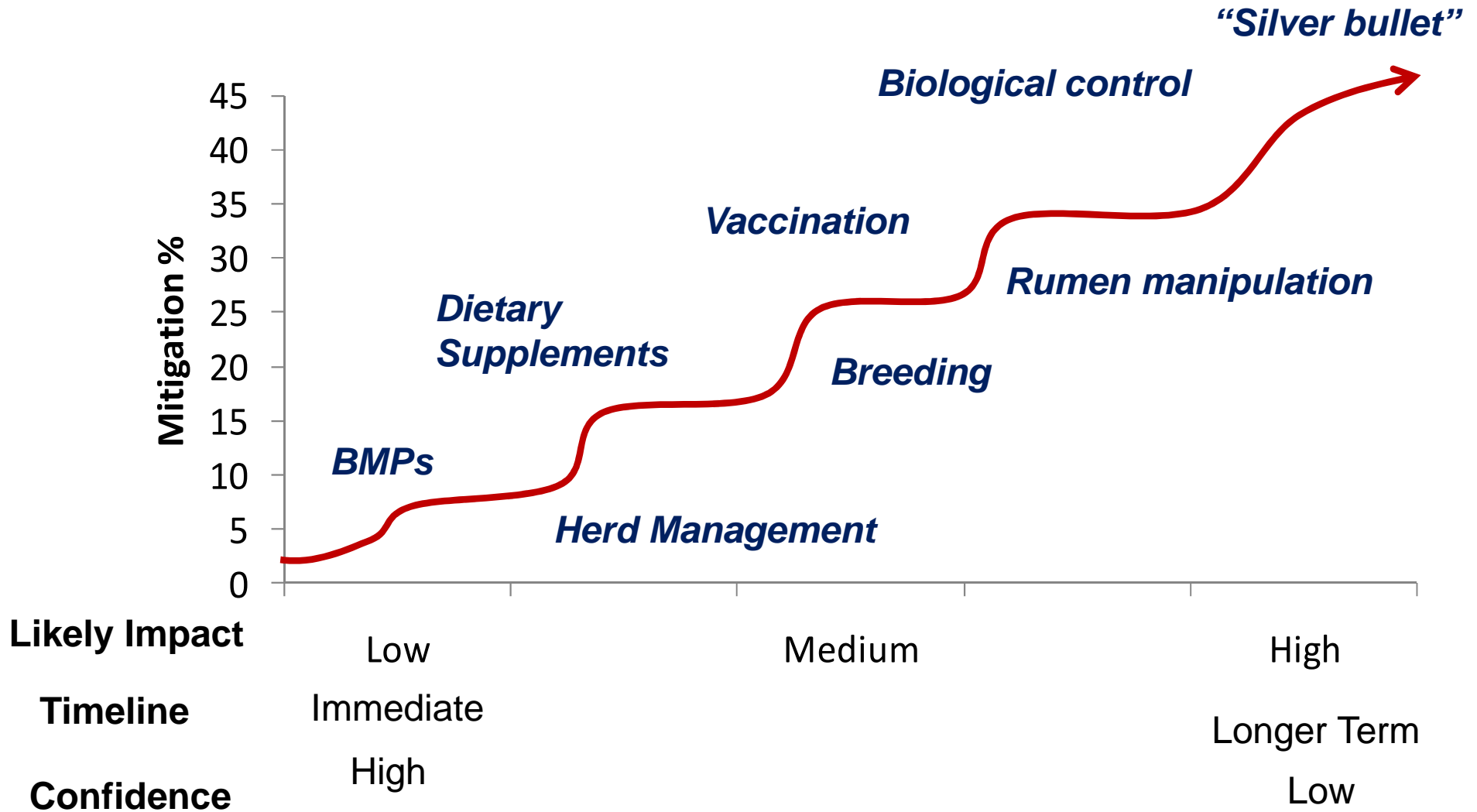
The average C footprint of lamb produced in NZ and sold in UK had a cost of 1.9kg CO₂e per 100g lamb produced

Data obtained from: www.alliance.co.nz/PDF/hoofprint-25Sep.pdf



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Enteric Methane Mitigation Timeline



Eckard, Grainger & de Klein 2010



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Managing animals to reduce enteric methane



- Reducing unproductive animal numbers
- Shifting herd/flocks to the ‘business end’
 - More meat produced/cow or ewe
 - Higher fertility, early joining, higher weaning %
 - Earlier finishing of beef
- Systems efficiencies
 - Improving feed conversion efficiency
 - Improving ratio of feed going to meat rather than maintenance
- Improving pastures and forage legumes

Henry & Eckard 2009; Grainger *et al.* 2008; Eckard *et al.* 2010



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Efficient northern beef systems



Herd	Beef turn-off (t lwt)	GHG emissions (t CO2e)	Emissions intensity (t CO2e/ t lwt)	Gross Margin (\$ after interest)
Typical	236	3,593	15	157,153
Early joining	255	3,571	14	176,537
Early joining and high fertility	314	3,598	11.5	339,765

Cullen B.R., Timms M. Eckard R.J., Mitchell R.A., Whip P., Phelps D. (2013)



High fecundity ewes

Scenario	Emissions intensity (t CO ₂ e/ t lwt)	Productivity (kg/ha) #	Emissions (t CO ₂ e / ha) *
Base case (1 lamb / ewe)	9.3	449	4.1
High fecundity (1.5 lamb / ewe)	7.3	571	3.2

stocking rate kept constant at 25 DSE/ha. Increase in production valued at \$234/ha

*Production kept constant at 449 kg/ha, stocking rate reduced to 16 DSE/ha



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What is Farm300?



Farm300 will:

- work with advisors and producers
- fund and support coaching programs designed by advisors which are relevant to local needs and which increase profitability and decrease GHG emissions intensity



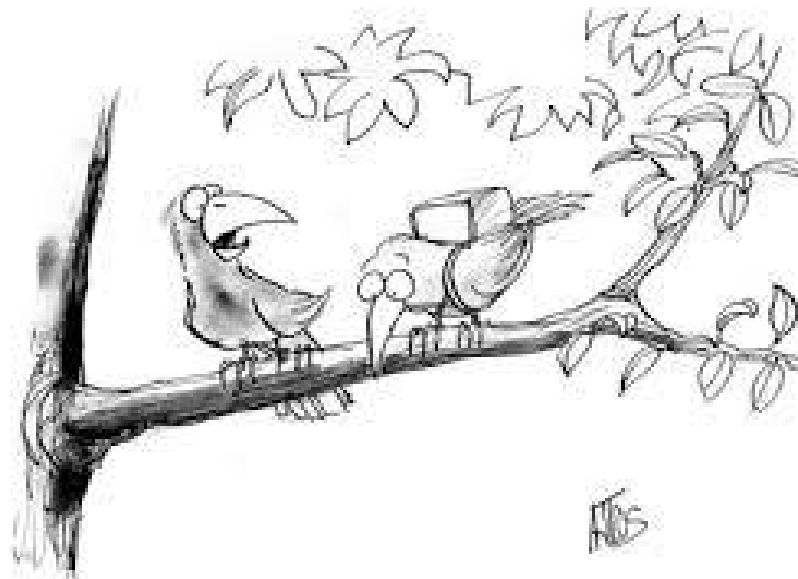


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Why coaching?



- Complexity of livestock farming systems
- To get skill development and practice change at systems level supported learning is proven to be effective



"Let's try it once without the parachute."



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Advisors



- Workshops for advisors will be held across the country from mid-May to mid-June.
- 25 coaches selected from workshop participants
- Coaching program to run between Aug 2014 to May 2015 (6-8 sessions)



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Producers



- Farm300 will engage with 300 medium – large livestock producers across the country
- Opportunity to participate in a supported learning environment in a program which will enable real improvements in profitability and environmental impact
- Opportunity to improve knowledge about climate change and sustainability



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Resources



- Resources for those directly involved in Farm300 and the wider industry will include:
 - online climate hub on the MLA website
 - online video case studies & tutorials
 - webinars





The bottom line

Good business management is good carbon management





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Commonwealth CFI resources for extension providers:

www.extensionprovidersportal.org.au