



Department of
Primary Industries

Exploring Beyond Diesel - 1

John O'Connor- Bega
john.o'connor@dpi.nsw.gov.au

Exploring Beyond Diesel - 1

Online Forum Agenda 10 July 2020

Time	Item
12.45pm – 1.00pm Total	Log in /register / set up etc
1.00pm – 1.15 pm Mike Cashen & John O'Connor, NSW DPI	Opening & Welcome EES & Agencies & Industry bodies involved EES project outline
1.15pm – 1.35 pm James Jackson, NSW Farmers President	The imperative & challenges the day explores fuel security, climate targets The future: The zero/low carbon pressure; plans to get there & risks if we don't
1.35pm – 2.00pm Presentation Charles Luo, Pitt & Sherry	Transitional Technologies: Batteries – what types suit transport /tractors & limitations Upcoming Alternative power options (green diesel, gas or ??) Q&A
2.00pm – 2.05pm	Q&A
2.05pm – 2.45pm Presentation Dr Neil Thompson, QUT	Upcoming Alternative power options: Hydrogen Power developments – 'Integrated hydrogen energy systems for agribusiness' Q&A
2.45pm – 2.50pm	Q&A
2.50pm – 3.00pm	Comfort/tea break
3.00pm – 3.20 pm Jon & Karin Narromine	Exploring diesel alternatives – the evolving story: Part 1 Diesel reductions – via solar & Part 2 Solar to hydrogen to tractor plans
3.20pm – 3.25pm	Q&A
3.25pm – 3.55pm Paul van Ham MTT Tractors (Holland)	Tractor developments & transitions away from diesel. Can an electric tractor work? What transitions can be planned into one?
3.55pm – 4.00 pm	Q&A
4.00pm – 4.10pm	Q&A: Any key questions for speakers
4.10pm – 4.20pm Charlie Prell Farmers for Climate Action	Wrap up evaluation - future events
4.20pm – 4.30 pm	Contingency time: Ongoing Q&A future topics & Networking opportunity with homemade refreshments
4.30pm	Close





Department of
Primary Industries

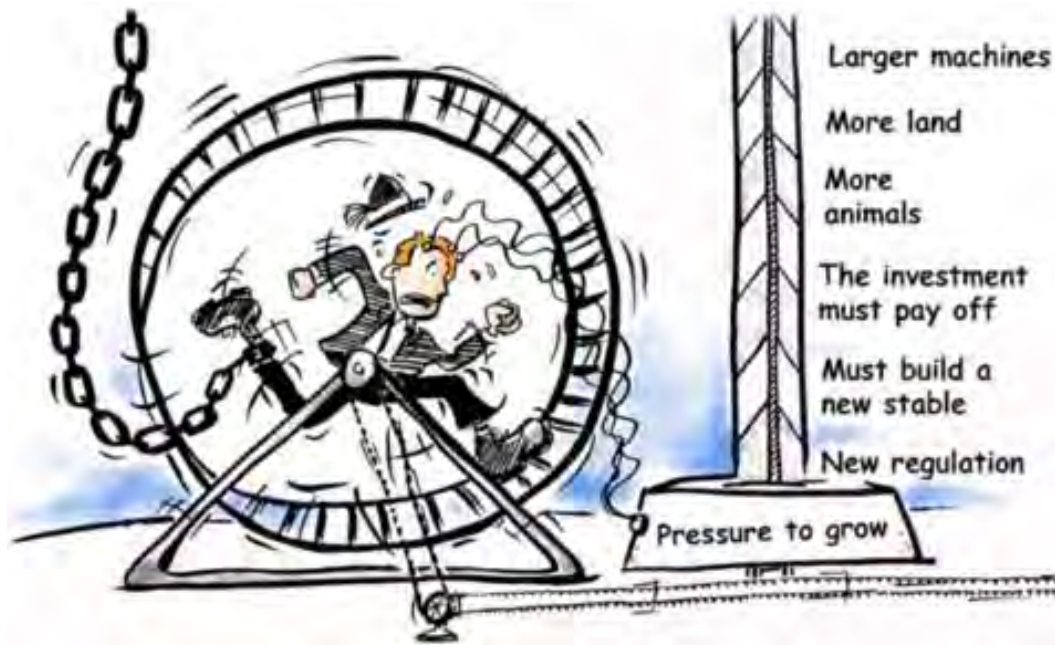
P2: Energy Efficient Solutions

Michael Cashen-Wagga

michael.cashen@dpi.nsw.gov.au

Aim

To reduce industry vulnerability to rising energy costs, increase sector/farm profitability and improved competitiveness of NSW primary industries.

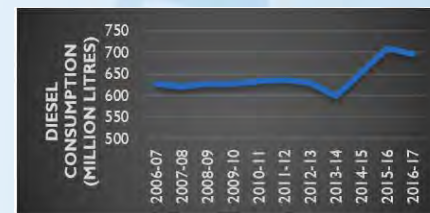
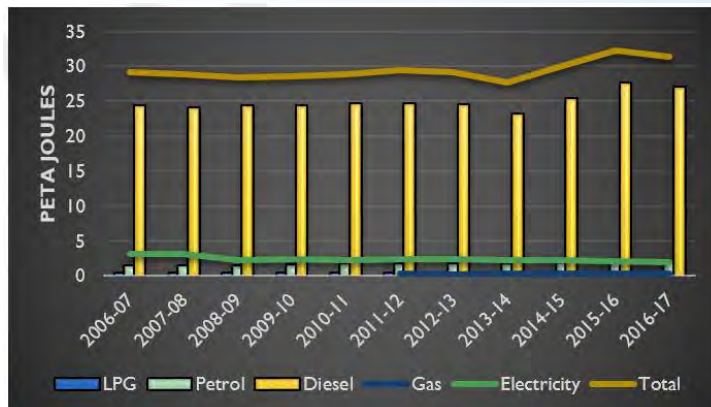
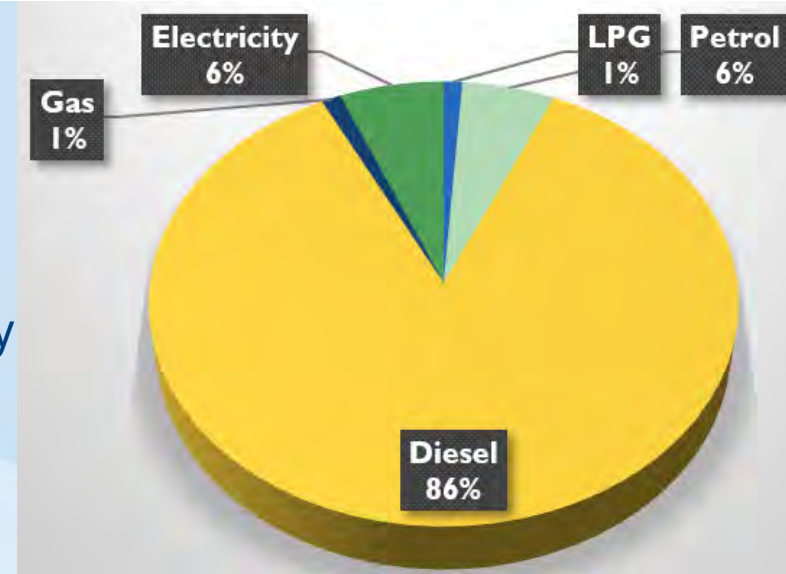


Objectives

- Reduce exposure of primary industries to energy related business risk
- Better inform industry on the merits of a range of new technologies, equipment and production systems in the context of rising energy costs for energy intensive industries
- Provide examples of real world energy efficiency approaches that work, providing increased investment certainty and enabling dissemination of these lessons to the broader sector
- Reduce risks associated with the early adoption of energy efficiency options in agriculture

What is happening with energy ?

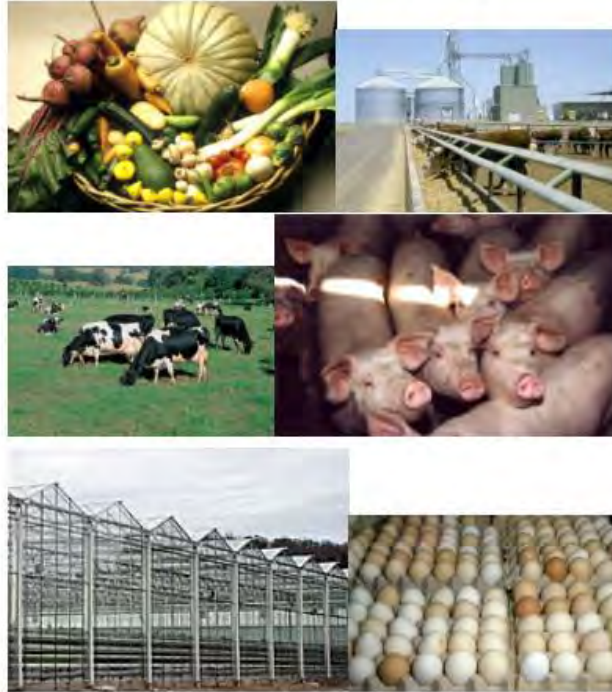
- ❑ Agriculture, fisheries and forestry in NSW consumed 31.342 Peta Joules in 2016-17
- ❑ Overall sector energy consumption is gradually increasing - diesel fuel
- ❑ Broadacre sectors reliant on diesel fuel
- ❑ Increasing concerns over price volatility and security



Source: Australian Energy Update 2018



Exploring the potential for primary industries to improve energy productivity



A research report for
New South Wales Department of Primary Industries
January 2019

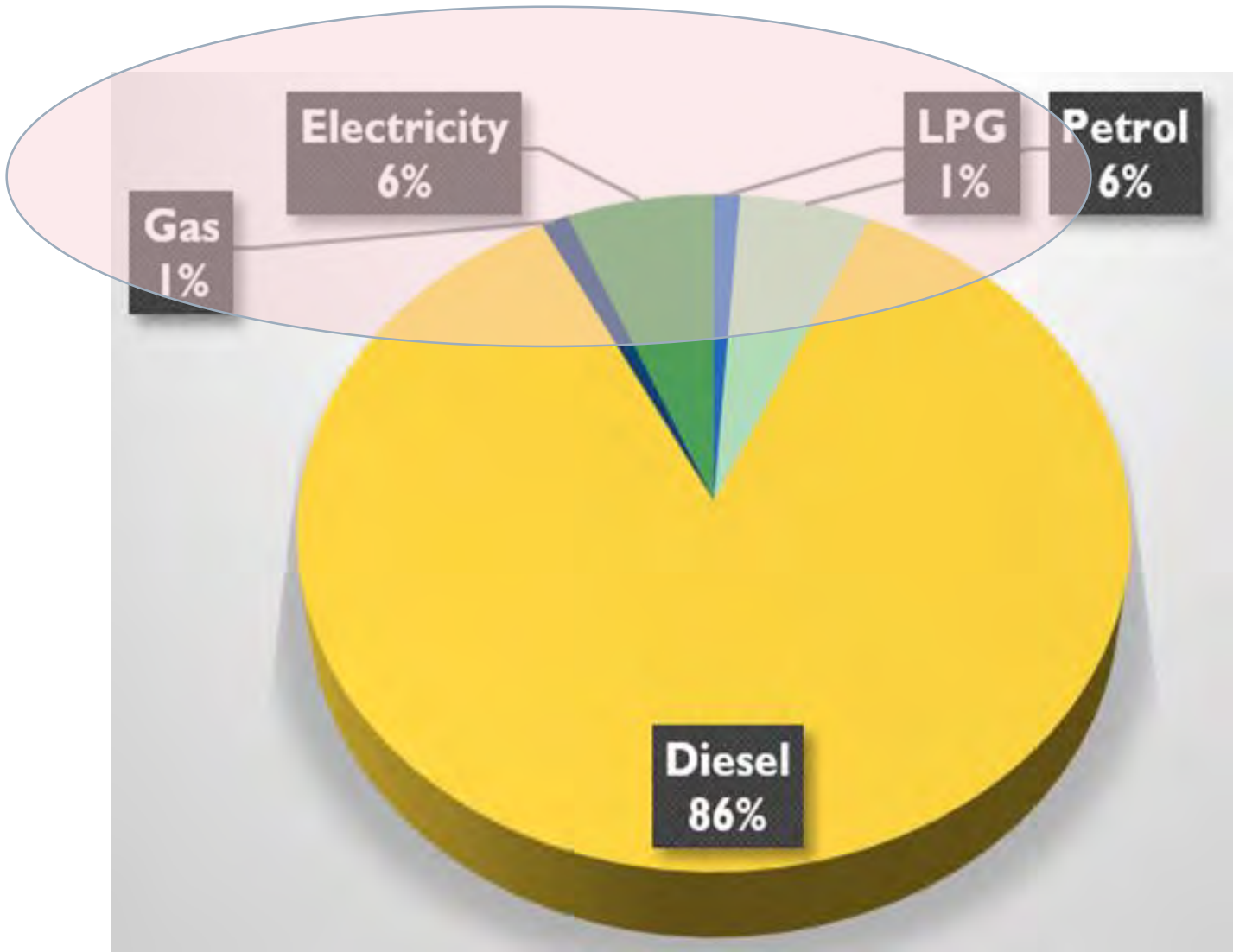


2 complementary strategies

- a series of funded pilots focusing on the intensive sector which will act as case studies for new and novel approaches and technology, and
- a conventional energy efficiency focused initiative delivered through training and awareness campaigns focusing on the extensive and broad acre irrigated sectors.

2 complementary strategies

- a series of funded pilots focusing on the intensive sector which will act as case studies for new and novel approaches and technology, and
- a conventional energy efficiency focused initiative delivered through training and awareness campaigns focusing on the extensive and broad acre irrigated sectors.





Adam Marshall
Minister for Agriculture
Minister for Western NSW

MEDIA RELEASE

Friday, 13 September 2019

\$2.25 MILLION TO SLASH ON-FARM ENERGY USE

Primary producers are being urged to put their best ideas forward to cut costs and reduce on-farm energy use, with up to \$2.25 million now available in NSW Government grants.

Minister for Agriculture Adam Marshall today launched the Energy Efficiency Solutions project, while visiting the Department of Primary Industries' (DPI) Wagga Wagga Agricultural Institute.

"In the midst of the worst drought on record, it's more important than ever that farmers are efficient, and get the best bang for their buck so they can improve their business' bottom line," Mr Marshall said.

"We know our primary producers are some of the State's best innovators, which is why we want to hear from them directly to help get these vital cost-cutting and energy reducing projects off the ground."

Focusing on intensive-farming, proposals can range from clean power generation and storage, efficiency enhancements to machinery, and energy optimisation through on-farm value adding.

"Whether it's finding a way to reduce energy use by better utilising farm machinery and equipment, or improving return on investment by turning farm produce into consumer products on-site, this is an opportunity to cut costs and boost profits," Mr Marshall said.

Ten grants of up to \$50,000 are available to fund feasibility studies. The NSW Government will then invite at least five successful projects to apply for funding of up to \$350,000, to implement a pilot project based on their proposal.

Successful proponents who are awarded the pilot project funding will be required to contribute matching funding up to 50 per cent of the cost of the project.

Applications must be lodged online by October 31. For more information visit [\[URL TBC\]](#)

Media: Matthew Burgess | 0429 022 629



Department of
Primary Industries



Department of
Primary Industries

▶ Attention intensive farmers!

Tired of rising energy costs eroding your profits?

Have an idea to improve the situation that you need help assessing and testing?

NSW DPI through its Energy Efficiency Solutions project is looking to fund innovative on-farm proposals focused on energy optimisation in the NSW beef feedlot, horticulture, dairy, pork and poultry sectors. Funding will be available for both feasibility and pilot assessment to successful proposals that meet the section criteria. **Financial assistance through the project is available for both feasibility (up to \$50,000 ex GST) and Pilot scale implementation (up to \$350,000 ex GST).** Request for proposals now open with applications due by 4pm **AEDT**, 21st October.

More information including application forms and critical dates:

<https://www.dpi.nsw.gov.au/climate-and-emergencies/climate-change-research-strategy>

For more information email michael.cashen@dpi.nsw.gov.au or phone (02) 69381849.

BLZ_KT0275_V2



Department of
Primary Industries

Response

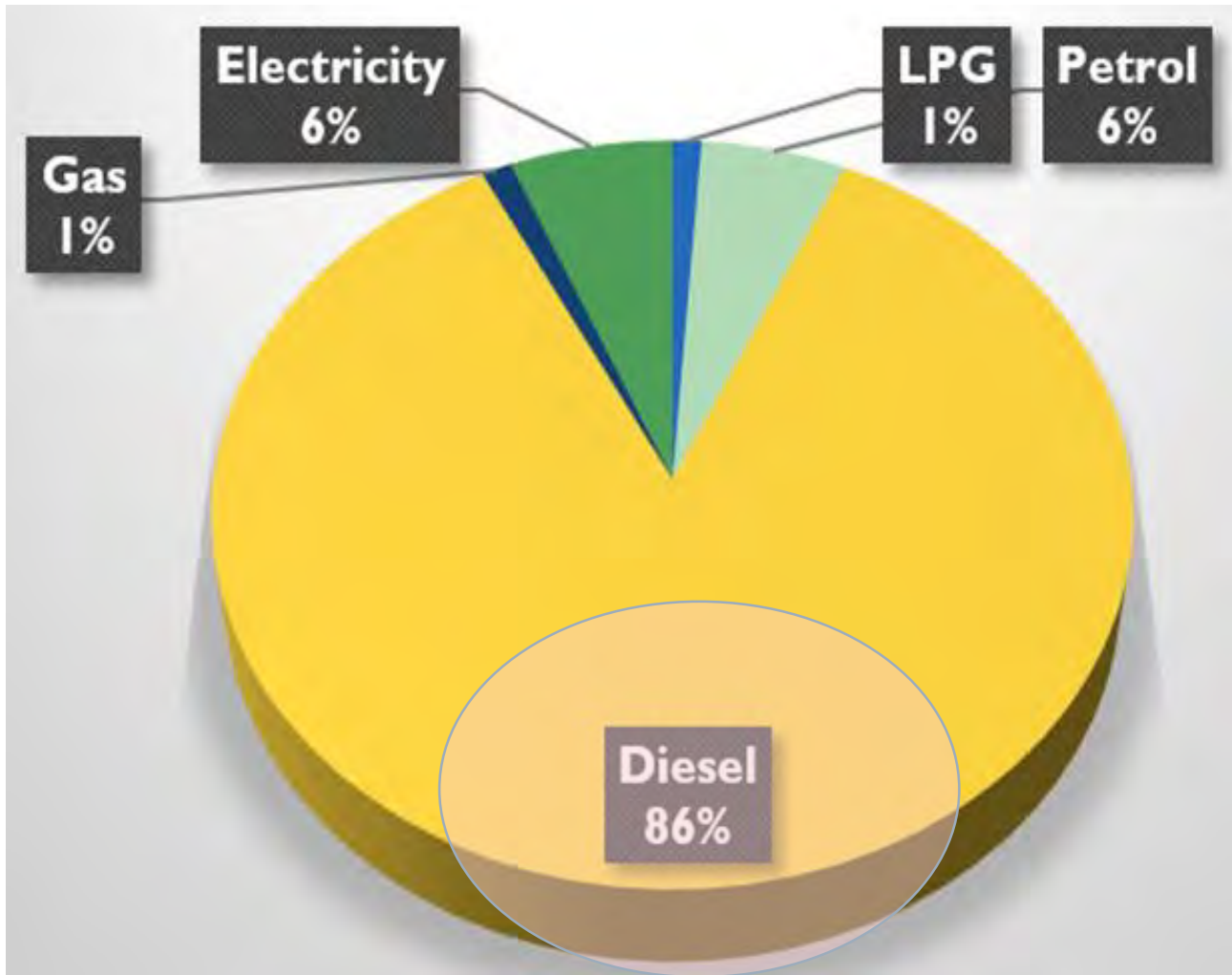
- 21 submissions across the targeted intensive subsectors
- 11 proposals awarded funded feasibility assessments (~\$50K each)
- 6 proposals shortlisted for pilot funding (50% up to \$350K each)

Next steps

- Due diligence assessment and final negotiations
- Funding Deeds in place end July 20

2 complementary strategies

- a series of funded pilots focusing on the intensive sector which will act as case studies for new and novel approaches and technology, and
- a conventional energy efficiency focused initiative delivered through training and awareness campaigns focusing on the extensive and broad acre irrigated sectors.



Purchasing a fuel-efficient tractor

If chosen correctly, modern tractors can deliver significant energy savings and operational efficiencies over older machinery. Tractors are increasingly specialised and making it essential to match their features to specific tasks and environments. Below, fuel-efficiency factors are discussed in relation to usage requirements, dealer engine performance, chassis configuration, linkages, power take-offs, and wheel, tyre and ballasting features.

Introduction

The acquisition of a new tractor is a significant management decision involving hundreds of thousands of dollars and long-term commitment to a particular production system and ancillary equipment.

A tractor near the end of its life typically operates at well below its rated performance and is likely to be using outdated technologies. Correctly specified, a new tractor will use less fuel to perform the same job and may also incorporate digital technologies that help you to organise and monitor your farming operations.



Figure 1: If your tractors are older than you are, it is probably time to upgrade. But how do you select the right tractor for the job? And what considerations are most important?

Ideally, you will be able to select a machine at an attractive price that is inherently efficient and that also will help you and your operators to be more efficient in the paddock. This is easier said than done, however. The process warrants considerable time and effort, as investing in an unsuitable machine can lock in fuel wastage and other operational inefficiencies for decades.

Scope of this paper

This paper focuses on the energy-efficiency aspects of the tractor-purchasing decision. It does not cover all factors involved in selecting an appropriate machine. Having said this, it may surprise you how many of your general considerations have an energy-efficiency dimension.

Things can get complicated when price is the overarching driver of your decision. If a machine with poor energy efficiency is sufficiently cheap, the discount may be enough to



RESEARCH
The impacts
the Australia

August 2018

© 2018 Australian Farm Institute
ISBN 978-1-921808-43-2



Australian Government
Department of the Environment and Energy

Liquid Fuel Security Review

Interim report



April 2019

Exploring Beyond Diesel - 1

Online Forum Agenda 10 July 2020

Time	Item
12.45pm – 1.00pm Total	Log in /register / set up etc
1.00pm – 1.15 pm Mike Cashen & John O'Connor, NSW DPI	Opening & Welcome EES & Agencies & Industry bodies involved EES project outline
1.15pm – 1.35 pm James Jackson, NSW Farmers President	The imperative & challenges the day explores fuel security, climate targets The future: The zero/low carbon pressure; plans to get there & risks if we don't
1.35pm – 2.00pm Presentation Charles Luo, Pitt & Sherry	Transitional Technologies: Batteries – what types suit transport /tractors & limitations Upcoming Alternative power options (green diesel, gas or ??) Q&A
2.00pm – 2.05pm	Q&A
2.05pm – 2.45pm Presentation Dr Neil Thompson, QUT	Upcoming Alternative power options: Hydrogen Power developments – 'Integrated hydrogen energy systems for agribusiness' Q&A
2.45pm – 2.50pm	Q&A
2.50pm – 3.00pm	Comfort/tea break
3.00pm – 3.20 pm Jon & Karin Narromine	Exploring diesel alternatives – the evolving story: Part 1 Diesel reductions – via solar & Part 2 Solar to hydrogen to tractor plans
3.20pm – 3.25pm	Q&A
3.25pm – 3.55pm Paul van Ham MTT Tractors (Holland)	Tractor developments & transitions away from diesel. Can an electric tractor work? What transitions can be planned into one?
3.55pm – 4.00 pm	Q&A
4.00pm – 4.10pm	Q&A: Any key questions for speakers
4.10pm – 4.20pm Charlie Prell Farmers for Climate Action	Wrap up evaluation - future events
4.20pm – 4.30 pm	Contingency time: Ongoing Q&A future topics & Networking opportunity with homemade refreshments
4.30pm	Close

