

Agriculture Energy Investment Plan



Minister's foreword

The Agriculture Energy Investment Plan outlines the Victorian Government's commitment to partnering with industry to build a more resilient, energy efficient and internationally competitive agriculture sector.

The plan will work to strengthen the industry's ability to adapt to changing energy conditions by identifying opportunities for improvement, providing investment support, demonstrating technology and new processes, and building industry skills while supporting the commercialisation of new technology and systems.

Victoria is a global food bowl and the sector is a major contributor to our economy. In 2016-17, a record \$12.8 billion of food and fibre produce was exported, employing almost 200,000 Victorians.

Agriculture Victoria is looking forward to working closely with a broad range of farmers and agricultural businesses through the investment plan.

This plan is all about getting innovative technologies on-farm to address business costs in a changing energy environment.



The Hon. Jaala Pulford MP

Minister for Agriculture
Minister for Regional Development

What we learnt

Agriculture Victoria in partnership with the Victorian Farmers Federation, conducted a survey to better understand on-farm energy consumption, cost structures and barriers to investing in energy efficient technologies. 215 farmers completed the survey and this data has shaped the development of the Agriculture Energy Investment Plan, ensuring it meets industry needs.

What are the main energy-related concerns for farmers?

Cost

of energy was the number one concern



for 75% of gas users,
66% of diesel users,
and 59% of electricity users

Reliability

was also a concern



for 35% of electricity users
and 21% of diesel users

What are the biggest barriers to decreasing on-farm energy costs?

73.5%



High
up-front cost
of investment

63.2%



Low return
on investment

31.8%



Unsure of how
to choose
appropriate
technologies

28.2%



Technology
changes too
quickly

27.7%



Unsure of how
to implement
appropriate
technologies

10.1%



Need to see
others in
my industry
succeed first

8.1%



Lack of
interest

What actions have farmers taken in the past two years to keep energy costs down?

21.2%

Changing
power usage
to manage
demand

20.5%



Switching to
energy efficient
lighting

19.3%

Negotiating
directly with
provider
for cheaper
energy

13.8%



Using solar
panels

13.0%



Seeking advice
from electricians

11.3%

Improving
insulation
and seals

Who is using back-up energy supplies?

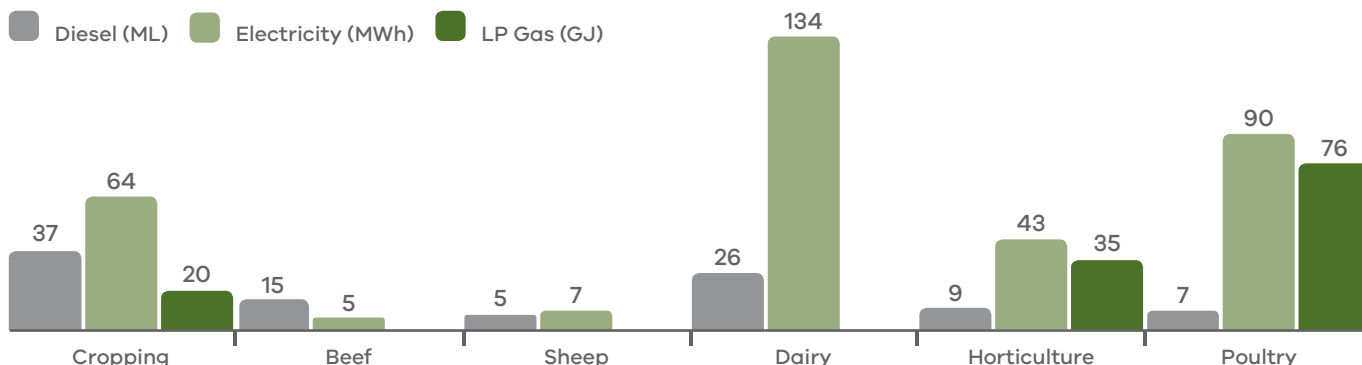
55%

of farmers have **back up energy supply**
in place

40%+

of farmers generate some renewable
energy on-farm

What was the average energy use in 2016-17, by farm type and energy type?



Investment plan outline

The investment plan will provide \$30 million to support enhancements to energy efficiency and energy productivity, helping to boost competitiveness and protect local jobs.

The plan is tailored to the needs of primary producers. It will be open to farmers and businesses whose primary operation is in the agriculture sector.

The investment plan consists of five actions:

- **assessments** – providing on-farm energy assessments
- **grants** – to support farmers invest in implementing energy efficiencies or own-generation capacity to reduce ongoing costs
- **demonstrations** – showing energy measures on-farm
- **skills and education** – linking farmers and businesses to information and education resources
- **research** – facilitating partnerships to commercialise research for the farming sector.

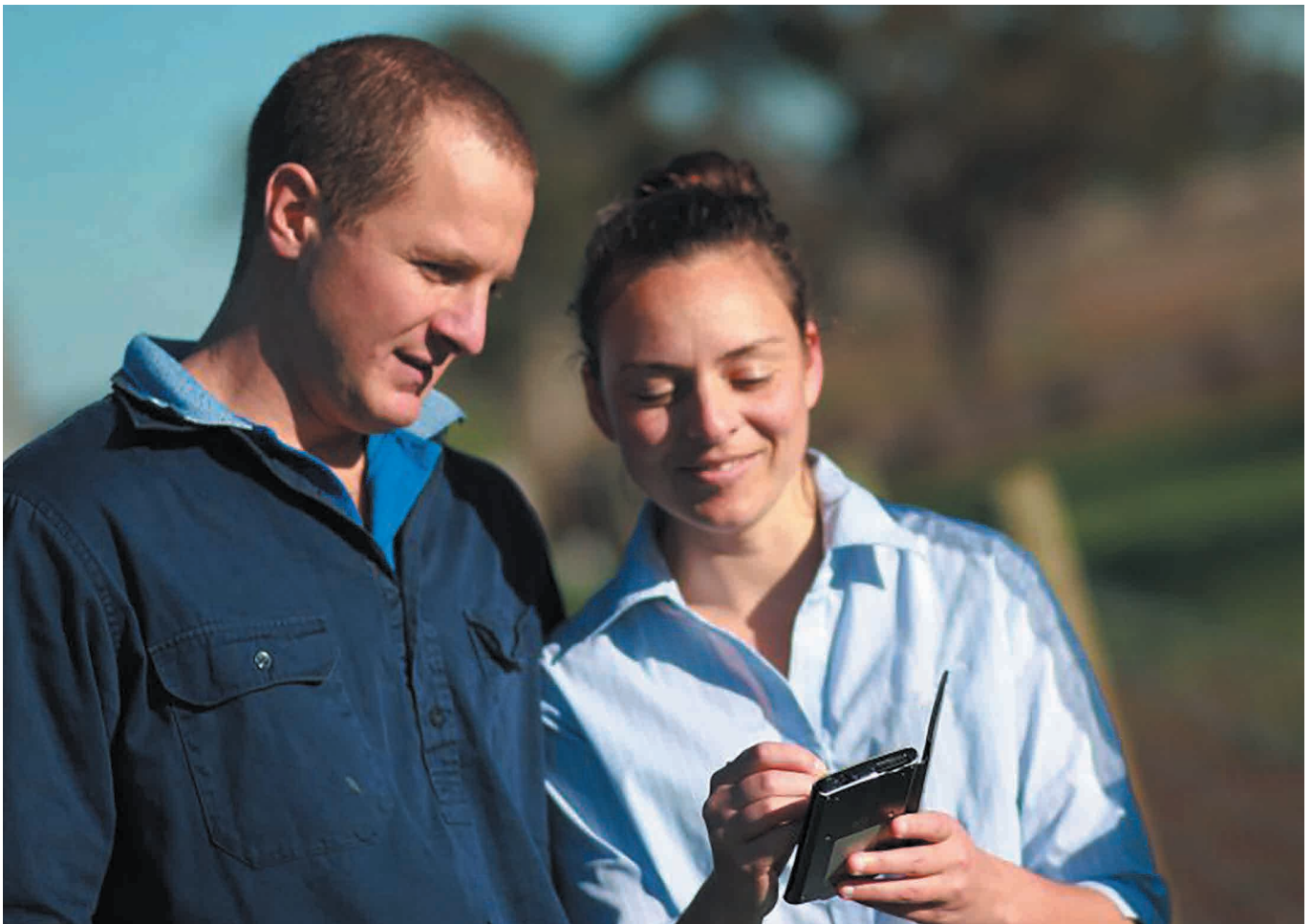
Continuing the conversation

An advisory panel will be established to provide advice on the design and roll out of the Agriculture Energy Investment Plan. The panel will include industry representatives and energy experts.

The Victorian Government will also be contacting farmers that responded to the On-farm Energy Survey to learn from their experience and ensure the plan continues to meet their needs.

Agriculture Victoria's conversation with farmers will continue at regional and agricultural shows, and industry training days where farmers will have a chance to speak to us directly.

You can register your interest and receive updates on the plan at agriculture.vic.gov.au/agenergy



Assessments

Independent experts will provide detailed advice on energy efficiency and own-generation opportunities tailored to individual farm businesses. The assessment will build a road map for investing in energy improvements over time.



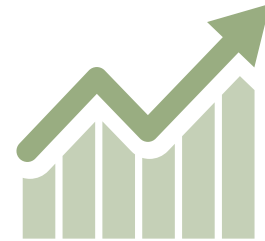
Grants

Grants will be available to support initiatives identified through the assessment process that improve on-farm energy efficiency and productivity. These may boost the efficiency of current and future operations or facilitate own-generation capacity.

The grants scheme will be assessed according to the type of investment required, including:

- simple equipment upgrades
- medium to large projects across a range of aspects of the farming business
- projects of strategic or regional significance.

Projects that fit within an existing program will be directed to the relevant program providers.



Demonstrations

Demonstration sites will show new technology and processes on-farm. These sites will highlight how changes to existing systems and investment in technology can impact positively on farm productivity and reduce energy costs. They will also provide farmers the opportunity to discuss how to make changes on their farm.



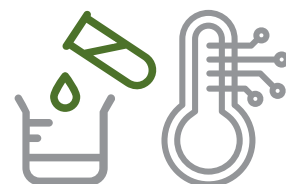
Skills and education

The Victorian Government will take energy efficiency and renewable energy equipment and information to farmers and regional communities during field training days and agricultural shows. The plan will also support upskilling service providers to deliver agriculture-specific energy solutions.



Research

Agriculture Victoria will partner with research organisations, universities and industry to develop and commercialise new technology that has the potential to boost energy efficiency and improve the resilience of the sector.



Case studies



Madowla Park – Barmah

The 4,400 hectare canola farm, Madowla Park, operates an integrated closed-loop farming system, which includes export heifers, beef, seed crops and a biodiesel production facility.

A closed-loop system provides everything that goes into production and uses everything that comes out. Madowla Park grow the crop, process the crop, make the biodiesel and use the biodiesel and by-products.

At full production, Madowla Park produces 1.5–2 million litres of fuel and 3,000–4,000 tonne of canola meal annually. Other by-products, mainly wash water and glycerol, are used to generate power to run the farm and the biodiesel plant.

Madowla Park had a payback period of three to four years.



Murphy Fresh Hydroponics – Mansfield

Murphy Fresh Hydroponics is one of Victoria's largest hydroponic tomato growers producing more than three million kilograms of tomatoes every year in glasshouses.

Murphy Fresh commissioned an approximately \$600,000, six megawatt thermal generator system.

Every year they buy \$450,000 of waste hardwood logs from local sawmills, representing a saving of 50 per cent from burning coal briquettes.

Murphy Fresh had previously considered installing an LPG system and while the capital cost of installing a biomass system was about eight times more expensive than LPG, they save \$1.65 million a year on fuel costs by using biomass over LPG.

The payback period was approximately two years.



West Gippsland Dairy Extension

A family owned and operated dairy farm in west Gippsland invested in developing efficiencies to lower their energy costs.

The farm, which runs 530 cows on 260 hectares has installed a 60 kilowatt solar system to power the dairy, a wood fired boiler to heat the hot water for the dairy and a vat wash.

The excess power is sold back in to the grid.

As a result, energy costs have reduced from approximately \$9,000 to \$3,000 a quarter.



Australian Tartaric Products – Colignan

Australian Tartaric Products have been using waste from local wineries since the 1990s, distilling it to make grape spirit and extracting tartaric acid from the distillery waste which they then sell back to the wine industry.

They are now taking reuse to the next level, powering their operations with steam generated by burning the processed grape waste including waste grape skins and pips. This exciting step is a first for Australia and has almost eliminated the need to use LPG on-farm.

Total energy costs are down more than \$2 million a year. And carbon emissions are down by about 10,000 tonnes of carbon dioxide equivalent a year.

How to get involved

To register your interest in taking part in the Victorian Government's \$30 million Agriculture Energy Investment Plan, or to find out more, please visit agriculture.vic.gov.au/agenergy



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