

# Going solar pays dividends for Leongatha farmers



'Peter and Jenny Hulshof, Koorooman, estimate that they could save up to \$6,500 per year through their solar energy and hot water installation'.

A new combined solar hot water and solar electricity installation on a dairy farm at Koorooman, just north of Leongatha in Gippsland, is set to return power bill savings of an estimated \$6,500 per year to the farmers.

Peter and Jenny Hulshof sharefarm with owner Louisa Noordenne, milking between 330 and 340 Friesian cows on a 42 stand rotary that was built 27 years ago. The property, 'Bona Vista' covers 560 acres, including the area for young stock. The milking cows run on about 420 acres.

Originally Peter and Jenny were just looking to reduce their hot water costs for the dairy by changing to solar power. Jenny was given the task of researching the options at last year's Farm World Field Days at Lardner Park. She talked to many exhibitors and found that the people from Solar Dynamics were very encouraging and seemed to make the most sense.

Solar Dynamics, based in the south-eastern suburbs of Melbourne are the sole distributor of the well-known Chromagen solar hot water products and they handle solar power installations providing a 25 year warranty.

So Jenny asked them to come out to the farm and quote on the job. After inspecting the dairy, Doug Phayer, the senior site assessor, suggested that he quote on setting up a solar system to supply energy for all the power requirements for the dairy as well as the hot water.

After almost a year's deliberation Louisa Noordenne agreed to go ahead. Work on the installation commenced on May 1 this year. It took three days to get the 15 kW solar electricity system up and running.

Sixty 250 watt Canadian solar panels are fitted to the north-facing roof of the milking shed and six CR110 solar panels provide energy to three hot water units, each with 300 litre tanks. A pump circulates the water on each of the hot water tanks.

As no heating elements are connected on the hot water units the system operates as a preheat for the existing boiler at the dairy. This way solar pre-heated water is provided, so the boiler heats to the operating temperature required for the post-milking wash-downs.

"Our shed is on three-phase power", said Peter Hulshof, "so Solar Dynamics fitted a 15,000 watt three phase grid connect inverter. What we use during the day





'The Solar Dynamics installation at the Hulshof farm has 60 solar panels on the milking shed roof for the power, and six for the hot water'.

comes from the solar and any extra goes into the grid so that we can get paid for it or as a reduction off our energy bills. We get 8 cents per kW on the grid."

Peter went on to explain why they considered solar energy in the first place. "It was a matter of anything that we could do to save money. We use 1160 litres of hot water each day in the dairy and that's lots of electricity. With the high inputs in dairying, we needed to save costs somewhere. Louisa was very supportive of the project."

Wayne Foster, director of Solar Dynamics, said that the expected performance of the solar energy system on its own is 20,805 kilowatt hours of electricity each year. "And that means greenhouse gas emission reductions of 25,266 kg of CO2 per year.

"We have calculated a reduction in the electricity drawn in the boiler at 9600 kilowatt hours per year, with greenhouse gas emission reductions there of 12,000 kg of CO2 each year."

Peter and Jenny said that as the solar energy system has only been in for a couple of months, it hasn't really been in long enough to assess the actual advantages. "There is a readout on the control panel of the daily solar input and it's easier than we thought to manage it in the practical operation of the dairy."

Wayne Foster summed it up by estimating that the combined systems; solar hot water and solar electricity, should achieve a reduction on grid-supplied power of over 30,000 kilowatt hours per year, equating to more than \$6500.00 per year savings on electricity costs.

"This will be a combination of a reduction of grid power required and some solar credits for exporting power to the grid at a rate of eight cents per kilowatt hour credit.

"With over a 17% return on the investment and the rising cost of electricity the system will pay for itself in less than five years. Backed with a 25 year performance on the solar electricity panels it will be pumping along every day helping save money."



'The solar hot water system at Peter and Jenny Hulshof's dairy has six CR110 solar panels for three 300 litre tanks to operate as a preheat for the existing boiler.'

"The team at Solar Dynamics have been excellent", adds Jenny Hulshof, "they came out straight away when we were ready to start and the follow-up service has been great. Any questions that we've had, they've been able to sort out."

**To find out how to save on the rising costs of electricity contact us on 03 9580 0120 or Wayne Foster on 0400 192 095**

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