



Industry project for smarter energy use

Case Study: Mike & Kim Jamieson, Timboon, WestVic

Mike & Kim Jamieson milk 250 cows at Timboon in Westvic. Mike & Kim had an on farm energy assessment which revealed that they were around 5 per cent higher than the average for plate cooling costs. Mike immediately questioned why and started looking at what he could change.

His first job was cleaning the weeds out of the water trough which feeds into the cooling tower. Then he installed the heat recovery unit to capture heat from the chiller unit on the vat and use it to heat the water to clean the vat and machines. They estimate that the heat recovery unit will cut their hot water costs in the dairy by 40–50 per cent and will pay for itself within three to five years. “In my opinion it’s better than solar panels because the panels get dusty and you have to keep them clean to work efficiently, whereas this system is protected in the dairy,” Mike said.

The system, which has a 450-litre capacity, sits between the compressor on the milk vat and the air cooled condenser to extract the heat during milk cooling. The hot refrigerant gases with high pressure from the compressor are transported to the heat recovery system where the heat is released into the cycling water in the system. This pre-heated water (to about

55–60 degrees) can then feed into the hot water system to heat it to around 85–90 degrees overnight when the off peak electricity charges kick in.

“On the day of pick up both cylinders are connected and the night water from the plant is right for the next day,” Mike said.

“The upshot is two thirds of our power is used for heating water so this will save us at least 40 per cent on hot water costs, which is great.

“We will also have an additional saving on the chiller unit where we used two fans. Now we only need one fan because using water to remove heat from it is more efficient than using air.”

The couple is more than happy they completed the energy assessment, which revealed their plate cooler was not working as efficient as it could be.

“It made me aware of things I didn’t realise weren’t running efficiently so I could fix them immediately and the assessment looked at things I wouldn’t have thought to, to help improve our running costs,” Mike said. “I highly recommend it – there’s no point being charged for something you don’t need to be.”

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