Sandra Jefford:

Our energy bills associated with irrigation were huge. They were about $100,000 a year, and we wanted to reduce those. So we had an energy audit done that really looked at where we're using the energy for irrigation.

Sandra Jefford:

We were really lucky that the audit was done by Rob Welke from Tallemenco, and he's a pumping system specialist. So we had a great rapport with Rob and we are really attached to our energy audit report.

Sandra Jefford:

As soon as we had the audit report, we started implementing Rob's recommendations, and then we met somebody who could help us match renewable energy to the irrigation system. And we developed a renewable energy action plan with Steve from AEI.

Sandra Jefford:

The action plan reviewed each component of our irrigation system and gave us recommendations for the changes that we could make to be able to match irrigation to renewable energy and how we might shift some activities to match with solar power that, of course, is only available during the day.

Sandra Jefford:

One of the things that we did was put variable speed drives on the bore pumps and at the river. That means that we can start pumping once we have just a small amount of solar power early in the morning.

Sandra Jefford:

We were really pleased with our final energy report. We're really attached to it, and we've used it numerous locations around the farm. When we've changed infrastructure, we've gone with Rob's recommendations. So in terms of new electric pumps that have replaced diesel and variable speed drives and so on.

Sandra Jefford:

We have gone back to Rob a few times because we've made a major investment in new pumps and it was really important that we get the best pump to do the job because that was going to be the most energy efficient solution.

Stephen Soutar:

Our initial involvement with the Wilandra Farm was when we got a call from Wilco who said they had an energy audit done and they were keen to implement some of it. And the key area that we were involved with is the process control and automation and our backgrounds in pulp and paper in the water industry. So we can apply all of those skills to this task. And we'd been starting to look at alternate energy, but we definitely weren't a solar supplier or a battery supplier. We were really about how do you use those tools to provide a better solution to the farm.

Stephen Soutar:

So what we started to do with Wilco and Sandra is look at each process on the farm, look at how we could optimise it, but more importantly, look at how we could create more flexible power demand that would allow it to utilise solar better.

Stephen Soutar:

So the whole outcome we were aiming for was to make sure that we could utilise the maximum amount of solar, reduce the grid usage to the minimum, because that's what creates the cost reduction. And then also be aware at the time that we had to meet the requirements of the farm from an operational point of view.

Stephen Soutar:

So the three main points to be able to do this work is first of all have an automation system. We have an AEI smart box, which is the brain to what we do. And then you need to look at the process and adapt the process to the smart box and to the renewable energy. And it's really about focusing on the system and how the system works in total rather than look at what's happening with individual bits. So we're not focusing on putting 100 kilowatts of solar or putting a battery or even putting anything. We're focusing on what the system is and what the outcome is.