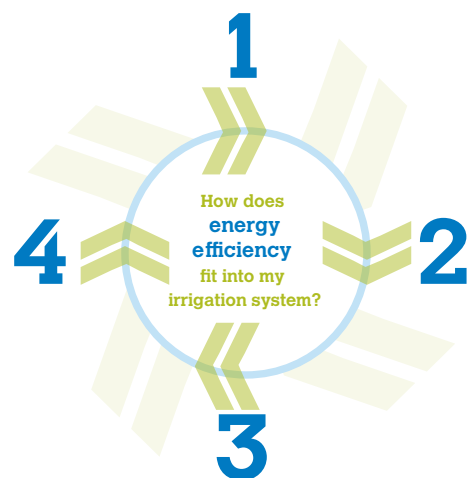


How does energy efficiency fit into my irrigation system?



1 **Set**
your irrigation goals

2 **Find**
the energy leaks
and reduce the
energy needed

3 **Pay less**
for your energy

4 **Review**
your system design and
upgrade where feasible

Acknowledgements

This activity received funding from the Department of Industry as part of the Energy Efficiency Information Grants Program.

Dairy Australia gratefully acknowledges the contributions made by many people in producing this factsheet. Dairy Australia also acknowledges the co-funder who made this factsheet possible, the Department of Industry.

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How does energy efficiency fit into my irrigation system?

Helping you to make informed decisions about increasing energy efficiency of your irrigation system.



There are many ways that you can reduce energy use of your irrigation system, but any decision to save energy must be considered within the whole context of your irrigation system and your agronomic and business goals.

The greatest return on investment can be from implementing simple energy saving changes which may have immediate benefits, and do not compromise your ability to irrigate to optimise feed outcomes.

Follow the process on the reverse side of this poster to learn how to identify potential energy and financial savings for your irrigation system.

Remember decisions made to reduce energy costs now can be felt later in the season through impacts on your feedbase and milk production.



DairySAT, the environmental self-assessment tool, also has a module on irrigation.

Visit: www.dairysat.com.au

How does energy efficiency fit into my irrigation system?

1. Set your irrigation goals

Have you set your irrigation goals?

- Be clear on what you are trying to achieve through irrigation. Maximising dry matter utilisation is the key driver for dairy profitability. Growing grass well should be the first priority for pasture based dairying systems.

- Remember that all your input costs including water, energy and pasture all create value for your business. Make sure you understand the relative costs and returns of each so you can make decisions about the best option for your farm.

- Get the basics of irrigation right. Focus on optimising your system overall e.g. apply water where and when the plant needs it, consider timing, volume, soil types, uniformity of application and use soil moisture monitoring to ground truth decisions.
- Irrigation start up is critical. Don't get behind on day one.

→ No

More information

Visit DairySAT, DEPI website, feedbase tool link

Yes

2. Find the energy leaks and reduce the energy needed

Is your existing system operating as efficiently as possible?

- Make sure all equipment is in good working order.
- Check your system is running as it was designed to.
- Good maintenance is critical to maximising energy efficiency.

- Select the right pump, motor and impeller for the job. The higher the efficiency of the pump the more water it will move per watt of energy.
- Correctly size pipes and fittings for your system. These are high areas of friction loss.

- If there are significant variations in elevation in your system, consider installing a Variable Speed Drive which can reduce energy use over variable terrain.
- Check auto start timers on pumps are accurate and are starting and stopping as planned.

→ No

More information

Visit DEPI, consult an irrigation technician

Yes

3. Pay less for your energy

Have you looked at your current energy plan and compared it to other options in the market?

- Where possible, consider Load shift to maximise use of off peak and shoulder tariffs but ONLY where it does not compromise pasture/crop growth. Utilise off peak tariffs to fill storages during these times.

- If possible, ensure access for meter readers – you don't want bills based on meter estimates that could be higher than your actual consumption.

→ No

More information

[Comparing energy plans](#)

See page 2 of the Saving energy on dairy farms booklet

Yes

4. Review your system design and upgrade where feasible

Is your system design up to scratch?

Have you got the right advice?

- How could you improve your system to reduce the system pressure or reduce system flow rate or total volume of water pumped, while still optimising your agronomic goals?
- Think laterally across the landscape. Make gravity work for you.

- Automation saves time and labour and can improve water and energy use efficiency. Explain your needs to your irrigation dealer – is there affordable and reliable automation technology that can help?

Get independent design advice. Ask your designer:

- Are they a Certified irrigation Designer (CID)?
- Will they be involved in job tendering?
- Does the quote include total capital costs and ongoing running costs? A cheaper system up front may cost a lot more in the long run.
- Constantly reassess your needs – what best suits your farm and available labour?

→ No

Beware

Independent advice is always best.

When upgrading system design, a written contract may help to ensure the installer delivers and demonstrates the full service you are expecting before final payment. Ask for total capital and running costs.

Yes

Remember

The decisions you make to save on energy costs during irrigation can have a much broader and more expensive impact on availability of feed and milk production.

Any decision made to save energy should be considered as part of the whole system and how it will contribute to your business and argonomic