

# Tackling Drought with Energy Efficiency

Your utility recognizes that saving water can lead to saving energy and money.



Contact your utility to learn how you may be eligible for incentives to increase energy and water efficiency in the following areas:

- **New High-Efficiency Irrigation Pumps**

Over time, some irrigation pumps may wear out, leak water, and become less efficient. Or your old irrigation pump might not be a good match to your current irrigation system requirements. Installing a new, more efficient pump will help restore your irrigation system to the best operating point and save energy and money. If you install a Variable Frequency Drive (VFD), you can save even more.

- **Variable Frequency Drives**

VFDs are designed to adjust your irrigation pump motor speed to match your changing irrigation (flow and pressure) needs. Even small speed adjustments using a VFD can create big energy savings, often as much as 10–20 percent. You also get better precision and control over water distribution and pressure, and help the pump match-flow requirements.



## Reduce Energy Costs

Your utility offers incentives to help you. By saving water, farmers, dairies, and ranchers may be able to reduce energy costs, increase irrigation uniformity, decrease the amount of fertilizer required, or potentially even increase crop quality and yield. Your utility offers services and incentives to their members for eligible energy-efficiency measures.



# Tips for Reducing Energy Use

- **Irrigation Hardware Upgrades**

New sprinklers, regulators, nozzles, and gaskets can reduce pressure at the pump, save water, improve water application uniformity, and save energy. As equipment wears out, making the switch to more energy efficient hardware is one of the easiest ways to start saving water, power, and money.

- **Low Elevation Spray Application (LESA) and Mobile Drip (MDI)**

LESA can provide more uniform irrigation application with sprinkler heads closer to the ground. This reduces water evaporation during irrigation and reduces the pressure and energy. MDI uses pressure controlled drip tubing to deliver water directly on the ground and eliminate evaporative water loss.

- **Zonal Variable Rate Irrigation (ZVRI)**

A center pivot normally irrigates all the acreage uniformly, but many fields are not uniform. Some terrain might dictate less water in low spots and more water in other areas. ZVRI can control the irrigation and offer water and energy savings and may improve crop yield in many cases.

- **Irrigation System Evaluation and Pump Testing**

Irrigation system analysis or pump testing may identify opportunities to increase efficiency of a pumping plant and irrigation delivery system, including low pressure conversion for center pivots and laterals, reduction of friction losses in piping, and rebuilding or replacing pumps and trimming pump impellers.

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## Strategies for Drought Resiliency

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| ✓ Sprinkler upgrades to LESA, LEPA, MDI    | ✓ Pump Test/System evaluation cost share incentives |
| ✓ Zonal Variable Rate Irrigation           | ✓ Drought tolerant crop varieties                   |
| ✓ VFD's on pumps                           | ✓ No till drill                                     |
| ✓ New more efficient/smaller pumps         | ✓ Collaboration with NRCS EQIP                      |
| ✓ On farm water reuse (dairy and wineries) |   |



### Dairies

Incentives are available for dairies that include barn LED lighting, and VFD applications on air compressors, vacuum pumps, heat exchangers, and large heat pump water heaters.



### Wineries

Many processing applications at wineries—VFDs and refrigeration are all eligible opportunities for utility incentives. Water use can also be reduced at wineries with new cleaning technology.