



PUMP UP THE SAVINGS

VARIABLE FREQUENCY DRIVES IMPROVE IRRIGATION EFFICIENCY

PROJECT SNAPSHOTS

Fox Hollow Ranch—White City

- 125 hp irrigation pump VFD
- \$18,400 project cost
- \$9,200 Energy Trust incentive
- \$4,036 annual energy cost savings

Rajnus Seed—Klamath Falls

- 125 hp irrigation pump VFD
- \$18,904 project cost
- \$6,884 Energy Trust incentive
- \$1,606 annual energy cost savings

100 hp irrigation pump VFD

- \$16,877 project cost
- \$8,438 Energy Trust incentive
- \$2,794 annual energy cost savings

David Van Gordon—Hillsboro

- 60 hp irrigation pump VFD
- \$11,606 project cost
- \$5,803 Energy Trust incentive
- \$2,323 annual energy cost savings

In most agricultural businesses, irrigation flow and pressure needs vary due to seasonal fluctuations, geographical factors and equipment efficiency. Conventional, fixed-speed irrigation pumps operate for maximum water flow, which can waste energy and water, and is especially problematic in water-short years. Adding a variable frequency drive (VFD) can reduce energy costs by 35% or more, and may qualify for cash incentives from Energy Trust of Oregon. VFD technology adjusts pump speed to water flow requirements. It also allows a single pump to serve a variety of irrigation systems and provides flexibility to change pressures for different pumping requirements.

Energy savings made simple

Fox Hollow Ranch irrigates 600 acres near Madras, producing mainly carrot seed, bluegrass and peppermint oil on contract to larger companies. The irregular ground at the ranch necessitates wheel and handline irrigation. “Originally, we had three pumps of different sizes,” explains Nancy Richards, owner, Fox Hollow Ranch. “It was difficult to know which one to use and complicated to switch them out.”

Richards had worked with Energy Trust to make previous irrigation improvements, so she was game to try the VFD technology—and \$9,200 in cash incentives from Energy Trust sealed the deal. The new 125 horsepower pump with VFD, which replaced the ranch’s largest pump station, self-adjusts for optimum pressure and energy use. “It’s easier, safer for employees and saves us money,” says Richards. “We are convinced this is excellent technology.”

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Time equals money, so we are really sold on the ease of operation. We are in the process of evaluating costs to get two more VFDs installed.

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Nancy Richards, owner
Fox Hollow Ranch

New generation technology

Like his grandfather and father before him, Rajnus Seed owner George Rajnus has weathered difficult growing conditions, adjusted to the market and made technology improvements on the family's 800-acre seed farm in Klamath Falls. Rajnus recently installed two new irrigation pumps with VFDs. In addition to "saving a bunch energy-wise," Rajnus appreciates that he can adjust the new drives to suit whatever pressure and irrigation parameters he needs at the time. The system maintains the settings automatically, saving him many hours of labor each year in making manual adjustments.

By installing 125 horsepower and 100 horsepower pumps, both with VFDs, the farm qualified for more than \$15,000 in cash incentives, approximately 43% of the combined project costs. The new pumps and VFDs are saving the farm an estimated \$4,400 in annual energy costs. Rajnus Seed plans to reduce energy use and cut costs even further by installing a third new VFD.

Lower costs, increased value

For Dave Van Gordon, installing a VFD was a key element of his strategy for attracting growers to lease a portion of his new venture—130 acres of prime land in Hillsboro for crops such as hops, blueberries and grapes. His investment in a 60 horsepower pump with a VFD supports various sprinklers and guns and gives his property a competitive edge.

Energy Trust provided Van Gordon nearly \$6,000 in cash incentives, which covered half of the project cost. The new pump is saving an estimated 57,600 annual kilowatt hours and \$2,300 in annual energy costs. "If a grower doesn't need a pump functioning at full capacity for adequate irrigation, why pay for full capacity energy? The VFD helps regulate energy use and manage costs," said Van Gordon.



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I could have replaced the existing technology for less, but I'm getting so much more in savings over time, and in value to my prospects.

Dave Van Gordon

