



Dairy Electric Versus Gas Water Heating

TECHNOLOGY QUICK REFERENCE



The Focus on Energy Agriculture and Rural Business Program has increased financial incentives when switching water heaters from electric to propane or natural gas.

To be eligible for this incentive, the gas water heater installation must replace an existing electric water heater. Focus has set minimum efficiency standards and will work with your vendor to identify eligible models. Boiler and direct use units apply, but must have a minimum thermal efficiency rating of 90 percent.

You can use the tables below (Fig. 1 and 2) to determine the estimated dollar savings average and anticipated payback when converting electric to gas water heating. The tables were developed assuming an electrical water heater has a 0.79 energy factor (98 percent thermal efficiency, 1 percent standby loss) and propane and natural gas water heaters have a 0.73 energy factor (90 percent thermal efficiency, 1 percent standby loss).

Installation costs and estimated savings will vary depending on specific site conditions and energy use. Our experienced Energy Advisors can help determine estimated energy cost savings for an operation.

Switching from electric to natural gas or propane for water heating? Focus on Energy will cover 50 percent of the cost up to \$1,500 per installation.

FIGURE 1. CONVERT ELECTRIC TO NATURAL GAS

Herd Size	\$ Annual Average Natural Gas Cost	\$ Savings Average	\$ Estimated Cost of Natural Gas Water Heater	Simple Payback (Years)**
< 10	\$1,350	\$1,250	\$3,000	2.4
100 - 199	\$1,950	\$1,800	\$3,000	1.7
200 - 499	\$3,800	\$3,500	\$3,500	1.0
> 500	\$6,300	\$5,800	\$5,000	0.8

FIGURE 2. CONVERT ELECTRIC TO PROPANE

Herd Size	\$ Annual Average Propane Cost	\$ Savings Average	\$ Estimated Cost of Propane Water Heater	Simple Payback (Years)**
< 100	\$1,700	\$950	\$3,000	3.2
100 - 199	\$2,500	\$1,350	\$3,000	2.2
200 - 499	\$4,770	\$2,600	\$3,500	1.3
> 500	\$7,950	\$4,400	\$5,000	1.0

- Natural gas cost estimated to be \$1.30 per therm
- Electricity costs estimated at \$0.10 kWh

- LP costs estimated to be \$1.50 per gallon
- ** Before any incentives

Focus on Energy works with eligible Wisconsin residents and businesses to install cost effective energy efficiency and renewable energy projects. Focus information, resources and financial incentives help to implement projects that otherwise would not get completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control the state's growing demand for electricity and natural gas. For more information call **800.762.7077** or visit focusonenergy.com.