

DUAL
FUEL



The Dual Fuel Program

You Can Afford to Stay Warm.

The problem

Heating your home represents one of your largest uses of energy and probably one of your largest annual expenses as well. With today's rising energy costs, how can you be sure to stay comfortable at the lowest cost?

A solution

You may have tried different methods already. Some have reduced the comfort level of your home; others have meant a lot more work for you. Now there's a way for you to hold down costs without giving up comfort or convenience. Offered by your rural electric cooperative, it's called dual fuel heating and it's available to you.

Save on heating costs and stay warm

It may seem strange, but you can heat your home at lower cost using two systems instead of one. You may increase your comfort level as well.

Over 16,000 cooperative members in our region have already installed dual fuel, and encouraged by their success, we are offering you this same method of controlling costs while keeping your home warm in the winter.

This brochure is intended to give you the facts about dual fuel heating so you can make a wise decision on your own home heating system for the future. Here are some of the most common questions and answers.



Who is eligible for dual fuel heat?

Dual fuel heating is being offered by all of the 25 member electric cooperatives of the Dairyland Power system. These cooperatives serve more than half a million people in rural western Wisconsin, southeastern Minnesota, northeastern Iowa and northwestern Illinois.

The 25 cooperatives distribute and sell electric energy to their consumer-members. This energy is generated and transmitted by an organization called Dairyland Power Cooperative, headquartered in La Crosse, Wisconsin. The group comprised of Dairyland and its 25 member electric cooperatives form the Dairyland System of Electric Cooperatives.

What is a dual fuel heating system?

Dual Fuel Heat is a plan whereby you can add a second heating system to your current system and gain the comfort and security of electric heat at a special low electric rate.

The system comprises two fuel sources – electricity as a primary system – and an alternate fuel such as gas or fuel oil as a secondary source. If you presently have an electric system you can still benefit from an oil or gas system. If you have an oil or gas system, you can benefit by adding an electric system.

Your dual fuel system is then connected by a radio control to the central control station. During peak periods, when demand for electricity is highest, a dispatcher can switch your home – without interruption of service – from electricity to the secondary fuel for a few hours. Another signal will switch your home back to electric heat.

If for any reason you wish to heat using your secondary heat source for more than the minimum number of hours, you have this freedom. That's one of the advantages of dual fuel – freedom of choice.

How can dual fuel reduce my heating costs?

On peak days during the winter months, the demand for electricity is highest. More resources and equipment must be used by Dairyland to generate the needed electricity and this increases power costs. Installing dual fuel systems in as many homes as possible can significantly reduce these costs and allow for better “load management.” Therefore the cooperatives can offer a lower electric heating rate for dual fuel users, and every member benefits.

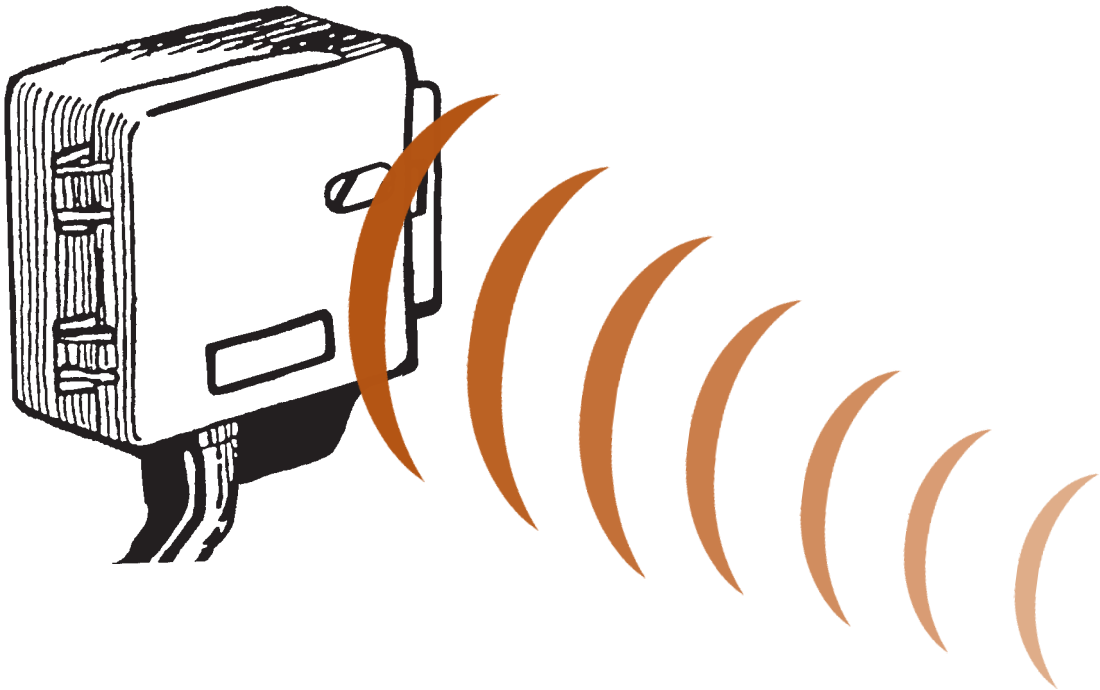
Why is load management so Important?

Electricity cannot be stored and must be produced at the time it is used. Power plants, transmission lines, substations and distribution lines must be built to meet the peak demand for electricity. Load management is a technique whereby electric utilities can reduce peak demand. This means reduced costs for all electric facilities, now and in the future, and improved efficiency for existing facilities.

How is load actually controlled?

Dairyland Power Cooperative operates a special network of radio transmitters which send out load control signals at peak energy use times. These signals are received by a special load management receiver located at the consumer's premises. This small, inconspicuous device actually switches from one heating system to the other.

If your electric water heater is presently being controlled by the load management system, the same receiver can control your heating system. Water heaters and dual fuel are controlled on different schedules, but the same receiver can handle both systems.



How much will it cost to install a dual fuel heating system?

There are a number of dual fuel heating options. Each system is different, depending on our existing heating system. However, experience has shown that when retrofitting an existing oil or gas-fired hot air system, the cost can range between \$500 and \$1,200.

If a major change, such as installing a completely new system is required, the costs may be substantially higher. Your heating dealer, electrical contractor or cooperative representative can help you determine these needs and costs.

How much trouble is it to install a dual fuel heating system?

In most cases, a dual fuel system can be installed quickly and easily – usually in less than a day. It is important to realize, however, that in order to truly enjoy the benefits of a dual heating system, your home must meet, or exceed, the recommended limits of energy conservation methods such as adequate insulation and weatherstripping.

Who can participate?

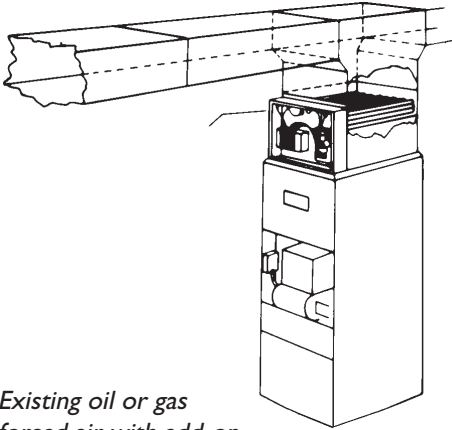
All consumer members who agree to install a dual fuel heating system and allow their cooperative to switch them over to an alternate fuel during peak periods are eligible to participate.

What are the benefits of the dual fuel program?

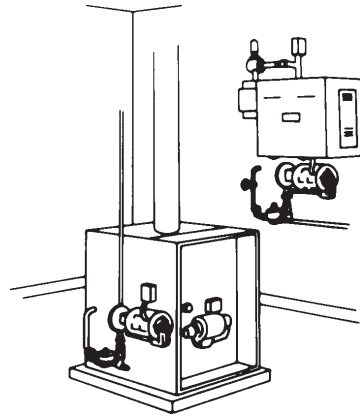
Participants will realize immediate and future savings by reducing their annual heating bills. But, they'll also save by helping keep electric generation and transmission costs down through more economical load management, by deferring retail rate increases, by increasing the efficiency of distribution and by deferring future wholesale rate increases to member cooperatives through deferral of new generation capacity.

You'll be helping your country, too, by reducing its dependence on foreign oil imports. Electricity produced for your cooperative by Dairyland Power is generated primarily by coal. Therefore, by substituting this electricity for oil or gas, significant amounts of oil can be saved for agricultural needs, transportation and other essential uses.

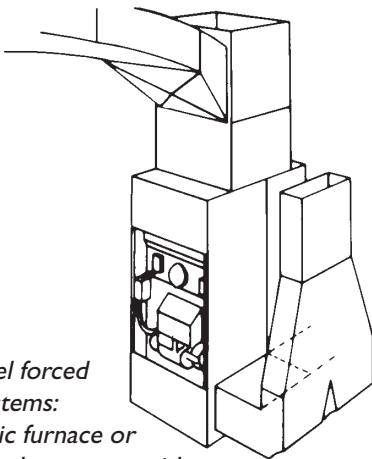
“Participants will realize immediate and future savings by reducing their annual heating bills.”



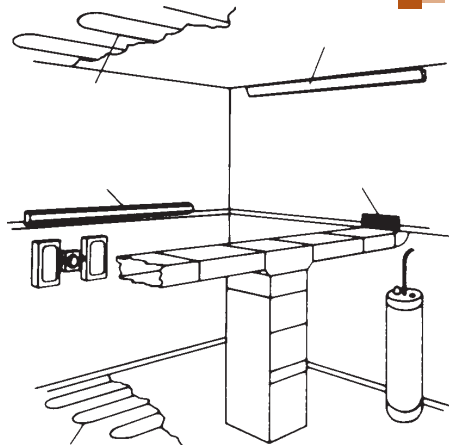
*Existing oil or gas
forced air with add-on
electric plenum heater.*



*Existing oil or gas hot water system with
add-on electric boiler.*



*Parallel forced
air systems:
electric furnace or
add-on heat pump with
oil or gas.*



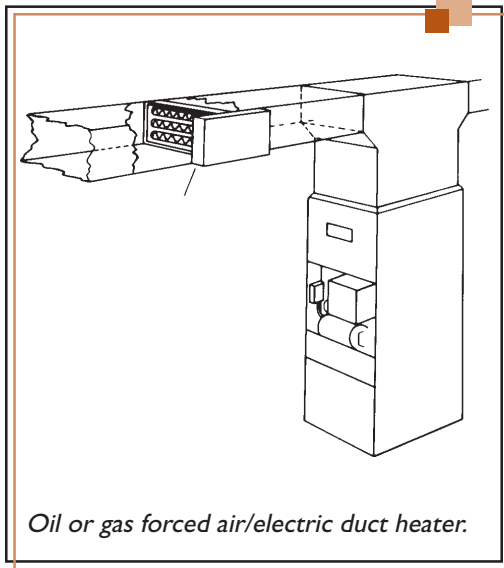
*Existing electric cable or baseboard with
add-on oil or gas forced air back-up.*

Whom do I contact for more information?

Contact your cooperative representative if you have questions about dual fuel heating. For questions about or an estimate on installing a dual fuel heating system in your home, you may also want to talk to your local heating dealer or electrical contractor.

There's a dual fuel system to fit your needs

There are a number of dual fuel heating systems for you to choose from. And depending on what kind of system you're currently using, some will be more compatible than others. The examples illustrated are some of the more common combinations.



Oil or gas forced air/electric duct heater.

The Dual Fuel Program: What it can do for you and your country

- Save on home heating costs
- Increase the efficiency of electrical distribution
- Help defer future rate increases through deferral of constructing additional generation capacity
- Help reduce U.S. dependence on foreign oil
- Improve the cleanliness, comfort level and safety of your home

Help yourself, help your neighbors

The escalating cost of fuel, new construction and inflation will continue to play a major role in our energy needs. But how fast and by how much costs will rise depends on each of us. By better insulating our homes, wiser personal use of energy and through programs like dual fuel, we can help eliminate the threat of an energy shortage now. Participate in the Dual Fuel Program and encourage your neighbors and friends to join you. Together, we can help control power costs now and the future.

Comparative Energy Costs

FOR SPACE HEATING

This chart can be used as a guide to comparative costs for electric resistance type heating.

Electricity (Cents/kWh)	Fuel Oil (\$/Gal.)	Propane (\$/Gal.)
3.3	0.88	0.71
3.4	0.91	0.73
3.5	0.93	0.75
3.6	0.96	0.77
3.7	0.99	0.79
3.8	1.01	0.82
3.9	1.04	0.84
4.0	1.07	0.86
4.1	1.09	0.88
4.2	1.12	0.90
4.3	1.15	0.92
4.4	1.17	0.94
4.5	1.20	0.97
5.0	1.33	1.07
5.5	1.47	1.18
6.0	1.60	1.29
6.5	1.73	1.39
7.0	1.87	1.50
7.5	2.00	1.61
8.0	2.13	1.72
8.5	2.27	1.82
9.0	2.40	1.93

The above figures are based on the following assumptions:

Electricity: 3,413 BTU per kWh and 100 percent efficiency.

Fuel Oil: 140,000 BTU per gallon and 65 percent annual operating efficiency.

Propane: 91,500 BTU per gallon and 80 percent annual operating efficiency.

