

Customer guide

Residential *Dual Energy*



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Numéro client / Client Number
 LE CLIENT
 130 RUE VOLT
 MONTREUILLE
 H3K 1L5



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 LE CLIENT
 130 RUE VOLT
 MONTREUILLE
 H3K 1L5

Account number / Numéro de compte
 122456 789012

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 122456 789012

Bill / Facture

Compte service / Service à la clientèle
 174, rue de Service
 Montreuilville 207 374
 Informations / Informations
 869-8999
 1-800-360-2088

Quantités calculées / Calcul de la consommation
 * consommation
 270 200
 1200 200

Consomption / Consommation
 1133 6745

* différence
 37 249

* consommation
 120

* consommation
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Residential **dual energy**

As one of the many Hydro-Québec customers who have signed up for Rate DT, you are no doubt interested in how you can achieve maximum efficiency, savings and satisfaction from your dual *energy* system. We invite you to read the following information, which we hope will be of use to you.

This Customer Guide is designed to help you better understand and use your dual *energy* system. Therefore, you should make a point of reading it carefully. It describes the equipment installed on your heating system, the dual-register meter, the rate indicator and the other

devices which have been installed in your home. It also gives tips on how to reduce your energy consumption and achieve substantial savings.

Under the dual *energy* system, you use fuel (usually oil) to heat your home during certain critical periods when the demand on Hydro-Québec's power system is very high. These "peak periods" generally occur during the coldest days of winter. Dual *energy* heating therefore plays a major role in the wise use of our energy resources.



What a dual energy heating system is

A dual *energy* heating system combines two energy sources. Electricity is used as the main source and a fuel (usually oil) is used as a backup.

How the dual energy system works

The greatest savings are achieved when the dual *energy* system is left to change from one energy source to the other automatically, i.e. according to the cheaper source of energy at the time. This is the reason behind the automatic switching system, which reacts to a signal from an outdoor-temperature sensor, usually built into the Hydro-Québec meter.

When the outdoor temperature is *equal to* or *above* -12°C (or -15°C , depending on the

climatic zone in which you live) the heating system uses electricity and you are billed at the reduced rate.

When the outdoor temperature falls *below* -12°C (or -15°C), the system automatically switches to the alternate energy source, fuel, for heating, and any other electricity you may use is billed at the peak-period rate.

How to set the mode selection switch

The mode selection switch lets you choose a particular energy source to operate your heating system: fuel, dual *energy* or electricity. It is located on your dual *energy* system.

To ensure that your heating system switches automatically from electricity to fuel during periods when the higher electricity rate is being charged, and vice-versa during off-peak hours, the mode selection

switch should be set at “**dual energy**.” If not, the heating system will not react to the Hydro-Québec temperature sensor.

Remember, to capitalize on your dual *energy* system and to take full advantage of the savings provided by Rate DT, leave your dual *energy* system in the “**dual energy**” mode.

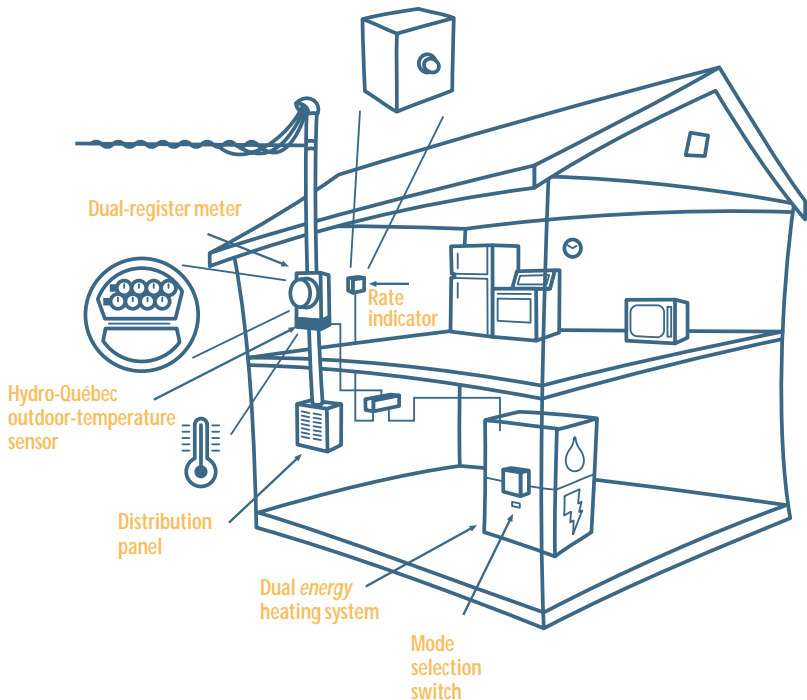
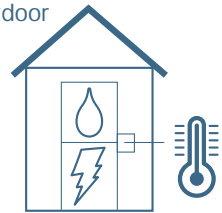




To make the most of Rate DT

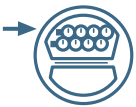
The mode selection switch (see page 3) should be set at **“dual energy.”** The Hydro-Québec outdoor-temperature sensor will then automatically ensure that your dual energy heating system

operates in the heating mode that is the most economical for you, based on the outdoor temperature.

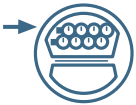


Dual-register meter

The dual-register meter is different from the standard meter in that it has two rows of dials instead of one.



→ The upper register (red needles) records the number of kilowatthours consumed during colder periods, i.e. when the outdoor temperature is below **-12°C** (or **-15°C**). Your energy consumption at that point is billed at the higher rate. The rate indicator light comes on to show this, and remains on while you are being charged the higher rate.



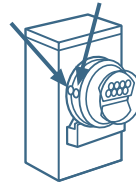
→ The lower register (black needles) records the number of kilowatthours consumed at the reduced rate, i.e. when the outdoor temperature is equal to or higher than **-12°C** (or **-15°C**).

The meter is equipped with a special case which houses the Hydro-Québec outdoor temperature sensor. When the

temperature drops below **-12°C** (or **-15°C**), the sensor signals the heating system to automatically switch from electricity to the fuel mode.

If the meter is located inside your home, the outdoor-temperature sensor is housed in an outside case, usually attached to the power supply mast.

Green and red indicator lights



The green indicator light on the left-hand side of the meter is on at all times to show that the control device is operating.

The red indicator light comes on at the same time as the rate indicator inside your home to show that the peak-period rate is being charged and that your system should be operating on fuel.



Dual energy systems with a heat pump

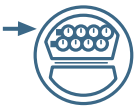
The case of a dual energy system with a heat pump in its electrical component is slightly different. A good heat pump can generally provide heat and comfort, without assistance, to an outside temperature of just a few degrees below freezing. This temperature is called the heat pump's balance point. A dual energy system with an air-air heat pump normally operates as follows:

- When the outside temperature is above the balance point, the heat pump alone is sufficient for heating.
- When the outside temperature drops to the balance point or below, the heat pump must be assisted by the other energy source.
- When the outside temperature drops below the system's normal crossover temperature (-12°C or -15°C), the heat pump stops operating and the alternate energy source takes over for all heating needs.

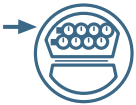
It should be noted that the presence of a heat pump does not affect the way the dual-register meter operates. The meter's crossover temperature remains -12°C or -15°C , even if the heat pump requires assistance before that temperature is reached.

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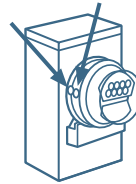
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Dual energy systems with a heat pump

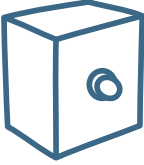
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Rate indicator light

Rate indicator



The rate indicator comes on only when the higher rate is being charged, to show

that your heating system is operating in the fuel mode. At that point, it is wise to limit your use of other heavy-consumption electrical appliances as much as possible. The rate indicator will go off when the high-rate period ends and your heating system will automatically revert to the electricity mode.

Integrated dual energy equipment

Integrated dual *energy* equipment, built to Hydro-Québec specifications, features an additional switch called the “emergency switch.”

Unless the heating equipment’s electronic control has been damaged, this switch should be left in the “normal” position. When the switch is in the “emergency” position, the equipment will operate only in the fuel mode.

Installed equipment

All installed equipment, except the meter, is considered the property of customers. Therefore it is their duty to check the condition of equipment and to ensure its proper maintenance.



What to do if...

The rate indicator is on but the heating system is operating on electricity:

Your mode selection switch may be set at electricity. **Put it back to "dual energy."**

The rate indicator is off but the heating system is operating on fuel:

A- The mode selection switch may be set at "oil." The switch is usually located on your auxiliary space heater or electric water heater. **Reset the switch to "dual energy."**

B- A rate indicator light has a very long lifetime and is rarely defective. However, even when defective it will not hinder your system's automatic operation. Should the rate indicator light need replacing, contact your contractor.

For further information

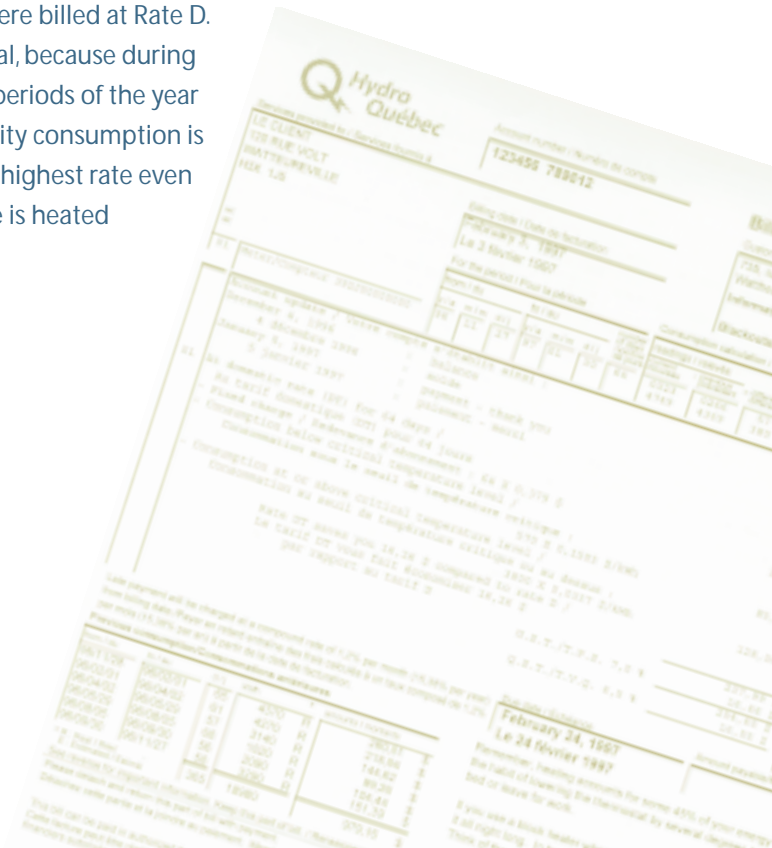
You may contact your Hydro-Québec Customer Services office at the telephone number shown on your electricity bill. We will be pleased to assist you.

Your electricity bill

As was the case previously, you will continue to receive your electricity bill every two months and you will have access to the Equalized Payments Plan (EPP).

You may find that your winter bills are slightly higher than when you were billed at Rate D. This is normal, because during the coldest periods of the year your electricity consumption is billed at the highest rate even if your home is heated with fuel.

Rest assured that you do save over a twelve-month period. When the temperature is **equal to or above -12°C** (or **-15°C**), which is most of the year, you are billed at the reduced rate.





A few hints to help you further reduce your energy consumption and make additional savings

When the rate indicator is on, try not to use household appliances that consume a lot of electricity. Here are a few cost-cutting tips.

When the rate indicator is on:

- Use as little hot water as possible.
- Wait until later to use your washing machine, clothes dryer and dishwasher.
- Plug your block heater in at night for two hours instead of twelve. Your car will start just as easily. The block heater is generally plugged in during the coldest periods of the year, i.e. during peak periods when the higher rate is being charged. It uses 500 watthours

on average, which means that you can save nearly \$0.50 a day by limiting its use during peak-rate periods.

Other hints to apply at all times:

- Always wait until there is a full load before operating the washing machine or dishwasher.
- When cooking on the stove, use the element which most nearly fits the size of pot you are using.

Energy- saving tips

Install a timer on your car's block heater and set it to go on two hours before you leave.

Install a low-flow showerhead to save hot water and energy.

To shade your home in the summer and to cut down on heating costs in the winter, **plant conifer trees to the north and leafy trees to the south.**

When purchasing a new household appliance, consult the ENERGUIDE label for various models and, whenever possible, choose the most energy-efficient alternative.

Gradually replace 60-watt bulbs with 15-watt compact fluorescents. Compact fluorescents use four times less energy, last 10 times longer and provide the same amount of light.

Cover your water heater with an insulating blanket. Even if your water heater is already well insulated, an insulating blanket can cut heat loss by approximately 25%.

For automatic temperature control, **install a programmable thermostat** to set heat levels depending on the time of day and whether or not anyone is home.