

What exactly are next-generation meters?

Next-generation meters—sometimes called smart meters—are electronic devices that measure the energy customers use and can be read remotely by Hydro-Québec. There's no need for meter readers to visit customer premises anymore. From now on, in the vast majority of cases, bills will be based on actual consumption rather than estimates, as sometimes happened with the old technology, when meters were hard to reach.

Here are just two of the many advantages to the new advanced metering infrastructure:

- Faster outage detection and service restoration
- Customers can monitor their electricity use online and manage it wisely.

The new evolvable infrastructure will meet customer needs, now and in the future. With its use of next-generation meters, a technology that has been tried and tested elsewhere in the world and has become the industry standard, Hydro-Québec is part of a global trend in the field.

[The Selected Technology](#) ■

The Selected Technology

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How do Hydro-Québec's customers benefit from the Advanced Metering Infrastructure (AMI)?

The AMI technology offers practical advantages to customers:

- In the vast majority of cases, bills will be based on actual consumption rather than estimates, as sometimes happened with the old technology, when meters were hard to reach.
- Customers will no longer have to fill in meter-reading cards when they move.
- Meter readers will no longer have to enter customer premises, causing much less inconvenience, especially to customers with indoor meters. In Montréal, 70% of meters are indoors.
- Eventually, customers will no longer have to report power failures because, with the advanced technology, Hydro-Québec will be informed automatically. We can thus determine the scope of the outage and restore service more quickly.
- Starting in 2015, customers will also be able to monitor their electricity consumption online and manage it wisely.

Why didn't Hydro-Québec choose a Québec company to build and install the meters?

There is no Québec company that makes them.

When choosing its new technology, Hydro-Québec used a rigorous call for proposals process, which took a number of criteria into account. One of the most important was being able to rely on an end-to-end solution. With a sole supplier, we can be sure that all the components will work together in an integrated fashion. At the same time, we were, of course, looking for the best price and maximum economic spinoffs for Québec.

The Landis+Gyr technology fully meets our present and future needs. In all its projects, Hydro-Québec works in the interests of consumers, and the meter replacement project is no exception. The meter replacement project must be carried out using the best technology available, at the best possible cost.

The residential meters are assembled in Mexico.

What is the service life of next-generation meters?

Next-generation meters have an accounting life of 15 years. As is the case with the old meters, whether electromechanical or electronic, their actual service life could be longer; sampling tests conducted in a few years should tell us. Given the new Measurement Canada standards, the total service life of a meter installed today could be as long as 30 years.

Why replace existing meters and how much will the project cost?

Why replace existing meters?

Although they are still reliable, close to half of Hydro-Québec's meters are over 25 years old and must be replaced before they have outlived their useful lives. Within five years, two thirds of the meter fleet will have reached the end of its useful life.

Electromechanical meters, with a spinning disc and several dials, haven't been manufactured in North America since 2010. Measurement Canada imposes strict rules on companies to guarantee the precision of the measurement systems they use.

Hydro-Québec is therefore required to install meters that will enable it to meet those standards, so replacing them is not a choice, but a necessity.

We have chosen to set up an advanced metering infrastructure with automated meter reading and install next-generation meters for all customers.

How much will the project cost?

The project filed with the Régie de l'énergie [Québec energy board] represents an investment of close to a billion dollars, for savings of \$200 million (current dollars), compared with keeping the existing technology.

We anticipate recurrent savings of \$81 million by the end of the technology rollout in 2018. These savings will have a positive impact on rate changes.

[What is the total cost of the meter replacement project? ■](#)

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What does Hydro-Québec do with all the meters it's replacing?

A supplier who is required to follow Hydro-Québec's strict procedure is responsible for recovering and recycling the materials in the old meters.

The procedure includes dismantling every meter so the components can be recovered and recycled.

All the meters, whether removed by Hydro-Québec or Capgemini Québec, the company that installs some next-generation meters for us, are recycled this way.

How far along is the replacement of the Hydro-Québec meter fleet?

The Régie de l'énergie [Québec energy board] approved the plan to install 3.8 million next-generation meters throughout Québec.

Hydro-Québec has already installed more than 2.7 million meters and continues the rollout throughout Quebec.

I've heard that England has suspended the rollout of next-generation meters and will be holding public hearings on the subject. Is it true?

No. The British government passed a law at the end of January 2013 making the rollout of next-generation meters mandatory. Meter installation is slated to start in 2014. Public hearings are also part of the process. The rollout has been neither suspended nor halted.

The Régie de l'énergie [Québec energy board] has issued two rulings allowing Hydro-Québec to install next-generation meters throughout Québec. The first, in October 2012, concerned the Greater Montréal area. The other, in June 2014, authorized the rollout in all other regions of the province.

Has my meter already been replaced with a smart meter? How can I tell the difference between the old and new meters?

When Hydro-Québec is ready to replace the meters in an area, it sends a letter informing residents. You'll receive it at least 30 days before the scheduled installation of your next-generation meter.

How to recognize the new meters ?

Hydro-Québec's next-generation meters have three main distinguishing features:

- They are electronic devices.
- They have a liquid crystal display (LCD) window.
- The display changes at regular intervals.

Technology that has developed in the last few decades

1st GENERATION

Electromechanical meters

The electromechanical meters installed by Hydro-Québec for decades are the oldest and over the years, they have been replaced by electronic models. They have a spinning disc and several dials. They aren't being made anymore.

MANUAL READING

2nd GENERATION

Radiofrequency meters

Hydro-Québec started installing these meters in the mid-1990s. Meter readers can obtain electricity-use data by means of a special device without entering the customer's premises.

REMOTE METER READING BY METER READERS

3rd GENERATION

Next-generation meters

Combined with an advanced metering infrastructure (AMI), these next-generation meters automatically record the amount of electricity consumed and transmit it over long distances to Hydro-Québec's systems.

AUTOMATED REMOTE METER READING

[An Evolvable Network](#) ■

An Evolvable Network

Hydro-Québec is entering a new stage in the development of a smart grid, which, in the long term, will cut costs to customers. The company decided on an advanced metering infrastructure that requires the installation of 3.8 million next-generation meters. This new technological platform will allow billing based on actual consumption through remote reading. Customers will no longer have to fill in meter-reading cards when they move and service can be restored remotely. Watch the video to learn more.

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Can I keep the old meter that is now installed at my home?

No. Although they are still reliable, close to half of Hydro-Québec's meters are over 25 years old and must be replaced before they have outlived their useful lives. Within five years, two thirds of the meter fleet will have reached the end of its useful life. Electromechanical meters, with a spinning disc and several dials, haven't been manufactured in North America since 2010, so replacing them is not a choice, but a necessity.

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Does the introduction of next-generation meters have an impact on Hydro-Québec's collections procedure?

No. The introduction of next-generation meters has absolutely no impact on our collections procedure. This procedure is well documented and approved by the Régie de l'énergie and involves sending several notices and reminders before proceeding with a service interruption, which is used only when all other steps have been exhausted. Service interruption is always a last resort. Hydro-Québec's objective is to get the customer to pay the balance due and not to disconnect service.

Hydro-Québec encourages customers with good payment habits to call and make a payment arrangement if they are going through a difficult situation and cannot pay their balance due. Low-income customers can enter into a payment arrangement adapted to their situation at any time.

It is true that technically, interrupting and restoring electricity service remotely may be simpler with the introduction of next-generation meters, since an employee is no longer required to go on-site. However, the recovery procedure remains the same, whether a customer has a next-generation meter or not. Interrupting service is always a last resort.

Electricity is one of the only services billed to customers after it has been consumed. In the interest of fairness, Hydro-Québec must ask all customers to pay for the electricity used. Otherwise, these amounts increase Hydro-Québec's bad debt which affects the rates paid by all customers. Note that nearly 90% of customers pay their bill on or before the deadline. In addition, electricity to the main residence of customers with electric heating is never cut during the winter period, between December 1 and March 31.

Can next-generation meters cause over-billing?

No. A new meter, be it electromechanical, radiofrequency, or next-generation, has no relation to changes on a customer's bill.

All of our meters are approved by Measurement Canada. This independent organization imposes strict rules on companies to guarantee the precision of the measurement systems they use. Hydro-Québec is therefore required to install meters that respect these standards. The next-generation meters we install are therefore safe, reliable and read customers' actual consumption.

Temperature variations or changes in consumption habits could affect electricity bills. Winter 2013-2014 was extremely cold, leading to increased consumption for the majority of our customers. This had an impact on our customers' winter electricity bills or, for customers signed up for the Equalized Payments Plan, on the annual review of their monthly installments (between July and October).

When a meter is replaced, an actual consumption reading is taken. If a customer did not grant Hydro-Québec access to their meter for an extended period of time and did not fill in their meter-reading card, their billing is based on estimated consumption. It is therefore possible that a customer paid less than what was actually consumed, leading to an adjustment on a future electricity bill.
