Hydro-Québec, at a glance

61
Hydropower generating stations

261,578
km of power lines

4.4
million customers

200
computer rooms

11,500
servers

25
petabytes of data

Innovating for 75 years

Our electricity is clean, competitive and abundant

It's a tremendous asset at a time when the Québec economy, like others around the globe, is facing a much-needed energy transition.

It's a Québec resource

that plays an important role in keeping the province's finances sound.

This energy is rivaled only by the collective energy of Quebecers

By working together, all of us can once again set our sights high and build a better future.

GOOD FOR QUÉBEC.
GOOD FOR EARTH.

*Below the 1990 level.

Plan pour une économie verte

THE TARGET:

Reduce our greenhouse gas (GHG) emissions by

37.5%.*

*Below the 1990 level.

https://www.environnement.gouv.qc.ca/plan-economie-verte/en/bref.htm

Open data

Objectives

One of the largest energy databases

The guiding principles of our enterprise architecture already include the notion of utilizing and sharing data externally (open data).

What is open data?

Facilitate access to our data (transparency, engagement and collaboration)

Showcase the benefits of our electricity (clean, reliable and affordable)

Support corporate strategies (market development, customer-centric culture, operating performance)

Contribute to innovation, research and education

Our target audiences

 Established companies and start-ups

 Researchers and students

 Hydro-Québec employees

 Media and influencers

 Governments and municipalities

 People living in Québec

Our data sets

Ongoing outages and planned service interruptions

Vegetation control planning

Hydro-Québec's tree and shrub directory

Electricity demand in Québec

History of electricity generation and consumption data in Québec

Sources of electricity generated in Québec

Change management

2016
Opening up data close to the open data format.

2020
Opening up data that is most commonly requested by our stakeholders.

2022
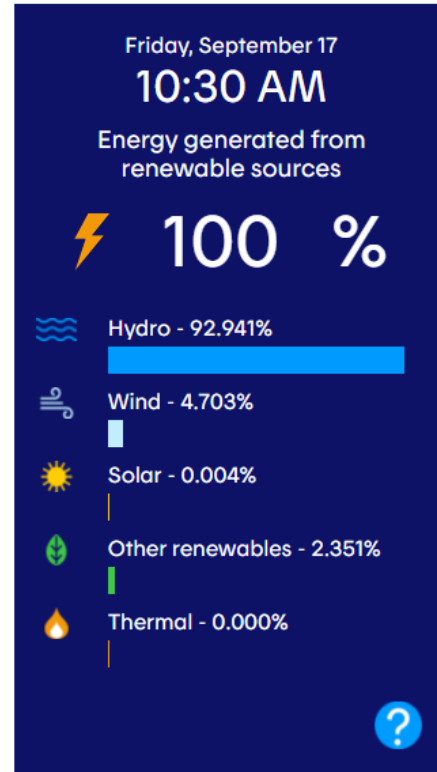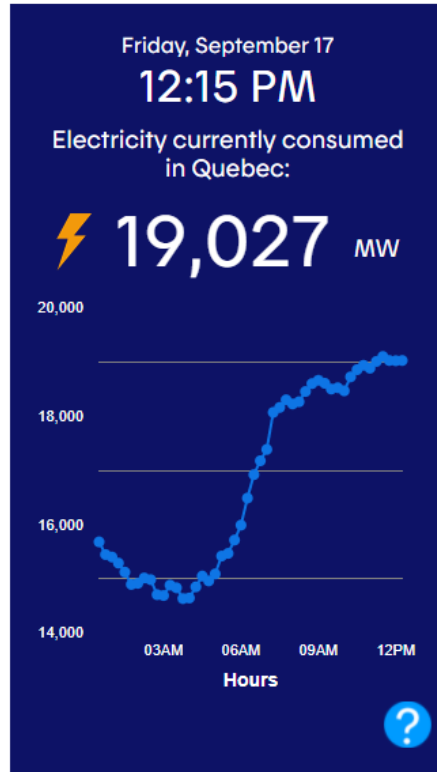Opening up our data on GHG emissions and electricity use.

202X
Actively contributing to the energy efficiency, the energy transition and the decarbonization of the economy.
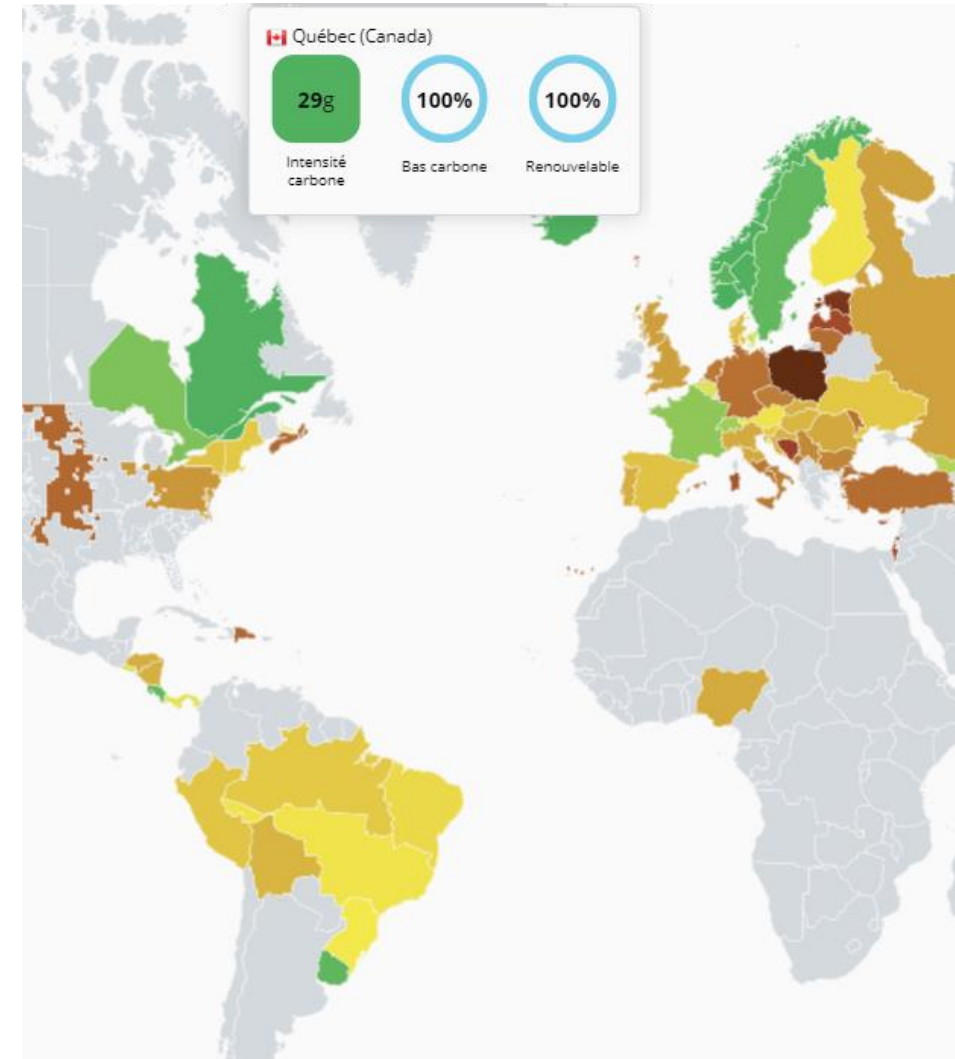
Example of data utilization

Main grid supply in real time

See widgets displaying data in near real-time:
https://www.hydroquebec.com/about/our-energy.html

Carbon intensity of electricity in near real-time:
https://www.electricitymap.org/map

Issues

Structural issues

5

Access to information and privacy

- *Act respecting Access to documents held by public bodies and the Protection of personal information* (individual requests)

- One-to-one agreements (universities, research chairs, etc..)

4

Processes

- Safeguarding vs. opening data

- Managing risks associated with the data and the user's intention

3

Standards and compliance

- Reliability model adopted by the North American Electric Reliability Corporation (NERC)

- Federal Energy Regulatory Commission (FERC) and separation of functions at Hydro-Québec

Economic issues

2

Value of open data

- Examples of value creation for our stakeholders

- Calculating financial and societal benefits related to sharing data

1

Ethics and business strategies

- Competitive energy market

- Contractual and business relationships

- Shareholder expectations

Non-compliance with the *Transmission Provider Code of Conduct* and FERC standards related to disclosing information from third parties or Transmission Provider customers without their consent.

Disclosing strategic information related to the publication, in near real-time, of electricity generation data that affects business strategies or the social acceptability of major projects.

Disclosing sensitive information that could affect requirements related to the transmission system, the wholesale market or cross-jurisdictional relations.

Solutions

Engage, collaborate and promote

Potential solutions

1

Engage

- Increase awareness of issues related to energy data
- Build support among "energy data generators"
- Broaden access to energy data—a solution for everyone

2

Collaborate

- Provide support for data opening based on the various risks
- Provide an open and collaborative environment for all stakeholders
- Set ambitious objectives

3

Promote

- Show impacts on policies and targets (energy transition, energy efficiency, GHGs)
- Draw public attention to innovative accomplishments
- Share accomplishments with stakeholders

"You may say I'm a dreamer, but I'm not the only one!"

John Lennon

Thank you!

Hydro-Québec's open data initiative
September 28, 2021