SETTING NEW SIGHTS WITH OUR CLEAN AND RENEWABLE ENERGY
99% of our output is generated from water.
63 HYDROELECTRIC GENERATING STATIONS

INSTALLED CAPACITY OF HYDRO-QUÉBEC’S GENERATING FLEET

36,370 MW
HYDRO-QUÉBEC
AT A GLANCE

REVENUE: $13.7 BILLION
NET INCOME: $3.1 BILLION
NET INCOME FROM EXPORTS: $902 MILLION
NET EXPORTS: 29.3 TWh

EXPORTS: 15% OF THE NET SALES VOLUME ACCOUNTS FOR 29% OF NET BENEFITS
OUR 4 MAIN PRIORITIES

CUSTOMER SERVICE

PRODUCTIVITY

PROACTIVE COMMUNICATIONS

GROWTH
A world-class research centre

Mission | To conduct research and development to ensure the company's leadership in the development of knowledge and technological solutions to issues that are critical in the short and long term, in order to improve the company's performance by making the most of existing and emerging products and services.

Vision | Team players, creators of effective solutions, recognized for our agility and our outstanding achievements.

MAKING A DIFFERENCE for Hydro-Québec and for Quebec
IREQ AND INNOVATION
Always at the heart of Hydro-Québec's evolution

Inauguration of IREQ | The research facility was inaugurated in September 1970. Its primary mission: to understand and solve problems associated with 735 kV networks, to develop advanced technologies and to stimulate the development of the electricity sector.

1965

World first
Commissioning of first 735 kV transmission line in Quebec.

1970

Spacer-damper | Solution to counter wind-induced oscillations and vibrations in transmission lines.

1980

IRECA Steel | Steel that is super-resistant to cavitation erosion, thus reducing turbine wear and extending turbine life.

1990

SimPowerSystem | Simulation and modelling software used by network managers, equipment manufacturers and research centres around the world.

Digital diagnostic models
Tools capable of simulating water flow in turbines to identify what is hampering performance and propose solutions. As a result, the efficiency of hydraulic turbines increased by approximately 1%. • Significant economic gains for Hydro-Québec

Wheel motor for electric vehicles | Technology behind the motor designed by TM4, a subsidiary of Hydro-Québec

2000

LineScout Robot | Multi-purpose Robot used to inspect power transmission lines.

New relay and protection systems | Tools that make it possible to increase the network's transport capacity.

 Establishment of Eststalion Technologies, a joint venture between Hydro-Québec and Sony | House at IREQ, the company develops large-scale energy storage systems for power grids using our battery materials.

2010

First storage system | Eststalion Technologies delivered its energy storage system in less than a year.

2016

• Durability and of electrical equipment
• Materials for batteries and electric vehicles
• Robotics and maintenance – MIR Innovation subsidiary

IREQ | A powerful engine for innovation and growth for Hydro-Québec and for Québec, IREQ has identified area of technological development for the future:
• Intelligent network and processing of big data

1995

Ouranos Consortium | IREQ contributes to the consortium's work to assess the impact of climate change on Hydro-Québec's activities.

1990

Digital diagnostic models

1970

High-voltage network optimization studies | Results: Understanding of the behaviour of high voltage lines, optimization of design criteria, development of standards.

1980

Simulation and modelling software used by network managers, equipment manufacturers and research centres around the world.

2000

• Significant economic gains for Hydro-Québec

2016

• Durability and of electrical equipment

2010

Materials for batteries and electric vehicles

2016

Robotics and maintenance – MIR Innovation subsidiary

2016

Original patent for LiFePo4
Our business: inventing and innovating

Knowledge

State and development of knowledge

Products and services

Practical

Nature and use of expertise

Theoretical
Services for Hydro-Québec and for the industry

Research and development
- Technological innovation projects aligned with the needs of the company’s major divisions

Support, expertise and testing
- Technical support to resolve various issues related to equipment and operations

Innovation
- Opportunities for value creation
- Position Hydro-Québec as an innovator in Quebec society

License sales and technology transfers
- Storage
- Robotics
- All areas of R&D
Our priority research areas for the future

- Smart grids and processing of big data
- Durability and performance of electrical equipment
- New services for our customers
- Renewable energies
- Battery materials, storage and electric vehicles
- Robotics and maintenance
IREQ contributes to Hydro-Québec’s Strategic Plan 2016–2020

• By developing technological solutions to support Hydro-Québec’s activities, including improving productivity

Innovation video

Long version:
https://lz.hydro.qc.ca/lz/cs.exe/2016X051_capsule-innovation-vf-long_1080p.mp4?func=hq.fetch&nodeId=127188749

Short version:
https://lz.hydro.qc.ca/lz/cs.exe/2016X051_capsule-innovation-vf-long_1080p.mp4?func=hq.fetch&nodeId=127188749
IREQ contributes to Hydro-Québec’s Strategic Plan 2016–2020

By opening new markets for the company and creating wealth for Quebec

IREQ is a key element in:
- Overseas acquisitions
- Developing new uses and new services
- Establishing promising partnerships with SMEs in Quebec
- Attracting foreign players to Quebec
- Developing innovative concepts

Drone video
https://www.youtube.com/watch?v=4Vlf4D81MAE
IREQ contributes to Hydro-Québec’s Strategic Plan 2016–2020

By using its know-how to stimulate progress and propose innovative technologies to support Quebec in its energy transition

Battery materials and smart charging stations for electric vehicles | Climate change research | Study of new sources of renewable energy | Energy efficiency | Northern Plan
IREQ

- Vector of social and economic development
- Major force in the energy sector
- Leading research partner for training the next generation of talent, creating high-quality jobs and developing technologies of the future
IREQ

A centre of excellence
A science and technology hub serving Hydro-Québec
for the benefit of Quebec society