



# Ever-Changing Energy



**Hydro-Québec** generates, transmits and distributes electricity, mainly using renewable energy sources, in particular hydroelectricity. It also conducts research in energy-related fields and takes an active interest in energy efficiency. In addition, it works to create value from the technologies that emerge from its research.

Its sole shareholder is the Québec government. By law, the Generator supplies the Distributor with an annual heritage pool of electricity. Above that volume, the Distributor obtains its supplies on the open market. Transmission and distribution activities are regulated. The company comprises four divisions:

**Hydro-Québec Production** generates and wholesales power on domestic and external markets.

**Hydro-Québec TransÉnergie** operates the most extensive transmission system in North America for the benefit of customers inside and outside Québec.

**Hydro-Québec Distribution** provides Québec customers with a reliable supply of electricity. To meet needs beyond the annual heritage pool supplied by Hydro-Québec Production, it obtains supplies on open markets. It also works to encourage its customers to make efficient use of electricity.

**Hydro-Québec Équipement** and **Société d'énergie de la Baie James**, a subsidiary of Hydro-Québec, are the prime contractors of construction projects for Hydro-Québec Production and Hydro-Québec TransÉnergie.

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## Putting Our Energy into Sustainable Development

Hydro-Québec has operated throughout its history in a spirit of respect for the environment. We adopted the concept of sustainable development in 1989. This concept, defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Report, 1987), is an integral part of our practices and day-to-day management.

We have published a report on our environmental performance every year since 1995. In 2002, we expanded its scope to encompass the three spheres of sustainability: environmental protection, economic development and social development.

The *Sustainability Report 2005* presents our main initiatives, which are carried out essentially within Québec, and reports on our sustainable energy choices and our progress in this area. It is in accordance with the *Global Reporting Initiative* guidelines. Our sustainable development Web site and our Annual Report provide additional information on our results.





## Ever-Changing Energy

It is with great pride that I invite you to peruse Hydro-Québec's *Sustainability Report 2005*. New initiatives have enhanced our overall performance, and we have continued to strengthen our commitment to sustainable development.

### **A Strategic Choice: Focusing on Hydroelectricity and Wind Power**

Hydro-Québec currently uses water to generate 97% of its output. In the coming years, we will build on this valuable, sustainable asset by promoting the complementary development of hydroelectricity and wind power to satisfy domestic needs. Combining these two generating options is an ecologically sound way to meet energy demand while minimizing greenhouse gas emissions—a crucial issue for the future of our planet.

### **Mobilizing for Energy Efficiency**

In recent years, our divisions have endeavored to make generating, transmission and distribution facilities and services more efficient. Our new development projects, which are well designed and make use of advanced technology, further contribute to our overall performance.

Energy efficiency affects all our customers as well. They have responded enthusiastically to our invitation to conserve electricity. This success has enabled us to raise our 2010 energy savings target by 37% to 4.1TWh. To achieve this ambitious goal, we will keep up our incentive campaigns and continue to provide customers with concrete support for their efforts. We will also work with our industrial customers to improve the energy efficiency of industrial processes through R&D.



**Thierry Vandal**  
President and Chief Executive Officer

## **Technological Innovation: Another Way to Contribute to Sustainability**

With the help of technological innovation, we have taken up a major challenge: we want to become a world benchmark in the integration of wind power into large power grids. To ensure the reliability, security and efficiency of our generating facilities and transmission system, we will need to adopt new technologies and improve methods for predicting wind output. This will enable us to play an even more active role on the North American renewable energy market.

Recent technological advances enable us to anticipate other promising avenues: greater interaction with our customers as part of a new approach to energy management, and new techniques for receiving feed-in from distributed generation and energy storage. In fact, generation by residential and commercial customers was the subject of a recent decision by the Régie de l'énergie.

Finally, we will continue to develop land transportation technologies through our subsidiary TM4, which is designing high-efficiency electric motors.

## **Acting Responsibly**

We partner with communities as part of our operations. In addition, all employees whose activities are likely to have an impact on the environment now operate under ISO 14001–certified environmental management systems. In 2005, we also adopted new environmental objectives that will help us incorporate the principles of sustainable development into our management processes.

## **Contributing to Québec's Vitality**

With revenue of \$10.9 billion in 2005, Hydro-Québec generates substantial economic activity that has a considerable impact all over the province. For example, our purchases of goods and services from Québec businesses totaled \$2.2 billion this past year. As well, the company contributes through its donations and sponsorships to social, cultural, environmental and economic projects throughout Québec. In 2005, it devoted \$24 million—more than 1% of its net income—to such projects, including research contracts awarded to various universities.

## **Our Employees Are Fully Committed: Putting All Our Energy into Action**

The results presented in this report testify to the ongoing commitment of our workforce. We are proud of our employees; that is why we pay particular attention to making the work environment stimulating and safe. Professional development and succession planning are also among our concerns. These activities accounted for investments equivalent to 3.9% of our payroll in 2005.

All these actions, commitments and accomplishments demonstrate the importance which Hydro-Québec attaches to sustainable development and to the conditions that will ensure a promising future for the company in the changing world of energy.

The *Sustainability Report 2005* was drawn up in accordance with the 2002 *Global Reporting Initiative* guidelines. It provides a balanced, rational presentation of Hydro-Québec's economic, environmental and social performance. It also reflects our adherence, since 2004, to the environmental principles contained within the United Nations Global Compact. A concordance table, at the back of the report, indicates our degree of compliance with the different performance indicators.



**Thierry Vandal**

President and Chief Executive Officer





## Our Evolving Commitment

Hydro-Québec is upholding its commitment to sustainable development and taking the necessary steps to further improve its performance. We already have numerous accomplishments to our credit in this regard.

## ETHICS AND CORPORATE GOVERNANCE

Hydro-Québec uses a number of ethics and corporate governance tools:

- Code of Ethics and Rules of Professional Conduct for Directors, Executives and Controllers
- Code of conduct for employees
- Code of Ethics on Conducting Calls for Tenders, approved by the Régie de l'énergie
- Transmission Provider Code of Conduct, approved by the Régie de l'énergie
- A Corporate Ombudsman who deals with conflicts within the organization
- Company regulations against discrimination, harassment and workplace violence

## Improving Sustainability Management

We wish to remain proactive in sustainable development and to compare favorably with organizations that perform well in this area. We therefore evaluated our sustainability management and governance practices, an exercise that enabled us to identify our accomplishments and means for improvement.

In 2006, we will develop an action plan covering various aspects such as a review of practices and tools, manager and employee training and awareness, and improvement of relations with various stakeholders. This plan will enable us to achieve even better results in terms of managing sustainable development.

## Sustainability management practices at Hydro-Québec

### Accomplishments

- 35 years of environmental achievements
- Three main avenues of development
- Policies, codes of conduct and management systems
- Six corporate environmental objectives
- Employee motivation and succession
- Customer programs and community relations

### Means of Improvement

- Strategies and priorities
- Objectives and indicators
- Improvement of certain practices and development of new tools
- Employee awareness and training
- Relations with certain stakeholders



## CORPORATE ENVIRONMENTAL OBJECTIVES ADOPTED IN 2005

Objective	Strategies
Focus our development on hydroelectricity, wind power and other renewables, and promoting energy efficiency	<ul style="list-style-type: none"> <li>• Emphasize the development of Québec's hydroelectric potential.</li> <li>• Bring output from wind, biomass and other renewables onto the grid.</li> <li>• Implement the Energy Efficiency Plan.</li> </ul>
Ensure that our projects are acceptable	<ul style="list-style-type: none"> <li>• Ensure that all our facility design and construction activities fulfill the three requirements of sustainable development: <ul style="list-style-type: none"> <li>- environmental acceptability,</li> <li>- favorable reception by local communities,</li> <li>- economic profitability.</li> </ul> </li> </ul>
Operate our facilities and conduct our activities in a way that protects the water, air and soil	<ul style="list-style-type: none"> <li>• Operate facilities with due respect for the environment.</li> <li>• Take steps to reduce our greenhouse gas emissions and drinking water consumption.</li> <li>• Reduce the use of ozone-depleting substances.</li> <li>• Be proactive in avoiding or reducing soil contamination.</li> </ul>
Preserve plant and animal life and its diversity	<ul style="list-style-type: none"> <li>• Take steps to preserve biodiversity and protect habitats.</li> <li>• Use pesticides rationally and safely.</li> <li>• Improve our knowledge of the biophysical and human environment in areas affected by the presence of facilities.</li> </ul>
Use resources wisely	<ul style="list-style-type: none"> <li>• Promote reduction at source, reuse, recycling and reclamation, before disposal.</li> <li>• Maintain and consolidate our positive performance in the management of residual hazardous materials.</li> </ul>
Contribute to quality of life	<ul style="list-style-type: none"> <li>• Endeavor to integrate electrical facilities harmoniously with their surroundings while taking community concerns into account.</li> <li>• Apply the principle of prudent management to electric and magnetic fields.</li> <li>• Provide stakeholders with opportunities to benefit from the company's activities and facilities.</li> </ul>

### Establishing and Maintaining Management Systems

We have set up various management systems in order to improve our methods. Since 1997, for example, we have established ISO 14001-compliant environmental management systems that now cover all employees whose activities have a significant environmental impact. We have also initiated an exercise to determine the environmental effects of our subsidiaries' activities.

In 2005, we continued our efforts to establish health and safety management systems, and reviewed our use of controlled products. In addition, certain units with ISO 9001:2000-compliant quality management systems maintained their registration.



## RELATIONS WITH STAKEHOLDER REPRESENTATIVES

Stakeholders	Examples of Means Used
Customers	<ul style="list-style-type: none"> <li>• Discussions on customer expectations and survey of customer satisfaction</li> <li>• Mechanism for handling requests, complaints and claims</li> <li>• <i>HydroContact</i> and Web site</li> </ul>
Communities	<ul style="list-style-type: none"> <li>• Standing liaison committees with municipalities and farmers (Union des producteurs agricoles)</li> <li>• Teams in charge of community relations all over the province</li> <li>• Municipal portal on the Web site</li> <li>• Survey of community satisfaction and expectations</li> <li>• Committees to maximize economic spinoffs</li> </ul>
Aboriginal communities	<ul style="list-style-type: none"> <li>• Aboriginal liaison officer on jobsites</li> <li>• Team in charge of relations with Aboriginal communities</li> <li>• Agreements and committees concerning Aboriginal participation in our activities</li> </ul>
Cultural communities	<ul style="list-style-type: none"> <li>• Forging of close ties with organizations that represent these communities</li> </ul>
Employees	<ul style="list-style-type: none"> <li>• Survey of employee satisfaction and motivation</li> <li>• Workers' committees for specific construction projects</li> <li>• Joint health and safety committees</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>• Meetings with suppliers</li> </ul>
Governments	<ul style="list-style-type: none"> <li>• Government relations teams</li> </ul>
Investors	<ul style="list-style-type: none"> <li>• Investor relations team</li> <li>• Publication of Financial Profile</li> </ul>
Media	<ul style="list-style-type: none"> <li>• Media relations teams</li> <li>• Press releases and briefings</li> </ul>
Non-profit organizations, including environmental groups	<ul style="list-style-type: none"> <li>• Partnering arrangements with social economy organizations</li> <li>• Donation and sponsorship program</li> <li>• Collaboration with consumer associations on services for low-income customers</li> </ul>
General public	<ul style="list-style-type: none"> <li>• Survey of public satisfaction and image perception</li> <li>• Web site and telephone line (1 800 363-7443)</li> </ul>
Universities and academic community	<ul style="list-style-type: none"> <li>• Financial support for universities (projects, scholarships, research chairs)</li> <li>• Training agreements in areas of strategic interest to Hydro-Québec</li> </ul>

## Focusing on Three Main Avenues of Development

Hydro-Québec has adopted three main avenues of development as its priorities for the coming years, both to meet the public's expectations and to safeguard the interests of future generations.



## Energy Efficiency: **Every Effort Counts**



More than ever, electricity is a precious resource. Its price and availability are major issues for society. It's only logical, then, that everyone today agrees on the need to conserve energy and improve energy efficiency. By using electricity wisely, we reduce demand and help preserve the environment.

Our comprehensive Energy Efficiency Plan is based on the principles of sustainable development and relies on synergy with a great many partners. By 2010, we will have allocated \$1 billion to implementing the plan.

- Working with our manufacturing, wholesale and retail partners and with professional and other associations, we promote energy-saving products and equipment as well as the construction of new, energy-efficient buildings.
- The expertise of our energy technologies laboratory is applied to help our business customers optimize their energy use, thereby contributing to the emergence of an energy efficiency industry.
- We work with the provincial Agence de l'efficacité énergétique, the federal Office of Energy Efficiency, and consumer associations on programs such as the one to help low-income households reduce their energy consumption.
- In conjunction with the Université de Sherbrooke, we set up a research chair dedicated to energy efficiency.



## Hydroelectricity and Wind Power: **A Smart Combination**



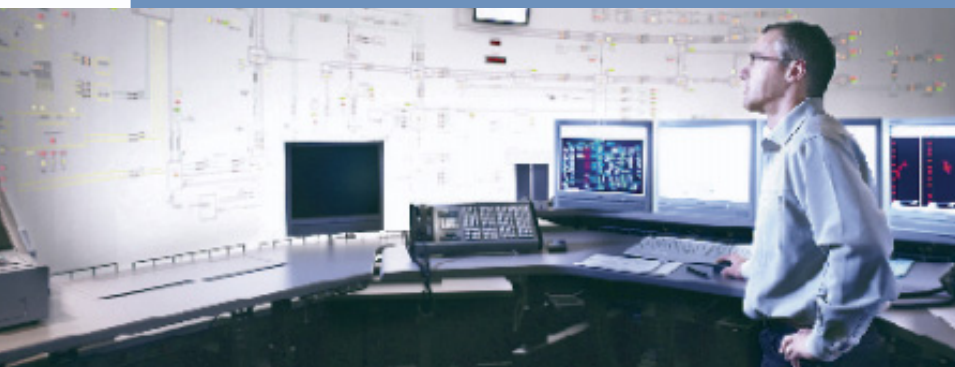
Hydro-Québec relies on renewable energy to satisfy growing domestic demand. Currently, the company uses water to produce 97% of its output. It also purchases wind power. We intend to continue on this path by focusing on the complementary development of hydroelectric and wind power—a smart combination in the face of climate change.

At the end of 2005, Québec wind farms had a total installed capacity of a little over 200 MW. In all, Hydro-Québec plans to bring 3,500 MW of wind power onto the grid to meet domestic needs.

Continued hydroelectric and wind power development will have substantial spinoffs for Quebecers.

- The hydroelectric generating stations currently under construction are worth a total of \$4.4 billion.
- Wind power projects representing an additional outlay of \$5 billion by their proponents will generate substantial economic spinoffs, as 60% of this total must be invested in Québec and 30% of the turbine costs must be incurred in the regions where the wind farms are built.
- Several hundred jobs will be created in connection with wind farm development, both in construction and manufacturing and during facility operation and maintenance. These will be added to the many jobs arising from the construction and operation of hydroelectric generating stations.

## Innovation and New Technologies: **Promising Niches**



Over the years, Hydro-Québec has gained a worldwide reputation for excellence in generation and transmission, anchored by innovation and the development of new technologies. To maintain this technological leadership, we intend to pursue our R&D efforts in various promising niches.

- Our major immediate challenge is to integrate wind power into our generating fleet and our transmission grid while maintaining quality and reliability. The fact that winds blow only intermittently causes frequent fluctuations in power quality and in the quantity of electricity that can be delivered to customers. These fluctuations can be offset by hydroelectricity, a reliable, renewable generating source which we will continue to develop.
- We are exploring other renewables, including solar energy, a generating option that could take off in the coming years. We are also looking at technologies designed to optimize electricity consumption, such as geothermal energy, which we would like to see make further inroads in Québec.
- In the coming years, the digital technology incorporated into our telecommunications network will play a key role in improving the reliability, security and efficiency of our generating facilities and our transmission and distribution systems.
- The use of electricity in land transportation could grow in the next few decades. Through our subsidiary TM4, we are already actively involved in developing very compact and powerful electric motors.





# Our Energy in Action





COLLECTING POINTS OF VIEW

Hydro-Québec surveys public expectations related to various aspects of its operations, including sustainable development. In addition, to determine what aspects of our Sustainability Report are of the greatest interest to readers, we consulted a number of focus groups, totaling about 60 people, in late 2004.

SUSTAINABLE DEVELOPMENT TOPICS  
THE PUBLIC CONSIDERS MOST IMPORTANT

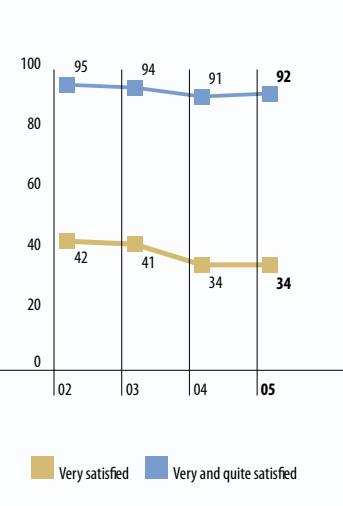
- Reliable, affordable, high-quality service
- Air quality, greenhouse gases and clean, renewable energy
- Public health and safety
- Protection of the environment, water and species
- Efficient, honest, humane and ethical management
- Reuse and recycling of materials
- Technological development and innovation, particular in the area of energy efficiency
- Quality of life and landscapes

Measuring Public Perception  
and Satisfaction

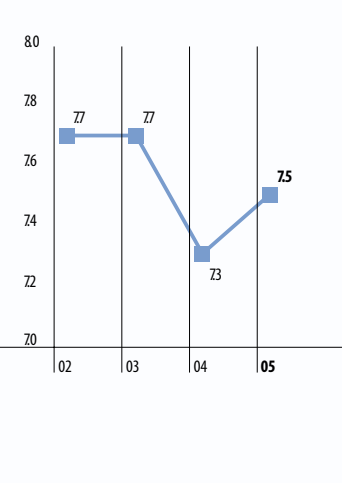
Every year, we measure the public’s overall satisfaction with Hydro-Québec. In 2005, it remained relatively stable compared with the previous year. Perception of the company’s image improved slightly from 2004 thanks to a number of factors, such as the calls for tenders for wind power, the inauguration of the new Toulmoustou generating station and our new Energy Efficiency Plan target of 4.1TWh, up from 3.0 TWh.

During the year, Hydro-Québec began using a new indicator for measuring public perception of its performance as a responsible company in terms of sustainable development. For the last six months of 2005, the result was 71 out of 100. With this new indicator, we are able to determine the aspects that concern people most, in order to identify areas for improvement.

Public satisfaction index (%)



Perception of Hydro-Québec’s image  
(scale of 100)



Québec's northern location and low electricity rates are two of the factors that have made us one of the world's largest consumers of electricity.

### INVESTING IN WIND POWER

In February 2005, Hydro-Québec signed contracts for the purchase of 990 MW of wind power, awarded under our 2003 call for tenders for a total of 1000 MW. Both the wind farms and the nacelle assembly plants will be located in the Gaspé–Magdalen Islands region. The power will be delivered in stages from 2006 to 2012.

In October, the company launched a new tender call for the purchase of an additional 2,000 MW, with staggered deliveries scheduled from 2009 to 2018. This would mean close to 3,500 MW of wind power available in the province by 2014.

In terms of per capita consumption, the province ranks second in the world, after Norway, largely due to the fact that much of the population has opted to heat with electricity. Domestic electricity sales have risen 6.9% since 2002, and 63% in the past 20 years.

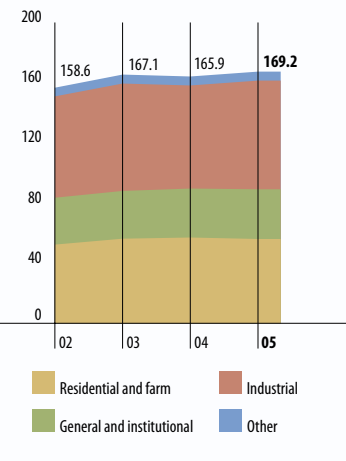
According to the forecasts in Hydro-Québec's Electricity Supply Plan, demand for electricity should grow at an average annual rate of 1%, reaching nearly 185 TWh in 2014. In the current regulatory environment, the annual heritage pool is 165 TWh. Since demand exceeded this volume by 4.2 TWh in 2005, Hydro-Québec had to obtain additional supplies.

### Diversifying Our Sources of Supply

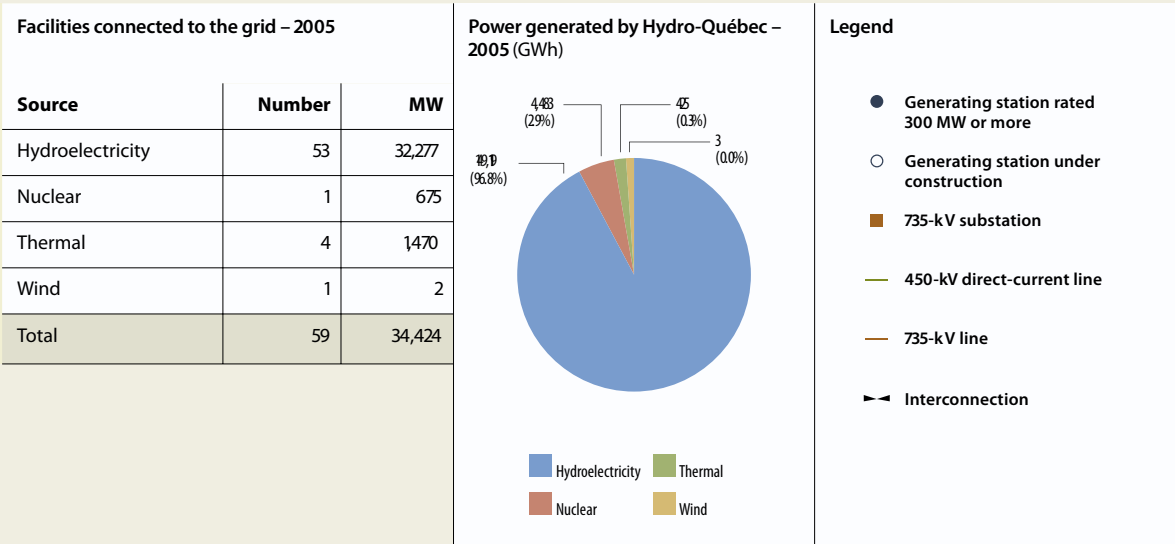
In 2005, 95% of the energy generated and purchased by Hydro-Québec came from renewable sources, mainly hydropower. In addition, we signed a contract for 8.1 MW of electricity generated from forest biomass, under a tender call issued in 2004 for the purchase of power produced by cogeneration. We are also involved in research on the use of farm biogas to generate electricity, with a view to reducing both energy demand and environmental impacts.

Recently, the Régie de l'énergie agreed to amend the rates bylaw, allowing Hydro-Québec to purchase electricity generated from renewable sources by residential customers.

Electricity sales in Québec by category (TWh)



MAJOR HYDRO-Q UÉBEC FACILITIES





We have commissioned a number of new hydroelectric generating stations in the past few years. At December 31, 2005, we had \$4.4 billion worth of hydropower development projects under construction, for an installed capacity of 1054 MW and annual output of 6.1 TWh.



## COMMISSIONING OF TOULNUSTOUC

A \$1-billion project in the North Shore region, for an installed capacity of 526 MW. This development, the subject of agreements with the Innu Council of Pessamit and the regional county municipality (RCM) of Manicouagan, adds 2.7 TWh to our annual output. Commissioning: July 2005.

### Project highlights

- The reservoir was impounded in February 2005.
- The generating station was inaugurated on August 18, 2005.
- The project sustained an annual average of 700 jobs.
- The workforce on the site was 62% regional and 10% Aboriginal.
- Regional economic spinoffs to date total \$332 million.
- A number of mitigation measures were completed in 2005, and environmental follow-up continued on such aspects as bank erosion, water quality, and recreation and tourism.



## CONTINUED CONSTRUCTION ON EASTMAIN-1

A \$2.1-billion project in Northern Québec, for an installed capacity of 480 MW. This facility, built under the 2002 *Nadoshtin Agreement* signed by the Crees and Hydro-Québec and an agreement with the Municipality of Baie-James, will have an annual output of 2.7 TWh. Commissioning: 2006.

### 2005 highlights

- Eastmain 1 reservoir was impounded in November.
- Over 75% of the work has been completed.
- An average of 195 jobs were sustained over the year.
- The workforce was 30% regional and approximately 2% Aboriginal.
- Project expenses totaled \$456 million, 25% of which went to the Crees.
- Regional economic spinoffs have totaled \$409 million since the start of the project.
- Planting and seeding were carried out to restore 264 hectares of land affected by the work.
- Nearly 600 m<sup>2</sup> of spawning grounds were built for walleye and brook trout.
- Archaeological digs conducted on some 40 sites within the boundaries of the future reservoir prior to impoundment unearthed traces of human occupation dating back 4,400 years.

### Eastmain-1A/Sarcelle/Rupert: Inspired by the Principles of Sustainable Development

The Eastmain-1A/Sarcelle/Rupert project will add 888 MW in installed capacity and 8.5 TWh in annual output. Hydro-Québec will carry out this project in an environmentally responsible manner and in partnership with local communities.

We submitted the environmental impact statement to the government authorities in early 2005. At the end of the year, we provided the additional information requested by the bodies in charge of the environmental review and public consultations. Public hearings got under way on March 6, 2006.



#### CONTINUED WORK ON PÉRIBONKA

A \$14-billion project in Saguenay–Lac-Saint-Jean, for an installed capacity of 385 MW. This project, which will have an annual output of 2.2 TWh, is covered by agreements with the Conseil des Montagnais du Lac-Saint-Jean (*Manitukapatakan Agreement*) and the RCMs of Fjord-du-Saguenay and Maria-Chapdelaine. Commissioning: 2008.

##### 2005 highlights

- Excavation for most of the structures was completed.
- An average of 745 jobs were sustained over the year.
- The workforce was 79% regional and 12% Aboriginal.
- Project expenses totaled \$224 million.
- Regional economic spinoffs since the start of the project already exceed \$250 million, out of an anticipated total of \$345 million.
- Work to determine the baseline environmental conditions was completed and reports were filed with the government authorities.
- Restoration of a borrow pit began, with a view to creating several dozen hectares of wetlands to compensate for waterfowl habitat losses related to the project.

#### START OF CONSTRUCTION ON CHUTE-ALLARD AND RAPIDES-DES-CŒURS

A \$680-million project in the Mauricie region, for an installed capacity of 188 MW. This project on the Saint-Maurice River northwest of La Tuque will add annual output of 0.9 TWh. Commissioning: 2007 and 2008.

##### 2005 highlights

- Groundbreaking took place in April.
- The workcamp and access roads were built, and excavation got under way for the generating stations.
- An average of 260 jobs were sustained over the year.
- The workforce was 43% regional and 14% Aboriginal.
- Archaeological digs began at 10 prehistoric sites near the future Chute-Allard facility and the future Rapides-des-Cœurs forebay.

# Generating Power from Renewable Sources

Hydro-Québec has a large generating fleet made up primarily of hydroelectric facilities, the oldest of which date back to the early 20th century. Our main generating sites are located far from the major load centres.

## OUR GENERATING FACILITIES

- Total number of facilities: 84
- Number of hydroelectric facilities: 54, including 38 run-of-river plants
- Number of rivers harnessed: 73, out of a total of 4,500 in Québec

## HYDROPOWER IN THE WORLD

- In 2004, hydropower was the world's top form of renewable energy and accounted for over 15% of electricity generated worldwide.
- Canada is the leading producer of hydropower, with 18% of world output, ahead of China, Brazil, the United States and Russia. More than 150 countries generate hydropower.
- Hydroelectric generation contributes very little to the greenhouse effect, with emissions 60 times lower than coal-fired generating stations and 18 to 30 times lower than gas-fired facilities.

Source: Canadian Hydropower Association.

## Protecting Water, Our Principal Raw Material

Every year we take action to protect water. In addition, we maintain relations with local communities in order to promote joint management of this resource with its users. Among our initiatives in 2005:

- We developed a tool for assessing aspects of the human and biophysical environments likely to be affected by water body management in the Upper Ottawa River (Outaouais).
- We installed a skimmer to remove any oil, grease and other hydrocarbons from the pump well at Hull-2 generating station (Outaouais).
- We refurbished the demineralized-water treatment system at Tracy thermal generating station in order to reduce chemical use and the quantity of sludge for disposal. The water released into the St. Lawrence River is practically neutral (Montréal).

## ELECTRICITY GENERATED AND PURCHASED BY HYDRO-QUÉBEC (GW h)

	2002	2003	2004	2005
Hydropower generated	145,401	146,98	140,353	149,19
Wind power generated	2.6	2.3	2.0	3.1
Hydropower purchased	36,356	31,995	33,684	32,463
Biomass and waste reclamation power purchased	1376	1477	1480	1400
Wind power purchased	169	168	185	48
<b>Total renewables</b>	<b>183,304</b>	<b>180,556</b>	<b>175,704</b>	<b>183,399</b>
Total energy generated	150,85	152,375	146,821	154,031
Total energy purchased	41,356	39,466	41,448	38,831
<b>Total energy generated and purchased</b>	<b>191,491</b>	<b>191,841</b>	<b>188,269</b>	<b>192,862</b>
Renewables/total energy generated and purchased (%)	96	94	93	95



- We took part in the activities of the integrated resource management committee for La Vérendrye wildlife reserve, which included producing a brochure for the general public on water management and power generation that provides information on our facilities in the region (Abitibi-Témiscamingue).

### Protecting Vegetation, Wildlife and Diversity

The protective initiatives implemented in 2005 were mainly intended to preserve aquatic species, allow them to move freely through the waterways, and support their diversity in concrete ways. Other initiatives were related to vegetation.

- We conducted studies to gauge the effects of shutdowns at Rivière-des-Prairies generating station on the downstream migration of shad (Laval).
- We reached an agreement with a Québec fishermen's association on efforts to reintroduce eels into Lake Champlain (Montérégie).
- We provided technical assistance for the project to build sturgeon spawning grounds in the Ouareau River by the Corporation de l'Aménagement de la Rivière l'Assomption (Lanaudière).

- We planted more than 18,000 trees on Hydro-Québec property along the Beauharnois Canal, under the Équipe jeunesse project overseen by the RCM of Beauharnois-Salaberry. This youth-oriented project works to increase plant cover and species diversity along the banks of the canal (Montérégie).

### Contributing to Quality of Life and Preserving Heritage

Hydro-Québec is actively concerned with Quebecers' quality of life and with protecting the built and natural heritage. It therefore makes some of its sites available for community, recreational and tourist use, while keeping in mind public safety and facility operating requirements. Various agreements have been signed to this effect. Initiatives in the past year include:

- A bicycle path over Coteau-1, Coteau-2 and Coteau-3 dams was opened up. This new 2.5-km link, part of an 80-km network of paths, connects the RCMs of Beauharnois-Salaberry and Vaudreuil-Soulanges (Montérégie).
- We took part in creating a bird-watching area on Hydro-Québec property beside the Beauharnois Canal, in the Melocheville area (Montérégie).



#### Heritage Emeritus Award – Montréal's 15th Opération patrimoine architectural

In 2005, the City of Montréal presented us with a Heritage Emeritus Award for our historically sensitive restoration of the former Tolhurst pumping station. The pumping station, which was built in the 1920s at the same time as Rivière-des-Prairies generating station, belongs to Hydro-Québec.



#### Making developed spawning grounds more productive

As part of the Toulmoustouc project, we built an obstacle to suckers' upstream migration in order to protect spawning grounds developed for brook trout.

- A hiking trail and three scenic lookouts were built near the Rapides-des-Quinze hydroelectric development, in partnership with the Récré-eau-des-Quinze organization and the Société de développement du Témiscamingue (Abitibi-Témiscamingue).
- Industrial equipment of heritage interest, including an old transformer from Beauharnois generating station, has been recovered and set up next to the facility's visitor centre, and an old turbine from Outardes-3 is now housed in the Georges-Dor visitor centre at Manic-2 (Montérégie and North Shore).

### Monitoring Mercury in Reservoirs

Reservoir impoundment increases fish mercury levels for a period of 10 to 30 years. This can pose health risks for humans, birds and mammals that eat fish. In 2005, we conducted various activities under our mercury research program.

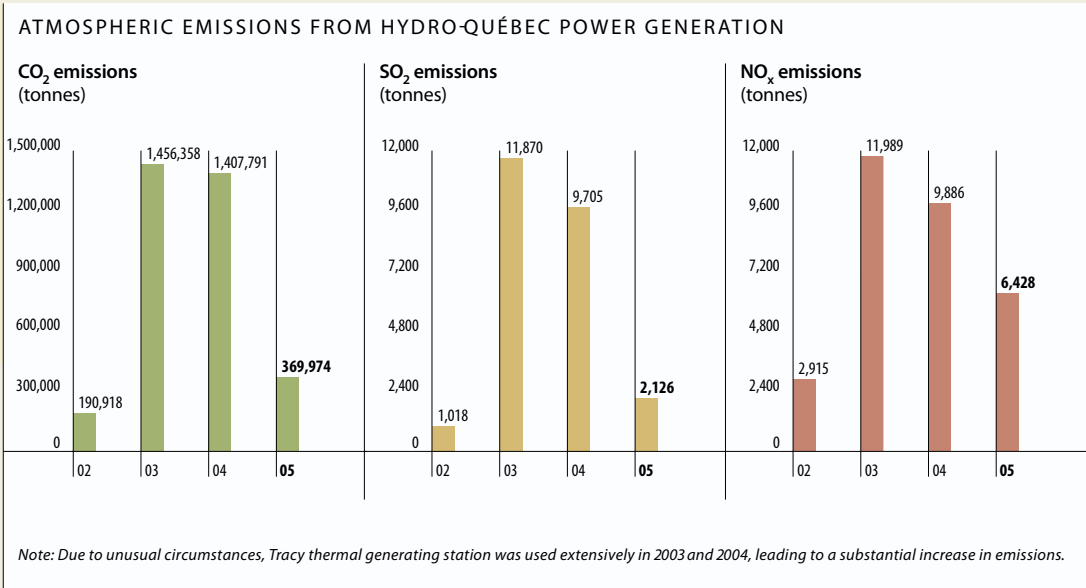
- We published a report on fish mercury monitoring activities in 2003 and 2004.
- We developed an interactive version of the prediction model for fish mercury levels in new reservoirs.
- We optimized the monitoring of piscivorous fish at the La Grande complex.

- We evaluated the guide to fish consumption in water bodies in the area of the Sainte-Marguerite River.
- We conducted research on the addition of selenium to reservoir water in order to reduce fish mercury levels.

### Minimizing Atmospheric Emissions

Québec enjoys an excellent record in terms of atmospheric emissions, largely as a result of our use of hydroelectricity. Power generation accounted for only 17% of GHG emissions, compared with 37.4% for transportation and 31% for industry, according to 2003 statistics. \*

\* Source: Inventaire québécois des gaz à effet de serre, MDDEP, July 2005. \*



# Transmitting Electricity Throughout Québec

Hydro-Québec owns the most extensive transmission system in North America. In operating and maintaining this system, we endeavor to reduce impacts on the biophysical and human environment.

## TRANSMISSION SYSTEM STATISTICS

- Length of lines: 32,544 km
- Number of substations: 505
- Area of rights-of-way: 167,286 hectares
- A large number of interconnections with systems in New Brunswick, Ontario and the U.S. Northeast

## ADDING TO KNOWLEDGE OF ELECTRIC AND MAGNETIC FIELDS

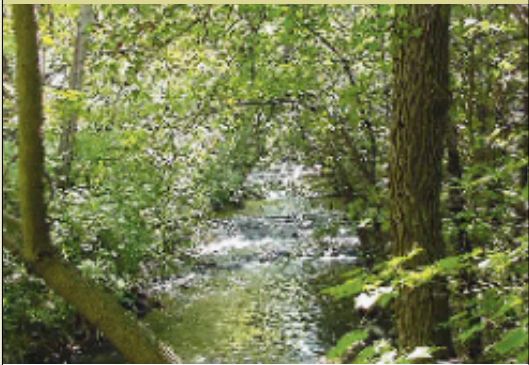
The potential health effects of electric and magnetic fields (EMFs) are a matter of public concern, and have been a focus of Hydro-Québec's attention for more than 20 years.

In 2005, we added an EMF page to our Web site, presenting the main findings of various studies on this topic. We also updated our brochure on EMFs and health intended for the general public.

## Integrating Our Facilities with the Environment

Transmission facilities can have environmental impacts. The towers are large and the substations can cause local nuisances. To lessen the impact, we look for the best possible sites and designs for new facilities. We also landscape the area around them. Among our 2005 efforts:

- We planted trees to reduce the visibility of the line that runs along a section of Highway 109, in cooperation with the municipality of La Motte (Abitibi-Témiscamingue).
- We carried out landscaping around Les Cèdres and Dorion substations for better visual integration (Montréal).
- We redirected lighting to reduce glare from Templeton substation and mitigate impacts on the neighborhood (Laurentians).
- We inaugurated Ruisseau-De Montigny nature park, a joint project of Hydro-Québec and the City of Montréal designed to better integrate the Duvernay-Anjou line. Hydro-Québec invested \$16 million in this project (Montréal).



Ruisseau-De Montigny nature park, inaugurated in 2005 in cooperation with the City of Montréal.



Working to Protect Our Heritage

To illustrate our technological heritage, we conserved 3 of the 18 power transformers at Les Cèdres substation, which dates from 1920. We also donated one of them to the Canada Science and Technology Museum.

Controlling Vegetation to Maintain Safety

Vegetation in our transmission line rights-of-way and switchyards is cleared periodically to maintain system reliability and safety for workers and the public. We apply the concept of integrated vegetation management. This concept, based on the rational use of herbicides—using the right method in the right place and at the right time—is applied by nearly all North American power utilities.

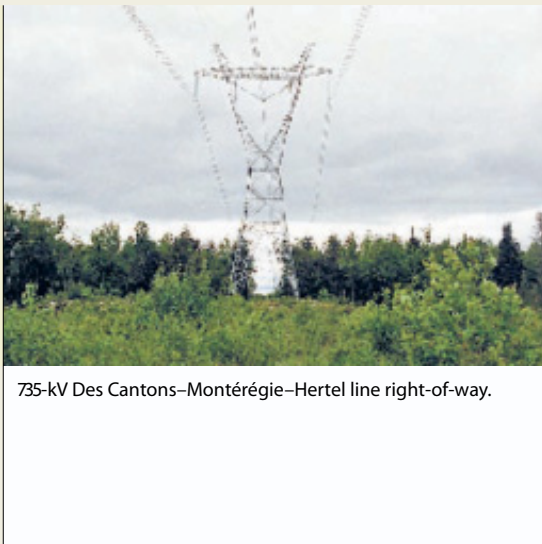
We also conduct research and development to find vegetation control strategies that suit the types of environment crossed by our lines. In 2005, for example, we tested an organic herbicide developed at the University of Victoria.

Increasing Knowledge of the Species Living in Our Rights-of-Way

A program for studying biodiversity in transmission line rights-of-way has been under way for several years. The object is to increase our knowledge of the plants and animals living in and around our rights-of-way, improve our practices and protect vulnerable or threatened species.

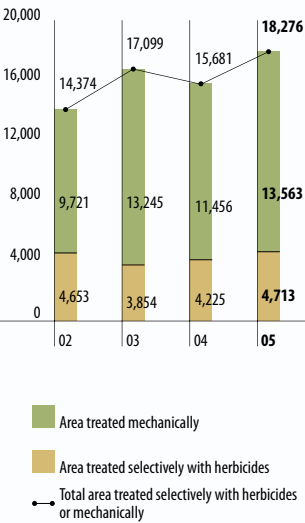
Among the year’s initiatives:

- We characterized rare plant and animal species, including populations of western chorus frog, a species that has been designated as vulnerable in Québec (Outaouais).
- We conducted an inventory of pond amphibian populations (Québec City).
- We surveyed special-status birds in southwestern Québec, including wild turkey, eastern towhee and field sparrow.



735-kV Des Cantons–Montréal–Hertel line right-of-way.

Vegetation control along transmission line rights-of-way (ha)



For a number of years, we have been working hard to make our distribution system blend in with the environment and to improve safety and reliability.

### DISTRIBUTION SYSTEM STATISTICS

- Length of lines: 108,344 km, \* 9% underground
- Number of new residential hookups: 54,279
- Total number of poles: 2,532,000; 70% are also used by telecommunications companies

### ENVIRONMENTAL ASSESSMENTS

Although by law distribution projects are not subject to environmental assessments, Hydro-Québec conducts thousands of such evaluations every year. In 2005, the proportion of projects for which an environmental assessment was conducted remained at 98% despite a substantial increase in distribution projects: 15,288 compared to 12,867 in 2004.

\* These figures include off-grid systems but exclude private systems, lines under construction and the 44-kV transmission system.



Wire-free neighborhood in Terrebonne after completion of distribution system undergrounding.

### Improving Quality of Life and Protecting the Landscape

One of the best ways to improve the living environment is to install the distribution system underground.

- In Hydro-Québec's Power Line Undergrounding (PLUG) program – Enhancing New Neighborhoods, 12,018 underground connections were completed, for 22% of all new residential customer accounts, exceeding our annual objective of 20%.
- Under the government distribution system undergrounding program for heritage, cultural and tourism sites, five undergrounding projects totaling 4.5 km were carried out in Sainte-Agathe (Laurentians), Contrecoeur (Montérégie), Terrebonne (Lanaudière), Trois-Rivières (Mauricie) and Sainte-Marie (Chaudière-Appalaches).

In addition, we continued other projects related to aesthetics and quality of life.

- A guide to integrating overhead distribution systems in new subdivisions was promoted and circulated to such partners as the Ordre des urbanistes du Québec and the provincial builders' association.
- An action plan was adopted to reduce nuisances caused by the presence of emergency generators in urban environments (noise, atmospheric emissions, footprint).
- A task force was created with representatives of seven organizations, including the Union des municipalités du Québec and the Corporation des maîtres électriciens du Québec, to validate a guide to minimizing the visibility of meters and service entrance masts.

## Containing Vegetation

Harmonious coexistence between our distribution equipment and vegetation presents numerous challenges for distribution system operation and the safety of our employees and the public. Here are some examples of activities in 2005.

- The annual vegetation control program required expenditures of \$50 million: trees along 57,419 spans were pruned, 21,236 spans were cleared, and 52,176 trees were cut down outside rights-of-way. A span is the space between two poles.
- Notices posted on doors all across the Island of Montréal informed customers of upcoming pruning operations.



All vegetation control on the distribution system is done mechanically.

## Protecting Wildlife and Diversity

We constantly strive to preserve biological diversity and protect wildlife in areas affected by our distribution operations.

- A study was conducted in distribution rights-of-way to ensure that suitable habitats are maintained and to develop strategies to preserve biodiversity.
- Systematic use of untreated cedar poles protected riparian areas, wetlands and drinking water wells (in Laval, Lanaudière, the Laurentians and Outaouais).
- Installation of 342 bird screens in Cabano and Rimouski limited the numerous summer power outages caused by crows, while protecting the birds (Lower St. Lawrence).



A snowy owl, one of the largest owls in northern Québec and the province's official bird, was sighted perching on one of our distribution poles.



The needs and expectations of all our customers are priorities for us, and we take the necessary steps to meet them.

**CUSTOMER STATISTICS**

- Number of customer accounts in Québec: 3,752,510
- Number of bills not printed because of the Online Billing system: 1082,352
- Number of hits on the residential customers' Web site: nearly 3,000,000

**FACILITY SECURITY**

We have begun efforts to bolster security at our facilities. Over the next two years, we will invest \$B3 million in measures that will vary depending on the role and strategic importance of each facility. Measures will range from round-the-clock security guards to installation of surveillance equipment. An emergency telephone line (1877 816-222) is also available to the public for reporting any event or irregularity concerning our facilities.

Every year, we identify our customers' expectations, assess their importance and rate customer satisfaction so we can base our action priorities on customer needs.

In 2005, facility security, low rates, reliability of service, quality of customer service, and fair and equitable treatment were among the expectations deemed to be priorities for customers. Overall customer satisfaction remained stable.

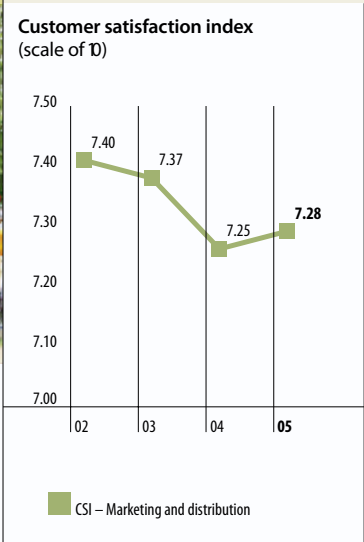
Educating the Public to Use Electricity Safely

We conduct awareness-raising programs for various publics to encourage them to use electricity safely.

- General public: electricity safety information is posted on the Web site, television spots talk about pruning and pool maintenance, and the company takes part in various exhibitions and other events.
- Front-line responders: emergency physicians receive support in treating electrical injuries.
- Skilled workers: training is provided to delivery equipment operators under the auspices of the Québec construction material merchants' association.



Exhibit on electricity and safety to raise public awareness at the Drummondville Mondial des cultures.



Despite all our public awareness efforts, five deaths by electrocution occurred during the year. Three were skilled workers; the other two were private citizens, one of whom was pruning and the other engaged in construction. In addition, 29 incidents, mainly involving electrical injuries, occurred during pruning.

### Helping Our Customers Save Energy

In September, we raised our energy savings objective for 2010 from 3TWh to 4.1TWh. This ambitious new target is equal to the annual power consumption of 250,000 homes—or a city the size of Laval.

To implement our Energy Efficiency Plan, we are continuing to work with the provincial Agence de l'efficacité énergétique, the Office of Energy Efficiency and consumer associations. We are also pleased to be partnering with many manufacturers, wholesalers, retailers, professional associations and other organizations.

Through our liaison committee with the Union des producteurs agricoles (farm producers' union), we developed experimental greenhouse projects and tested energy-efficient lightbulbs that provide the necessary spectrum for photosynthesis. One of our demonstration projects will save about 6 GWh of energy per year.

We have also set up a joint technical committee with the Union des municipalités du Québec and the Fédération québécoise des municipalités. Its mandate is to design and plan support measures for municipalities relating to public lighting, social housing, urban renovation and municipal bylaws on urban planning and development.

One of the most active energy-saving sectors is large-power customers. The conversion to electricity of three aluminum annealing furnaces was one of the outstanding projects of 2005. In addition to lowering the smelter's production costs, the change should save 14.4 GWh per year and avoid 3,500 tonnes of greenhouse gas emissions owing to the use of electricity instead of fossil fuels.



### Acknowledging energy savings initiatives

The Energy Savers' Circle recognizes the efforts of large companies that are proactive in energy efficiency and have reduced their power consumption at least 5% or 50 GWh by participating in Hydro-Québec programs. The Bibby-Ste-Croix Foundry is one such performer that shaved 10% off its electricity consumption.

ENERGY EFFICIENCY PLAN RESULTS

	Objective	2005
Energy savings (GWh)	422	438
– Residential customers	243	205
– Business customers	79	89
– Large-power customers	100	144

	2004	2005
Number of ENERGY WISE Home Diagnostic questionnaires completed	312,375	263,978
Number of electronic thermostats installed	93,088	475,219
Number of pool filter timers sold	25,412	26,891

Adapting Services

We help low-income customers with payment difficulties in a number of ways. In the past year, we negotiated 20,964 special payment arrangements worth \$18 million. These arrangements involve a monthly payment covering current use and debt payment spread over a period of up to 48 months.

Various other measures exist for residential customers having payment difficulties, including non-interruption or restoration of service during the winter for those whose heating system

requires electricity. In addition, in 2005 we offered special payment terms and services to facilitate the settlement of nearly 624,000 cases representing \$649 million in overdue accounts.

Montréal is home to a large immigrant population. In conjunction with organizations that provide orientation services to newcomers, we have developed better ways of communicating with these customers. For example, service agreements in various languages are negotiated every year.

Responding to Complaints and Claims

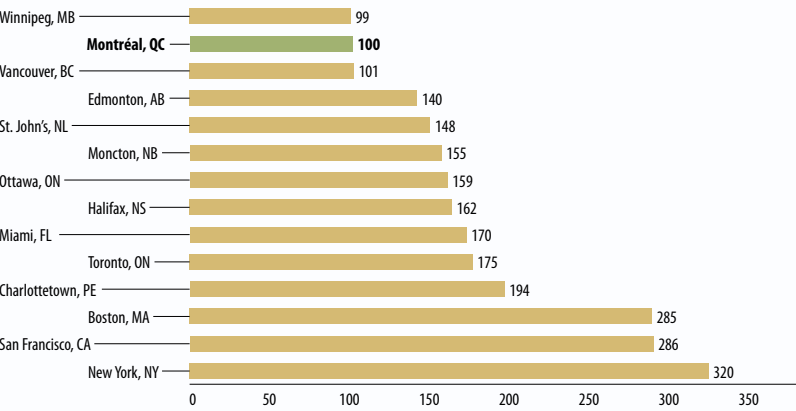
We are introducing various mechanisms to improve our customer service. Sometimes, however, our customers are dissatisfied with our service or their property is damaged. In 2005:

- 5,338 complaints and 7,466 claims were received, figures that are comparable to 2004.
- The main complaints were about voltage fluctuations (23%), outages (19%), property damage (9%) and system maintenance (8%).
- 128 appeals were made to the Régie de l'énergie when the response or settlement offered by Hydro-Québec did not satisfy the customer, compared to 111 in 2004.

Hydro-Québec's residential rate is one of the lowest in North America.\* In 2005, Montréal remained in second place after Winnipeg.

\* Source: Comparison of Electricity Prices in Major North American Cities, Hydro-Québec 2005.

Comparative index of electricity prices at April 1, 2005 – Residential customers<sup>a</sup>



a) Monthly bill (before taxes) for a consumption of 1,000 kWh



Hydro-Québec takes the necessary steps to reduce its consumption of resources and to manage the waste produced by its operations.

## Setting an Example in Energy Efficiency

Hydro-Québec implements energy efficiency measures in the design and operation of its facilities and buildings. Energy consumption is also monitored to assess performance. In 2005:

- A high level of energy efficiency was maintained in our generating facilities: 99.6%, versus 99.5% in 2004; our transmission system achieved 95.2% compared to 95.1% in 2004.
- Energy efficiency measures were introduced at our energy technologies laboratory (LTE) in Shawinigan, which reduced annual consumption by an estimated 35%, or over 2.8 million kWh (Mauricie).
- Lights are turned off in the evenings and during off-peak times in some of our buildings.

## Reducing Consumption of Drinking Water

Hydro-Québec has begun replacing equipment that uses drinking water with more efficient models. Various projects are also under way to reduce our water consumption.

- Laboratory instrument cooling systems at our research institute in Varennes were modified to operate in a closed loop. Water will circulate continuously in the systems without increasing drinking water consumption, saving over 56 million litres of water per year (Montérégie).
- Industrial water is used instead of drinking water for lubrication in La Tuque generating station (Mauricie).



Hydro-Québec’s research institute in Varennes.



La Tuque generating station on the Saint-Maurice River.

## Managing Spills and Contaminated Soil

Hydro-Québec uses equipment that could contaminate the environment when breakdowns or leaks occur. Any spilled products are recovered as quickly as possible to minimize the environmental impact. In 2005, 564 spills were reported to the authorities; in 69% of these cases, we responded within 12 hours of the incident.

To comply with regulatory requirements, we also invest substantial sums in soil decontamination and rehabilitation. Here are some examples:

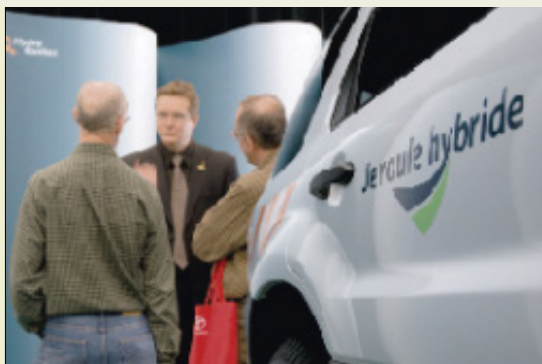
- The old fuel storage facility at Blanc-Sablon thermal power plant was rehabilitated, including excavation and treatment of 4,000 m<sup>3</sup> of contaminated soil at a cost of \$400,000 (North Shore).
- Restoration of the former thermal power plant site on Fort George Island continued, at a cost of \$2.5 million by the end of 2005. This work should be completed in 2007 (Northern Québec).

## Handling Residual Materials Properly

Hydro-Québec follows the 4R-D principle that promotes reduction at source, reuse, recycling and reclamation before disposal. Since 2003, we have been following an action plan to recycle residual materials instead of disposing of them.

In some cases, our work with social economy enterprises and other organizations gives new life to recovered materials. For example, in 2005:

- Impression Alliance 9000 restored over 9,000 ring binders for internal use (Lower St. Lawrence).
- The Atelier la Flèche de Fer sheltered workshop refurbished all of the company's surplus computers for resale, except for 300 units that will be given to community organizations as part of our donations program (Montréal).
- Chanoine-Armand-Racicot secondary school recovered 250 kg of paper clips from our accounts payable unit for reuse (Montréal).



## Reducing atmospheric emissions

In 2004, our fleet of vehicles emitted a total of 51855 tonnes of CO<sub>2</sub> and used over 20 million litres of fuel. In 2005, we adopted an action plan to reduce greenhouse gas emissions by 5% within five years. Among the solutions considered are the purchase of smaller vehicles or vehicles with hybrid engines and the use of batteries to power equipment so as to limit vehicle idling.

We are also continuing our work with the Hybrid Truck Users Forum to develop the first hybrid bucket truck in Canada.

## STATISTICS ON OUR RESIDUAL MATERIALS

	2002	2003	2004	2005	Additional information for 2005
Electrical equipment (tonnes recovered)	4,276	4,637	4,892	5,755	Reused: 6% Recycled: 94%
Ink cartridges (number recovered)	5,910	7,015	5,606	15,635	Internal reuse: 6% External reuse: 94%
Mailings (bills not printed)	N/A	N/A	853,000	1,082,352	Online Billing
Insulating oil – litres recovered – internal reuse (%)	4,680,908 92.2	4,666,729 95.3	5,110,555 96.6	4,508,438 89.9	Some oils cannot be regenerated because of their properties
Paper and paperboard (tonnes recovered and recycled)	589	620	680	668	Rented buildings not included
Metal waste (tonnes recovered and recycled)	6,812	8,971	8,340	8,740	N/A
Glass from meters (tonnes recovered and recycled)	N/A	N/A	26	55	N/A



### New system for refilling aerosol cans

A system of refillable aerosol spray cans was introduced at most of our machine shops for certain vehicle maintenance products, preventing the disposal of over 22,500 cans annually.



### Oil recovery and regeneration.



Hydro-Québec works with many partners, including various government agencies, institutions and community organizations.

**SUPPLIER AWARENESS**

We include environmental clauses in tender documents and contracts, and we monitor for compliance. Awareness-raising activities are also conducted.

**INTEGRATED ENHANCEMENT PROGRAM**

In 2005, 37 local initiatives received a total of \$7.8 million under our Integrated Enhancement Program in areas where our major transmission line construction projects were located.

**Partnering with Communities**

Local and regional communities, social and economic organizations, and citizens’ groups are among our partners. We work with them in standing committees, task forces and discussion forums. We also work with local organizations that have diverse objectives, such as the Mingan regional economic development corporation, the North Shore forestry association and the Lower Richelieu environmental joint-action committee. Projects in 2005 included the following:

- An Internet portal, developed in conjunction with the Union des municipalités du Québec and the Fédération québécoise des municipalités, gives municipalities rapid access to the status of outages in their regions.
- Meetings with the assembly of regional county municipalities covered various topics of interest, including calls for tenders for a second block of wind power.



**Environmental enhancement initiatives**

Rehabilitation under the Integrated Enhancement Program restored the beauty of Maricourt pond in the Eastern Townships.

- A framework for wind power projects on farmland and in wooded areas was added to the tender documents, in collaboration with the Union des producteurs agricoles. This framework contains guidelines for the siting and maintenance of wind farms, as well as impact mitigation and compensation.

A number of our cooperative efforts are covered by formal agreements, 48 of which were signed in 2005. Among them were:

- Intermunicipal board for the Chutes-Mont-à-Peine-et-des-Dalles regional park: a three-year partnership and transfer of 80 hectares of land (Lanaudière).
- Municipality of Baie-James: waste collection and disposal, and services along the Transtaiga highway (Northern Québec).

### **Working with Aboriginal Communities**

Québec is home to 11 Aboriginal nations with 83,000 people residing in 55 communities. We maintain ongoing relations with most of these communities.

We work with committees and companies that implement the commitments made in connection with projects, and standing committees like the Joint Mashteuiatsh – Hydro-Québec Committee (Saguenay–Lac-St-Jean).

Agreements signed in 2005 included the services of a guide from the Timiskaming First Nation for tours of Première-Chute generating station (Abitibi-Témiscamingue) and restoration of salmon habitat with the Innu Council of Pessamit (North Shore). Among the year's highlights:

- About \$235 million in contracts and purchases went to Aboriginal organizations, contractors or workers.
- Eight new permanent Cree employees were hired in the James Bay region, for a total of 22. Their induction program includes such approaches as pairing a Cree employee with a coach for a minimum of six months.
- Sponsorships supported Aboriginal community events and organizations like the Innu Nikamu music festival at Mani-Utenam, the Aboriginal Science Fair, the Société d'histoire et d'archéologie de Mashteuiatsh, and Makivik Corporation.



### **Exchange program**

An international cooperation program made an exchange possible between the Crees of Eeyou Istchee in Québec and the Ngobe of Panama, on health, renewable energy and sustainable development.

## Forging Ahead with Our Business Partners

In its continuing search for solutions to optimize electricity use and service quality, Hydro-Québec works with many business partners. We invested nearly \$40 million in industrial development of technologies stemming from our R&D activities and in financial investments that give us access to emerging technologies.

We are working on technology innovation projects with business partners, and over 40 companies hold one or more licences for technologies developed in our facilities. Some projects appear to be particularly promising:

- Solar Buildings Research Network: 2 Canadian universities and 5 public- and private-sector partners are designing an integrated solar building with zero net energy consumption.
- Québec Forest Industry Council and the Québec government: technologies are being developed to lower the cost of treating condensate from heat pumps used to dry wood.

In 2005, we allocated \$17 million to the operations of our research institute. In addition, we fund the activities of about fifteen university research chairs in order to help expand knowledge in several fields that have direct impacts on our operations. We regularly award research contracts to universities: nearly \$5.2 million was allotted for this purpose in 2005.

## Managing Business Risk

Since 1998, Hydro-Québec has included systematic business risk management in its planning. We measure the potential impact on net income of certain quantifiable risks such as runoff, demand forecasting, fluctuating interest and exchange rates, and fluctuations in energy and raw materials prices.

## Promoting Exchanges outside Québec

Exchanges with national and international organizations continued throughout 2005.

- Hydroelectricity was promoted at events held during the United Nations Climate Change Conference: Montréal 2005, in conjunction with the International Hydropower Association and the Canadian Hydropower Association.
- The conference "Sustainable Development: The Issues for Cities and Regions" was held in Lyon, France, as part of the 8th Centre Jacques Cartier Discussions in collaboration with Électricité de France.

### An electric vehicle on French roads

Groupe Industriel Marcel Dassault became a partner with us in 2005 when it acquired an interest in Hydro-Québec subsidiary TM4. The plug-in hybrid drivetrain designed and developed by TM4 has met with continued success. The first 20 of 30 systems ordered by the Dassault subsidiary Société de véhicules électriques have been installed in the Cleanova II minivan and are being used by Groupe La Poste and Électricité de France under a French government-sponsored demonstration program.



Cleanova II hybrid vehicle being tested in France.



# CONTRACTS TO QUÉBEC UNIVERSITIES AND CONTRIBUTIONS TO RESEARCH CHAIRS (\$ '000)

Educational institution	2002	2003	2004	2005
Université de Montréal and affiliated schools	1724.8	1302.3	1159.3	1207.5
Université du Québec and branches	1033.1	793.7	1244.0	1200.4
Université Laval	558.7	381.2	587.7	549.0
McGill University	193.2	189.9	66.6	*
Concordia University	110.0	105.9	—	*
Université de Sherbrooke	157.9	284.7	606.7	410.7
École de technologie supérieure	371.7	398.8	461.4	422.2
Ouranos Consortium and Cirano	1145.0	1105.1	1294.0	1485.5
<b>Total</b>	<b>5,294.4</b>	<b>4,561.6</b>	<b>5,419.7</b>	<b>5,193.3</b>

\* Proposals from McGill University and Concordia University are being evaluated.

We also participated in the work, missions and studies of various organizations.

- A brief on the benefits of hydroelectricity and its contribution to the fight against climate change was produced in collaboration with the Canadian Hydropower Association.
- We played an active role in implementing the guidelines for sustainable hydroelectric development issued by the International Hydropower Association to promote hydropower projects that are economically viable, socially acceptable and environmentally responsible.

- We worked with the International Council on Large Electric Systems, for example, on performance indicators for sustainable development.
- Environmental studies, an energy efficiency feasibility study, training and other exchanges and international cooperation projects were conducted in Haiti, Madagascar, Argentina, Turkey, Peru and Japan.



## Reducing greenhouse gases by 70 kilotonnes

During the United Nations Climate Change Conference: Montréal 2005, we launched an ambitious initiative to offset GHG emissions.

To make the conference a "Climate Positive" event, 26 organizations agreed to offset twice the GHG emissions generated to hold the conference, or about 70 kilotonnes of CO<sub>2</sub>. Plans for 2006 include reforestation of 101 hectares of woodland and planting nearly 8,000 trees in urban and rural environments and around schools.

Our employees' commitment supports us every day. We make sure they have a healthy, stimulating work environment.

**BANKING ON DIVERSITY**

In 2005, we adopted strategic directions, objectives and an action plan for managing diversity. We incorporated employment equity into our human resources policy. An initial plan for communicating with job applicants and specialized employment agencies was also implemented.

**PROMOTING HYDRO-QUÉBEC  
AS AN EMPLOYER OF CHOICE**

Since 2002, we have promoted our company among new graduates and experienced workers, particularly with a view to staffing vulnerable positions. Our promotion campaign also endeavors to stimulate the interest of secondary-school students—our future labor pool—in science and technology careers. In 2005, our careers Web site, *Emplois*, recorded 773,000 hits.

**Acknowledging our employees' environmental initiatives**

For the third consecutive year, we acknowledged employee initiatives with our *Mérite environnemental* contest. One of the grand prizes was awarded to Julien Grenon for his innovative project introducing a safer way to fill petroleum product tanks at our telecommunications sites. Among other benefits, the containment box he developed prevents fuel spills and the resulting soil contamination, thereby reducing cleanup costs.

We employ over 22,500 people across Québec. Here is a partial portrait of our workforce in 2005.

- Our main job groups are technical and trades, professionals and specialists, and support staff.
- Representation of women is rising among specialists and declining in traditionally female clerical occupations; in 2005, the number of women rose 0.4% to reach 29.8% of the workforce.

**Improving Skills and Planning  
for Succession**

Québec legislation requires companies to devote 1% of their payroll to employee training; Hydro-Québec actually invested about 3.9% in training in 2005.

To deal with the departures anticipated in the coming years, we continued to implement our Corporate Succession Support Plan.

- 1,068 people were hired.
- Induction and orientation tools include a special intranet site, a guide for managers on welcoming and integrating new employees, and a general information kit sent to new recruits.



- Projects to accelerate knowledge transfer and acquisition include early staffing, which cost about \$3.4 million between 2002 and 2005.

- Financial support of over \$406,000 was provided to the Institute of Electrical Power Engineering, and 25 graduates and interns were hired.

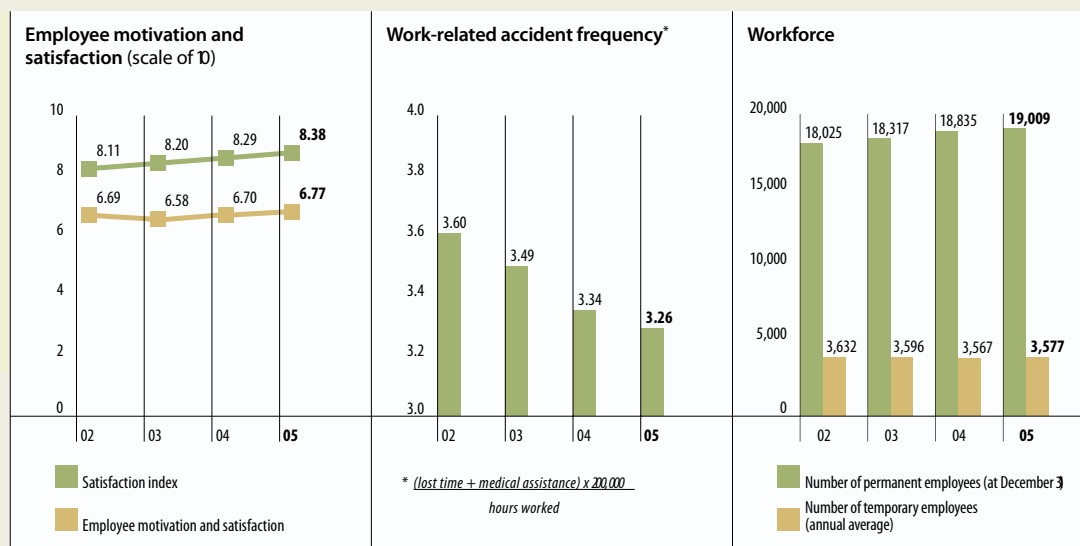
## Providing a Safe, Healthy Work Environment

Motivating employees and providing safe, fulfilling working conditions remain major priorities. Since 1995, we have measured employee satisfaction and motivation. For 2005, these indicators were up, giving us the best results ever recorded. This year, we contacted all employees and 2,981 of them expressed their opinions.

A series of guidelines safeguards our employees' health and safety. In 2005, as every year, we strove to prevent work-related injuries. For example:

- Periodic meetings were held by the B6 joint occupational health and safety committees.
- Problems submitted by workers were analyzed and dealt with according to the procedures in the collective agreements.

Every year, we support employees in various ways, such as the employee assistance program, for which the usage rate rose from 5.7% in 2004 to 6.5% in 2005.



Energy is one way to ensure that “Quebecers in all regions... enjoy a more prosperous economy that meets the requirements of sustainable development.”\*

### EFFORTS THAT PAY OFF

Since 1997, we have developed ongoing relationships with over 100 large industrial customers, investing \$6 billion and creating over 26,000 direct jobs. In 2005, every megawatt consumed by our customers generated \$14 million in investments and about 65 jobs, compared with an average of \$11 million and 50 jobs over the past eight years.

### FONDATION HYDRO-QUÉBEC POUR L'ENVIRONNEMENT

In 2005, the Fondation Hydro-Québec pour l'environnement funded 20 projects in 8 administrative regions of Québec, for a total contribution of over \$1 million. The Foundation's mission is to help Québec communities develop a sense of stewardship of their environment, enjoy it responsibly and pass their natural heritage on to future generations. The Foundation's Web site provides a detailed review of its activities to protect species and habitats.



### Association forestière de l'Abitibi-Témiscamingue

The Lac Joannès educational centre deals with conservation and sustainable development issues relating to the creation of protected areas. This is one of the 20 projects funded by the Fondation Hydro-Québec pour l'environnement.

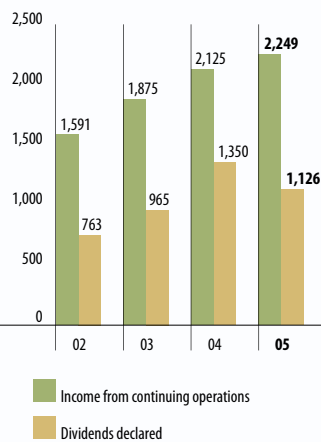
### Participating in Québec's Economy

Hydro-Québec's revenue in 2005 totaled \$10.9 billion, up \$491million (4.7%) from 2004. Sales volume was 169.2TWh in Québec and 16.3TWh outside Québec, for a total of 184.5TWh. Domestic sales rose 3.3 TWh and amounted to \$9.1billion, up \$199 million (2.2%) over 2004. In markets outside Québec, sales increased \$380 million to reach \$1464 million.

Income from continuing operations was \$225 billion in 2005, versus \$2.8 billion in 2004. This \$124-million increase resulted from higher net short-term exports and sales growth in Québec.

Dividends declared were \$1B billion compared to \$135 billion in 2004.

Income from continuing operations and dividends declared (\$M)



\* Gouvernement du Québec, November 2005. *Energy for Prosperity in Québec: Objectives and Orientations of Energy Strategy. Consultation report, p. 3.*



## HYDRO-QUÉBEC'S CONTRIBUTIONS TO THE QUÉBEC ECONOMY

	2002	2003	2004	2005
Average workforce (person-years)	21,393	21,819	22,183	22,465
Capital tax (\$M)	281	296	324	330
Municipal and school taxes (\$M)	35.9	32.7	33.6	34.5
Tax on public services <sup>a</sup> (\$M)	N/A	N/A	N/A	229
Procurement of goods and services inside and outside Québec (\$M)	1,812	2,294	2,394	2,367
Proportion procured from Québec businesses (%)	91	93	94	92
Direct jobs sustained by procurement (person-years) <sup>b</sup>	12,250	15,199	14,918	12,654
Integrated Enhancement Program – Funding paid (\$M)	3.4	4.5	17	7.8

a) As of 2005, this tax replaces the tax on gross revenue.

b) The drop in 2005 is explained by an adjustment of the percentage of Québec content in the main classes of goods and services purchased.

### Supporting Regional Vitality

Hydro-Québec contributes to regional development in Québec by supporting the creation of direct and indirect jobs through our projects and operations. Our procurement of goods and services, the taxes we pay and the presence of our employees across the province also play a part. The economies of several of Québec's regions are tied to the development of hydropower potential and operation of our facilities.

Goods and services purchased in 2005 in the Abitibi-Témiscamingue, Lower St. Lawrence, North Shore, Gaspé and Magdalen Islands, Mauricie, Northern Québec and Saguenay-Lac-Saint-Jean regions accounted for 20% of all procurement, even though the population in these regions is 15% of the entire population of Québec.

Our facilities are undeniably points of interest and we contribute to regional economic growth through our tour program. In 2005, over 160,000 people took advantage of the free guided tours at 18 of our facilities and at Cité de l'énergie in the Mauricie region and Sept-Chutes generating station near Québec City. We also cooperated with the Regroupement des sites majeurs de Rouyn-Noranda in various activities related to tours of our regional operating and training centres in Abitibi-Témiscamingue.

### Encouraging Community Organizations

Our commitment to numerous humanitarian, community and cultural organizations continued in 2005. The company granted \$19 million in donations for humanitarian aid, education and health, and sponsorship of socioeconomic, scientific, cultural, environmental and amateur sports groups. Among the 1,362 organizations supported were Les Amis des Jardins de Métis (Lower St. Lawrence), the Memphremagog Art Circuit (Eastern Townships), the Festival international de musique actuelle in Victoriaville (Central Québec) and the Regroupement des maisons de jeunes du Québec.

Hydro-Québec employees and pensioners once again gave generously to Centraide/United Way; their donations of \$2.6 million were matched by Hydro-Québec for a total contribution of \$5.2 million.

We also support employees who volunteer with non-profit organizations in their communities. In 2005, over \$186,000 went to support the activities of 237 employees.

## Supporting Education and Youth

In addition to research contracts and financial support for research chairs, Hydro-Québec contributes to various university projects to support the quality of education. Of the over \$3.8 million we awarded in 2005, \$520,000 was for student scholarships.

Scholarships are granted every year to young people from various ethnic communities in the Montréal area in conjunction with such organizations as the Montreal Association of Black Business People and Professionals and the Chinese Family Service of Greater Montreal.

For many years, we have offered paid internships to university students. In 2005, 178 students, including 14 environmental interns, were able to further their education in this way. In addition, four Aboriginal college students received awards of \$1,000 each, and one university student received \$2,000 and a 16-week internship in civil engineering at Hydro-Québec.

Our youth program also aims to inform youngsters about hydroelectricity and stimulate their curiosity about science. In 2005, over 7,700 elementary and secondary school students across Québec attended the *Eau bleue = Énergie verte* (Blue Water = Green Energy) conference.

More than 50 presentations on *Envirovolt*, an activity kit on the environment and hydroelectricity, were given to nearly 1300 children in science day camps.



Hydro-Québec partnered with the Conseils du loisir scientifique to distribute the *Envirovolt* activity kit to children aged 9 to 12.



Site tour during the Rivière-des-Prairies generating station open house.

## Concordance Table: GRI and the United Nations Global Compact

The table below shows Hydro-Québec's degree of compliance with the Global Reporting Initiative (GRI) guidelines and the 10 principles of the United Nations Global Compact. A more detailed version of this table can be viewed on our Web site at [www.hydroquebec.com/sustainable-development](http://www.hydroquebec.com/sustainable-development)

Global Compact	GRI	Reporting Elements	Compliance	Global Compact	GRI	Reporting Elements	Compliance
ECONOMIC PERFORMANCE INDICATORS				SOCIAL PERFORMANCE INDICATORS (CONT.)			
	EC1	Net sales	●	3	LA3	Representation by independent trade unions	●
	EC2	Geographic breakdown of markets	●		LA4	Information for employees	○
	EC3	Cost of all procurement	●	6	LA13	Worker representation in decision making	○
	EC4	Contracts paid	○		LA5	Notification of occupational accidents	○
	EC11	Supplier breakdown	○		LA6	Joint health and safety committees	●
	EC5	Payroll and benefits	○		LA7	Work-related injuries and absentee rates	○
	EC6	Payments to investors	●		LA8	HIV/AIDS policies or programs	○
	EC7	Increase/decrease in retained earnings	●	1	LA14	ILO and occupational health management	●
	EC8	Taxes paid	●	3	LA15	Formal agreements with trade unions	●
	EC9	Subsidies received	●		LA9	Employee training (number of hours)	○
	EC10	Donations to communities and other groups	●	6	LA10	Equal opportunity policies or programs	●
	EC12	Infrastructure development	●		LA11	Composition of senior management	●
	EC13	Indirect economic impacts	○		LA16	Continued employability and career endings	○
ENVIRONMENTAL PERFORMANCE INDICATORS					LA17	Skills management and lifelong learning	●
8	EN1	Raw materials used	○	HUMAN RIGHTS			
8	EN2	External waste used	○	1	HR1	Human rights management	○
8	EN3	Direct energy use	○	1	HR2	Human rights impacts	○
8	EN4	Indirect energy use	○	1	HR3	Human rights performance	○
7-8-9	EN17	Renewable energy/energy efficiency	●	1	HR8	Human rights training for employees	○
8	EN18	Energy consumption of products	○	6	HR4	Prevention of all forms of discrimination	●
8	EN19	Indirect use upstream/downstream	○	3	HR5	Freedom of association	○
8	EN5	Total water use	○	5	HR6	Exclusion of child labor	○
7-8	EN20	Water use and ecosystems	○	4	HR7	Prevention of forced labor	○
8	EN21	Annual withdrawal of water	○	2	HR9	Human rights appeal processes	○
8	EN22	Total recycling and reuse of water	○	2	HR10	Effective, confidential employee grievance system	○
8	EN6	Location and size of land	○	1	HR11	Training for security personnel	○
7-8	EN7	Description of impacts on biodiversity	●	2	HR12	Consideration for indigenous communities	●
	EN23	Total area of land used	○	2	HR13	Community grievance mechanisms	●
	EN24	Total impermeable land surface	○		HR14	Redistribution of revenue to communities	○
7-8	EN25	Sensitive or protected areas	●	SOCIETY			
7-8	EN26	Changes to natural habitats	○		S01	Management of impacts on communities	●
7-8	EN27	Ecosystem protection and restoration	●		S04	Awards received	●
7-8	EN28	Species on the IUCN Red List	○	10	S02	Management of corruption	●
	EN29	Operations near protected areas	○	10	S03	Lobbying and contributions to political parties	●
8	EN8	Greenhouse gas emissions (GHG)	●	10	S05	Amounts paid to political parties	●
8	EN9	ODS use and emissions	●		S06	Anti-trust and monopoly regulations	N/A
8	EN10	Emissions of NO <sub>x</sub> , SO <sub>2</sub> and other pollutants	●		S07	Anti-competitive behavior	●
8	EN11	Total amount of waste	○	PRODUCT RESPONSIBILITY			
8	EN12	Significant discharges to water	●	7	PR1	Management of customer health and safety	●
8	EN13	Chemical spills	●		PR4	Non-compliance with health and safety regulations	○
8	EN30	Indirect GHG emissions	○		PR5	Complaints to official oversight bodies	○
8	EN31	Transport of waste deemed hazardous	●		PR6	Voluntary code compliance	●
8	EN32	Water sources	○		PR2	Product information and labeling	○
8	EN33	Supplier performance	○		PR7	Non-compliance with labeling regulations	○
7-8	EN14	Environmental impacts of products	●		PR8	Management of customer satisfaction	●
8	EN15	Products sold that are reclaimable after their useful life	○		PR9	Adherence to advertising standards and codes	●
8	EN16	Non-compliance with environmental regulations	●		PR10	Breaches of advertising and marketing regulations	●
7-8	EN34	Environmental impacts of transportation	○	1	PR3	Management of consumer privacy	●
8	EN35	Total environmental expenditures	○		PR11	Breaches of consumer privacy	●
SOCIAL PERFORMANCE INDICATORS							
	LA1	Breakdown of workforce by region/country	●				
	LA2	Job creation and turnover	○				
	LA12	Employee benefits	●				

Degree of compliance: ● Reporting element **fully** covered ○ Reporting element **partially** covered ○ Reporting element **not** covered

\* Numbers refer to the 10 principles of the United Nations Global Compact.

## QMI Verification Statement

QMI has been commissioned by Hydro-Québec to undertake an independent verification of the validity of the information within its *Sustainability Report 2005*.

The report, as well as the results of the company's environmental, social and economic performance are the sole responsibility of Hydro-Québec.

QMI used a risk-based verification sampling plan as defined in QMI's External Verification of Environmental Reports protocol.

The verification process included assessing the information and data compiled for this report, followed by interviews with managers and employees involved.

On the basis of the information made available to the auditors, and according to the verification method used, QMI is of the opinion that the data and information contained in the *Sustainability Report 2005* provide an adequate picture of Hydro-Québec's performance.

In addition, QMI considers that the data collection process and the *Sustainability Report 2005* are part of a continuous improvement approach supported by the use of the Global Reporting Initiative (GRI) guidelines.

QMI President,



Wendy Tilford

### Units of Measure

\$M: millions of dollars

\$B: billions of dollars

kV: kilovolt (one thousand volts)

kW: kilowatt (one thousand watts)

kWh: kilowatthour (one thousand watthours)

MW: megawatt (one million watts)

MWh: megawatthour (one million watthours)

GW: gigawatt (one million kilowatts)

GWh: gigawatthour (one million kilowatthours)

TWh: terawatthour (one billion kilowatthours)

The following publications may be obtained from our Web site [www.hydroquebec.com](http://www.hydroquebec.com) or by calling 1 800 363-7443:

*Annual Report 2005*

*Sustainability Report 2005* (this document)

*Financial Profile 2005-2006*

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