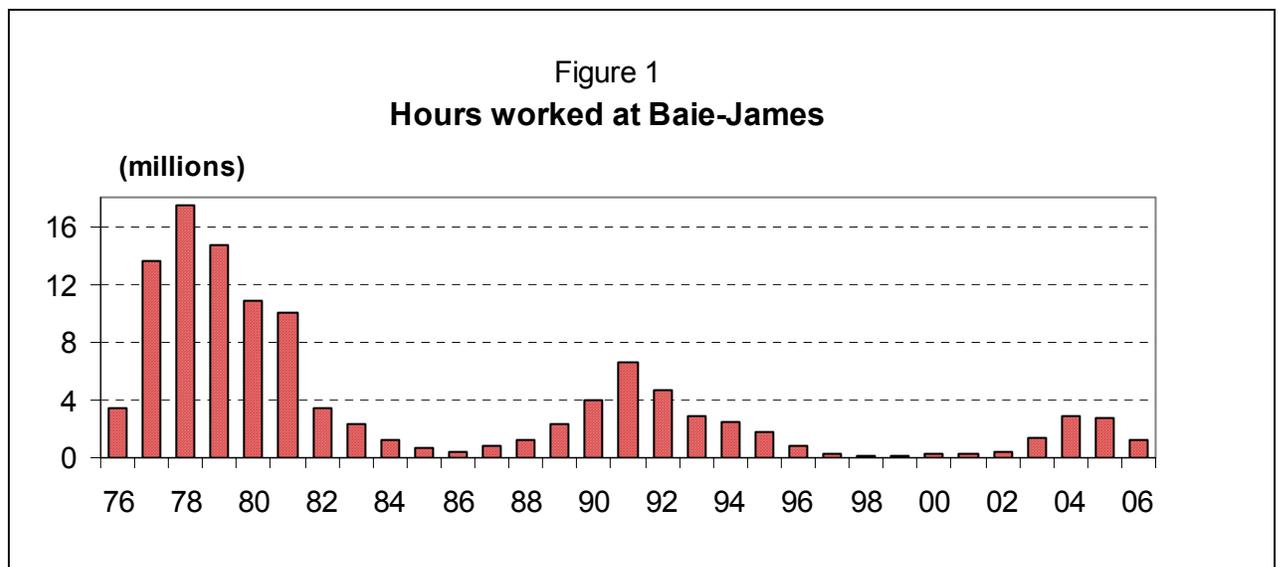




WORKERS AT BAIE-JAMES, PAST AND PRESENT

Construction work on the Eastmain-1A–Rupert project in Baie-James, which started up in 2007, will have a major impact on the Québec construction industry over the next five years. This huge project, the largest undertaken since construction of the La Grande-1 power plant in 1988, will require the expertise and commitment of hundreds of construction companies and thousands of construction workers. Almost 15 million hours worked is forecast. In comparison, the Eastmain-1 project generated 7.5 million hours of work from 2002 to 2006, just a drop in the bucket of the some 100 million hours worked on the Baie-James sites since the early 1970s. Here is a short history, in figures, of the workforce on the Baie-James sites.

Construction of hydroelectric power plants at Baie-James has proceeded in three distinct phases. The first phase of work, which extended from 1973 to the early 1980s, put the Robert-Bourassa, La Grande-3, and La Grande-4 power plants into service. Phase 2, from 1987 to 1995, involved the La Grande-2A, La Grande-1, Laforge-1, Laforge-2, and Brisay power plants. Hydro-Québec's four most powerful power plants are now part of the La Grande complex, which accounts overall for almost half of the crown corporation's installed capacity.



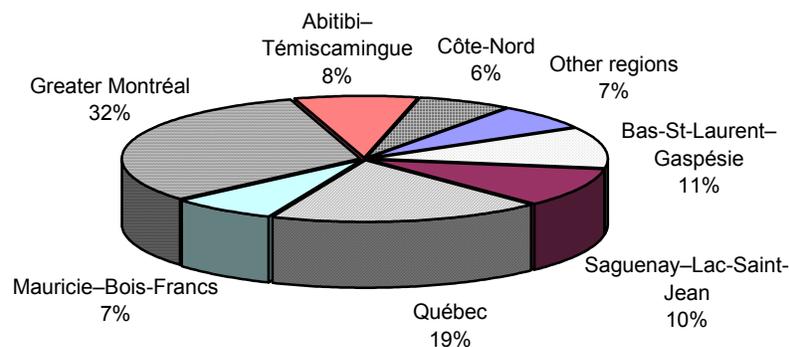
Source : CCQ.

A WORKFORCE FROM ALL REGIONS OF QUÉBEC

During the successive phases of work, almost 44,000 construction workers performed 100 million hours worked to complete these huge civil-engineering projects. The largest contingent of workers at Baie-James was from the Greater Montréal region. But even with one third of all workers, the Greater Montréal region was underrepresented, since it is the home region of more than half of all Québec construction workers. The work at Baie-James was more advantageous for the Saguenay–Lac-Saint-Jean and Côte-Nord regions, but the regions that benefited the most were Bas-Saint-Laurent–Gaspésie and Abitibi–Témiscamingue, given the size of their construction workers' labour pool.

In successive phases, the presence of workers from the large urban centres of Greater Montreal, Outaouais, and Québec became less and less preponderant, while the proportion of workers from the peripheral regions grew. For example, workers from Saguenay–Lac-Saint-Jean accounted for 8% of workers during phase 1, 11% during phase 2, and 25% during construction of the Eastmain-1 power plant. The Côte-Nord region, however, was the exception to the rule during the 2000s; the simultaneous construction of the Alouette (\$1.4 billion) and Toulnostouc (\$1 billion) mega-sites considerably reduced the need to go and earn a living in the North.

Figure 2
Construction workers employed at Baie-James, 1971–2005
According to employee's home region



Source : CCQ.

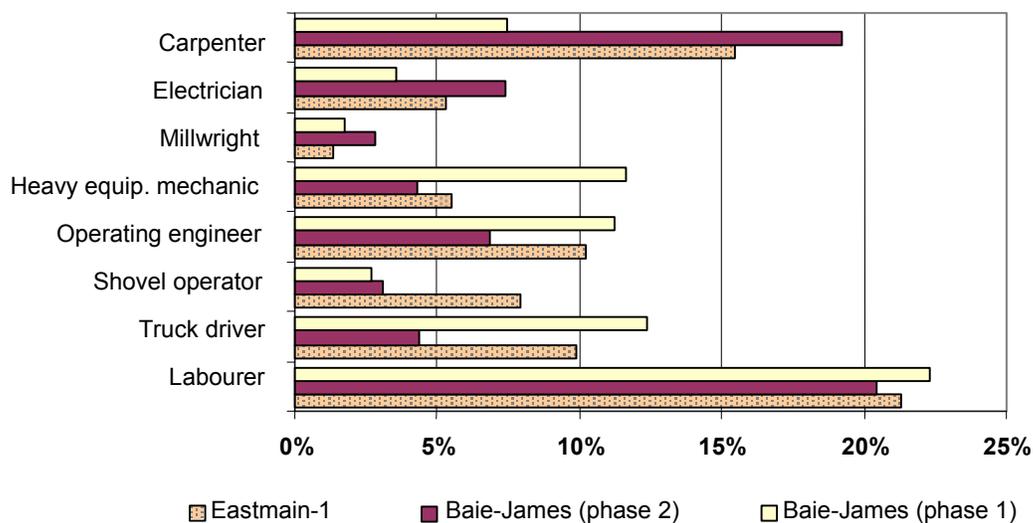
The contribution of workers from Bas-Saint-Laurent–Gaspésie to construction of the Baie-James power plants stood out in comparison to other regions. With 11% of the workforce at Baie-James, workers from Bas-Saint-Laurent–Gaspésie performed 16% of the volume of work. In addition, during each of the phases, workers from Bas-Saint-Laurent–Gaspésie were those who worked for the longest periods on the site. In contrast, workers from Abitibi–Témiscamingue worked for the shortest periods. The easier access to sites in the North may thus have encouraged these workers to be on site for shorter work periods. Finally, it is notable that from one phase to the next, workers residing in Baie-James considerably increased their hours worked in the region.

MANY EMPLOYMENT OPPORTUNITIES FOR OPERATING ENGINEERS, LABOURERS AND A NUMBER OF OTHER TRADES

Although there were some similarities, the predominant trades for phase 1 differed considerably from those for phase 2. During phase 1, Hydro-Québec did major work on containment reservoirs, while in phase 2, construction of power plants was more preponderant.

Figure 3

Distribution of hours worked by trade at Baie-James



Source : CCQ.

During phase 1, operation and maintenance of heavy equipment and trucks accounted for 40% of hours worked, compared to only 23% during phase 2. However, this proportion once again increased, to 37%, during construction of Eastmain-1. On the other hand, carpenters, assigned mainly to formwork, saw their share of hours worked rise from 7% during phase 1 to more than 15% during subsequent phases. The mechanical trades, such as electrician and millwright, were also in higher demand, proportionally, during the two

last phases. Labourers, who always form the largest continent on hydroelectric sites, saw their proportion fluctuate around 20% in all phases.

Data on successive phases of work also puts into perspective the increased use of mechanical shovels in civil-engineering work. Hence, shovel operators still doubled their overall share of the work at Eastmain-1 compared to the two first phases, despite the fact that there was generally less heavy machinery related hours worked during construction of Eastmain-1.

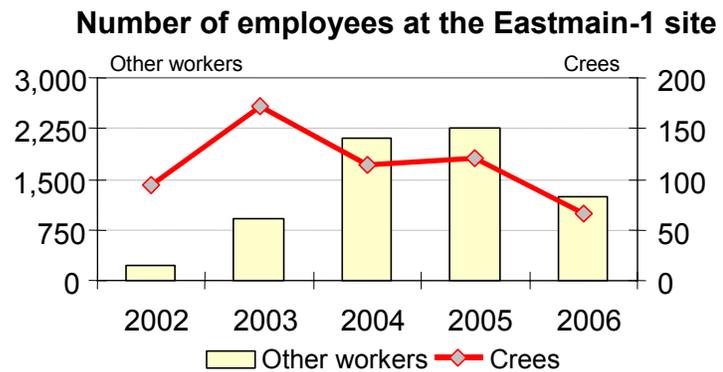
FIVE HUNDRED DIEHARDS!

The different nature of the work and the occurrence of a major recession at the end of phase 1 in 1982 meant that few of the workers from phase 1 were employed again during phase 2. In fact, out of the 30,885 employees in phase 1, only 15% reported hours worked during phase 2 of Baie-James. And some 25 years later, there are 805 employees from phase 1 at work on the Eastmain-1 site. Of these employees, 512 diehards have done work on all three phases of construction of the La Grande complex.

THE EASTMAIN-1 SITE AND THE CREES

The Eastmain-1 site entered its completion phase in late 2006 with the commissioning of the three turbine/alternator groups. Construction work on the complex will have required an investment of almost \$2.5 billion by Hydro-Québec, when the two power transmission lines are included.

Figure 4



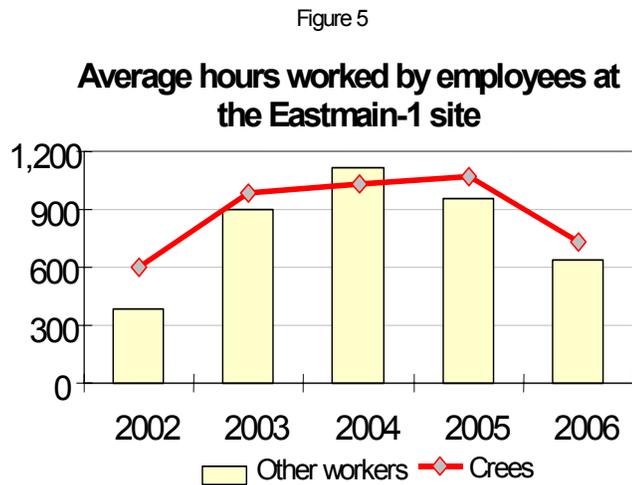
Source : CCQ.

The peak of employment at the Eastmain-1 project was reached in 2005, with 2,371 employees. However, the annual peak of activity took place in 2004, when workers on the Eastmain-1 site reported almost 2.5 million hours worked to the CCQ. During the period between 2002 and 2006, more than 4,400 construction workers declared hours worked for construction of the Eastmain-1 power plant and the two transmission lines.

Aboriginals were associated with the accomplishment of different phases of the construction work at Baie-James. For the Eastmain-1 site, the CCQ has interesting data on the participation of Cree workers in the project. Of the 4,400 construction workers, 280 employees came from one of the nine Cree communities in the Baie-James territory. Cree employees thus accounted for 6% of all employees. Cree workers were integrated

earlier than other workers on the site because a number of contracts related to construction of infrastructure were executed by Cree companies. For instance, Cree employees accounted for almost 30% of the total workforce in 2002.

In each of the five years of construction, Cree workers performed on average almost 1,866 hours worked, while other employees worked 1,515 hours. This difference in favour of Cree workers came not only from a higher annual average of hours worked but also from periods of activity spread over more years. Thus, 56% of Cree workers worked for more than one year at the Eastmain-1 site between 2002 and 2006, compared to 45 % of other workers.



Source : CCQ.

Cree workers are concentrated within three trades or occupations that encompass almost two thirds of their hours worked: truck drivers, operating engineers, and labourers.

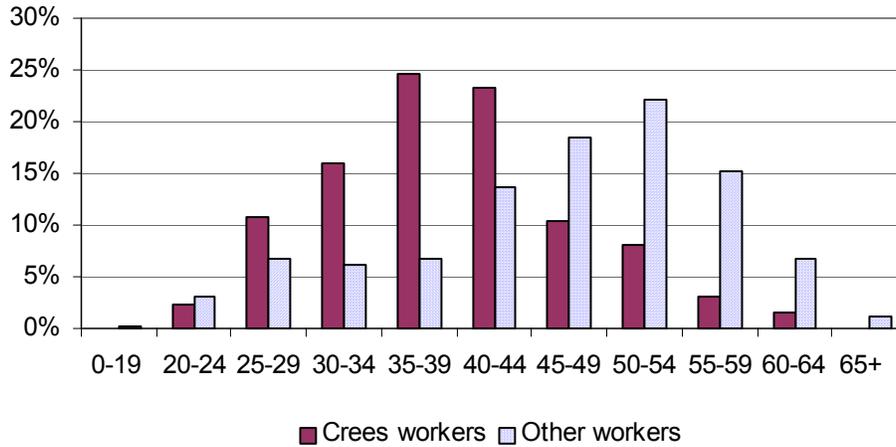
Table 1
Main trades at the Eastmain-1 site

Cree workers			Other workers		
Trade	Hours worked	Share	Trade	Hours worked	Share
Truck drivers	132 428	25%	Specialized labourers	1 006 762	16%
Operating engineers	107 882	20%	Carpenters	985 647	16%
Labourers	107 032	20%	Operating engineers	628 241	10%
Carpenters	46 541	9%	Shovel operators	581 931	9%
Shovel operators	30 793	6%	Electricians	348 156	6%
Line occupations	25 549	5%	Heavy equipment operators	326 739	5%
Surveyors	23 380	4%	Truck drivers	293 187	5%
Heavy equipment mechanics	14 296	3%	Drillers	258 563	4%
Specialized labourers	12 700	2%	Surveyors	210 063	3%
			Crane operators	208 925	3%

Source : CCQ.

The age structure of Cree workers was clearly younger than that of the other employees on the Eastmain-1 site from 2002 to 2006. Thus, 77% of Cree workers were under 45 years of age, while among other workers only 40% were under 45.

Figure 6
Age structure of employees, 2002–06



Source : CCQ.

Ten different construction companies hired Cree workers at the Eastmain-1 site. However, the Cree Construction and Development Company Limited (CCDC) alone accounted for 96% of hours worked by Cree employees.

Joseph Jetten, economist