

WOOD USE STRATEGY FOR CONSTRUCTION IN QUÉBEC

May 2008



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TAKING ACTION NOW FOR THE FUTURE

At the closing of the *Summit on the Future of the Quebec Forest Sector*, I noted that one thing was certain: “The status quo is not an option.”

A mere two months later on February 14, 2008, I released the green paper entitled *Forests: Building a Future for Québec*, which presented various policy directions aimed at overhauling our forestry regime.

One of the nine policy directions put forward in this green paper, which clearly reflects the consensus reached at the Summit, is for Québec to have an industrial development strategy based on high-value-added products, in part by developing an authentic wood processing sector.

Québec’s strategy for the use of wood in construction is therefore a first step forward in updating the forest sector’s industrial development strategy. Its aim is to create profitable economic activity and satisfying long-term employment, spur innovation in the forest sector, increase the use of wood as an eco-friendly material, and reduce greenhouse gas emissions.

This strategy reflects not only a continuation of our efforts to support the forest industry, but also and especially our desire to bring about an increasingly necessary change in perceptions of the industry. It seeks to link this economic activity, which is often concentrated in outlying regions, with the everyday concerns of all Quebecers.

This strategy represents an important evolution in the way we understand and use wood—a renewable resource. It invites us, from a sustainable development perspective, to innovate and create wealth for all of Québec.



A handwritten signature in black ink, reading "Claude Bécharde". The signature is written in a cursive style.

Claude Bécharde
Minister of Natural Resources and Wildlife



CURRENT STATE OF AFFAIRS

An industry in crisis.

The forest industry, which is made up of the wood, furniture, pulp and paper, and printing industries, is a pillar of Québec's economy. In 2007, 131,000 jobs were directly dependent on primary, secondary, and tertiary wood processing. Annually, the industry generates \$5 billion in salaries, nearly \$30 billion in deliverables, and an added value to the Québec economy of over \$11 billion.

Since 2005, the forest industry has seen one of the worst crises in its history. The combination of structural decline in the demand for certain paper products in North America, high inventory of unsold new houses, and uncertainty in American subprime mortgage markets has resulted in a marked drop in housing starts and lower demand for all construction-related products.

The difficulties associated with market volatility have been aggravated by the Canadian dollar's sharp rise against the U.S. dollar. The loonie's significant and rapid gains have dealt a serious blow to business competitiveness on this side of the border, which has seen an overall drop in profitability. The industry has also suffered from the growth of electronic media, which has cut demand for paper. In addition, the softwood lumber industry has been hurt by a dispute with the United States and scaled-back cutting rights. Furthermore, strong competition from emerging markets like China and Brazil has cut into market share for North American forest products and manufacturers and led to plant closures in Québec and other Canadian provinces.

These factors have had a major impact on the workers and communities who depend on wood processing. Between 2005 and 2007, the industry as a whole showed a loss of 11,000 jobs, 75% of which were directly linked to harvesting and primary processing operations. Furthermore, this decline in processing prompted industry players to consolidate existing operations.

As a first step, the Government of Québec took a series of measures to assist workers, communities, and businesses experiencing difficulties. To date, through regular government intervention and the release of additional funds, nearly \$2.4 billion has been set aside for these measures.

Nevertheless, the current crisis is such that the whole thrust of government actions and efforts must be completely reviewed. The Government of Québec has therefore decided to revisit its forestry regime and update its management of public forests.

The entire industry shares this same sense of urgency. It was in fact what led to the holding of the Summit on the Future of the Quebec Forest Sector, held in Québec City from December 10 to 12, 2007, after a year of preparatory work.

One of the top consensus at the summit was the need to increase the use of wood in Québec's construction industry.

Building on success

The summit partners also agreed on the need for measures to prepare for the industry's future. They made a commitment to “together continue building the future of the forest industry through openness, collaboration, and transparency” and also to “continue their efforts and publicly report the progress achieved.”

In this same declaration of December 12, 2007, the partners expressed their desire to “build together to ... develop and transform the wood products industry.” In this regard, four themes were presented :

Québec plays a leading role in Canada in the production of high-value-added wood products (secondary and tertiary processing). With more than 18,000 jobs, Québec counts 33% of the Canadian jobs related to the production of high-value-added products, compared to 24% in Ontario and 16% in British Columbia. In Québec, more than 6,193 jobs have been created in the sector over the last ten years, boosting its portion of the wood products manufacturing industry to 50% by 2007, compared to 40% in 1996.



- 1) Promotion of wood in the construction of public, institutional, and commercial buildings
- 2) Development and transformation of the wood products industry
- 3) Establishment of an industry-wide culture of innovation
- 4) Certification of forestland

This increase in high-value-added production can partially make up for the loss of jobs in primary wood processing, notably the jobs lost to reduced resource availability. It should also allow Québec producers to rely less on the United States lumber market, where trade disputes and commodities market¹ fluctuations are regular concerns.

¹ Commodities are characterized by product homogeneity and high supply-and-demand volatility in the face of price fluctuations, even small ones. These markets are dominated by cost and price considerations, and consumers are quick to change their consumption habits, replacing one producer with another or one product with a close alternative merely because the price is lower.

It is also a sector noted for its innovation. It creates original products to meet new needs or fulfill economic requirements. Many engineered wood products such as abuttings, glue laminates, open-web or I joists, and roof trusses have been developed to make construction site operations easier and more productive.

Part of a solution

This strategy is thus aimed at taking concrete action to increase the use of wood in Québec, particularly in public buildings, other nonresidential construction, and multifamily housing. The strategy is also designed to leverage Québec's position as the leader in high-value-added products.

Among other things, this goal reflects growing environmental concern in Québec and around the world. Consumer demand for environmentally responsible products and government efforts to protect the environment are key reasons behind it. Timber products make good alternatives to the energy-intensive products that bear the brunt of rising fossil fuel prices. The importance of environmental issues has led many governments to adopt strategies to encourage the use of wood products, which now enjoy favorable market conditions. These wood-use strategies are an important part of their strategies to control greenhouse gas emissions.

In France, the "Wood Construction Environment Plan" aims to increase the market share of wood in construction by 25%. Just by using wood as a replacement for inputs such as concrete and steel, the country could make good on nearly 14% of its commitments under the Kyoto Protocol.

Obviously countries like Sweden and Finland have a long and rich tradition in the manufacture of forest products. In some ways their situation is similar to ours as these countries have considerable forest resources and export huge quantities of forest products. However, they also have recognized expertise in the use of wood products, and their own domestic markets have always served as primary testing grounds.

This strategy is therefore only one part of a multifaceted strategy taking shape over the coming months to help mitigate the impacts of the forestry crisis and, in particular, pave the way for future development

"Wood as a Material: Green Construction" is one of the four cornerstones of the industrial development strategy cited in the green paper ***Forests: Building a Future for Québec***, released by the Minister of Natural Resources and Wildlife on February 14, 2008. Orientation 9 of the green paper, "Establish an industrial development strategy based on high-value-added products" sets out various action plans, including one for "Wood as Energy: Green Power," one for "Biorefining: green chemistry," and one for the "Modernization of the Primary Processing Industry." These sectors underpin the entire industry.



THE NEED FOR GREEN PRODUCTS

In many respects the construction industry is an economic sector of vital importance to Québec.

For Québec's forest products industry, construction is a big market for wood products. The manufacture of lumber, appearance wood products, and panels is a major source of revenue and economic activity on both the local and regional levels.



For all Quebecers, “inhabited space” is one of the main areas of environmental concern. People want new buildings to be energy efficient and to provide comfortable and healthy living environments. These concerns tie in with the concept of sustainable development, which encompasses environmental, social,

and economic considerations. The population's new expectations are increasingly being expressed through greater demand for “green” products.

The new “green” approach to buildings applies not only to energy efficiency during their use but also to the entire process by which they are built and eventually demolished. This process is referred to as the “life cycle” and includes the extraction, transformation, transport, construction, and maintenance of materials and their eventual disposal after demolition. By comparing the life cycles of different products used in construction, we can see that wood products stand out as one of the most ecologically responsible choices, not only in terms of emissions of CO₂, the main greenhouse gas, but also in terms of energy and water use. Wood products are the only ones that come from a renewable resource and are easily recycled.

Wood frames are already widely used in North America for single-family housing. However, through the nonresidential (i.e., industrial, commercial, and institutional) and multifamily construction sectors, Quebecers can enjoy further environmental and quality-of-life gains through more intensive use of wood products for this type of construction.

Using one cubic meter of wood instead of the equivalent amount of concrete or steel directly contributes to the reduction of around one metric ton of greenhouse gas emissions (CO₂ equivalent)^{2,3}.

² This advantage doubles if we consider that each cubic meter of wood used results in the equivalent of one ton of greenhouse gas sequestration. However, because “sequestration” continues to be the subject of scientific debate, this document makes no claims with regard to its impact.

³ Carbon dioxide (CO₂) is the principal greenhouse gas (GHG) produced as the result of human activity. In 1990 Québec produced 87.5 million metric tons of CO₂ equivalent (Mt eq CO₂). Under Kyoto, Québec is to lower its emissions to 82.35 Mt eq. CO₂ by 2012. In 2005, total GHG emissions in Québec totaled 92.0 Mt eq CO₂ or 12.1 metric tons per resident.



OBJECTIVES

This strategy's main objective is to increase the use of structural and appearance wood products in construction in Québec and in doing so contribute to a reduction in greenhouse gas emissions.

Achieving this objective will also build expertise and develop a Québec construction industry able to efficiently serve foreign markets and maximize the value of forest products.

The strategy specifically aims to increase the use of wood products in the nonresidential sector in Québec and in the construction of multifamily homes as well as to intensify the use of appearance wood products.

The government's objective is to triple the use of wood in structures in this construction category by 2012. Reaching this objective will lead to a reduction of nearly 340,000 tons of greenhouse gas emissions per year, since wood would replace less environmentally favorable products like concrete and steel.



MINISTÈRE DES RESSOURCES NATURELLES ET DE LA FAUNE DU QUÉBEC

The nonresidential segment of the industry includes the construction of commercial buildings (stores, services, office buildings), industrial premises (plants, factories, and warehouses), and institutional buildings (schools, hospitals, etc.) Currently, the nonresidential sector in Québec uses the equivalent of 96 million bd ft⁴ of lumber in its structures. Less than 5% of buildings are built with wood, even though 50 to 60% could be under the Building Code.



FACULTÉ DE FORÊSTERIE - UNIVERSITÉ LAVAL

In North America it is quite common to build single-family homes using a wood frame. However, this type of structure is less common in multifamily housing units. In Québec the amount of lumber used for this building type in 2006 stood at 168 million bd ft per year.

⁴ Bd ft: board foot. The equivalent of one piece of wood one foot wide, one foot long, and 1 foot thick.

It would be possible for the amount of lumber used in multifamily housing in Québec to hit 245 million bd ft annually by 2014 and still respect the Building Code. Attaining this objective would mean an annual increase of around 74 million bd ft and would result in a reduction in greenhouse gas emissions of nearly 122,000 tons a year.

The use of appearance wood in residential and non-residential construction is a way to meet consumer expectations not only in terms of the environment but also in terms of aesthetics and acoustics. In this regard, Québec is fortunate to have hardwood species and certain softwood species available for use. Appearance wood includes a wide variety of products ranging from interior and exterior surface materials to molding, flooring, and door and window finishes. Québec consumption of these products is estimated at \$378 million bd ft.

The present strategy seeks to increase the use of appearance wood by 80 million bd ft to nearly 458 million bd ft a year. This would reduce greenhouse gas emissions by 131,000 metric tons.

In total, the strategy thus aims for an increase of around 360,000 million bd ft a year by 2014—the output of two large sawmills—together with greater wood use in building construction in Québec and a 600,000 ton reduction in greenhouse gas emissions, or slightly less than what 50,000 Quebecers would generate in a year.



VILLE DE QUÉBEC

To ascertain whether these objectives have been met, Ministère des Ressources naturelles et de la Faune (MRNF) will call on the Quebec Wood Export Bureau (Q-WEB), which already has figures on the amount of lumber and appearance wood currently used in nonresidential and multifamily construction. The next step will be periodic followup to confirm that the objectives have been met and to make adjustments as necessary.

Meeting objectives for increased wood use in Québec will also have a crowding-out effect on environmentally inferior products and thus lead to a diversification of product lines and markets. Québec companies will be able to reduce their dependence on foreign commodities markets, particularly in the United States, and better showcase their technological achievements.

Doing so will also spur the manufacture of high-value-added products, an area in which Québec already excels as the leader in Canada.



POLICY INSTRUMENTS

The policy instruments of the Wood Use Strategy for Construction in Québec are organized around two main courses of action :

A- Leading by example in the Government of Québec

B- Increasing the use of wood in multifamily and nonresidential construction in Québec

A- Leading by example in the Government of Québec

Under the Sustainable Development Strategy, the Government of Québec has undertaken to lead by example. Already, in line with its strategic plan 2006–2009, Société immobilière du Québec is looking to obtain LEED⁵ certification for all construction projects of more than \$2.5 million so that new government buildings boast leading environmental performance in terms of both energy and the environmental impact of construction materials.

The Government of Québec believes the desire for eco-responsible⁶ building practices must now be complemented by an additional requirement to use wood in government buildings, so that the public sector becomes a leader in this regard :

- By developing, at the design phase of construction projects, structural and architectural solutions that use wood. These wood solutions will be preferred even if they have a higher cost (up to 5%), provided they comply with the Building Code.
- By increasing the use of wood as an appearance material (interior and exterior surface materials) in construction and renovation projects on public buildings.

The present strategy will impact all construction work where the budget comes mainly from the Government of Québec and for which wood is an appropriate material. Educational, health and social service, and cultural institutions are the largest sources of contracts for public sector building construction⁷. Furthermore, the interest that Société d'habitation du Québec has already shown in promoting wood frame construction outside of Québec could be leveraged to step up development of “all wood” solutions in the multifamily sector.

⁵ The LEED (Leadership in Energy and Environmental Design) standard is a trademark used to show that a building meets the standards of an evaluation program developed by the U.S. Green Building Council (USGBC). The concept stems from a U.K. initiative in the eighties, which was taken up by U.S. architects in the early nineties. However, the LEED standard does have shortcomings, such as the fact that the point system does not take into account product life cycles.

⁶ Many governments have adopted policies aimed at improving environmental management practices within government itself. Canada and British Columbia have announced plans in this regard. In its 2006–2012 action plan on climate change, the Government of Québec committed to expanding initiatives aimed at reducing energy consumption in public buildings and also undertook to implement programs to encourage positive behavior, e.g., with regard to employee travel. In the 2008–2009 Budget Speech, Québec's finance minister announced a new policy of eco-responsible government.

⁷ Under the 2007 Québec Infrastructures Plan, Foundations for Success, the Government of Québec plans to invest nearly \$30 billion over the next five years to maintain and improve its infrastructures. Investments in the road system, public transit, and municipal facilities total more than \$15 billion. The rest is earmarked for health care (\$7.12 billion), education (\$5.6 billion), justice and public safety (\$804.2 million), culture (\$714.9 million), and public housing (\$410.4 million). These amounts do not include investments of \$7.6 billion for projects already announced, investments by ministries and agencies, or the envelope of \$752.3 million included in the Québec Research and Innovation Strategy.

The construction and renovation of municipal public buildings is an additional opportunity to use more wood. For this reason, the Government of Québec plans to work with municipalities to promote such use of wood and to draft a charter on the use of wood in municipal buildings.

All Québec government agencies will therefore be urged to spell out their respective commitments under the present strategy.

In addition to making good on a government commitment to sustainable development and the increased use of wood, one of the anticipated results of the government's leading by example is that Québec will have a network of model buildings to showcase the commercial and industrial use of wood.

B- Increasing the use of wood in multifamily and nonresidential construction in Québec

The second area of intervention is nonresidential construction. To spur wood use, this approach will call on innovation, tool development, and the promotion of a new appreciation of wood in Québec through an alliance of partners.

B.1- Innovation

Government support for innovation will be in the form of increased product and technology development assistance, in particular to shorten and optimize the development time for products.



MINISTÈRE DES RESSOURCES NATURELLES ET DE LA FAUNE DU QUÉBEC

MRNF intends to step up financial assistance for product and technology development by backing design and R&D efforts aimed at new high tech products and processes to meet the needs engendered by increased use of wood products in nonresidential and multifamily construction.

This assistance will first be in the form of specific innovation projects with research organizations. Among the subjects dealt with will be the development of innovative construction systems; the combining of different materials, including wood, in hybrid construction; life-cycle research; techniques relating to materials traceability; and fire resistance analysis of wood products.

Next, assistance will provide support to businesses with actual plans to develop products or technologies to meet needs identified in the Wood Use Strategy for Construction in Québec. In particular, businesses will be supported in the certification process for these new products.

Innovation comes with great challenges because it involves the development of a construction industry that seeks to find the best ways possible to combine wood with other materials in hybrid systems. These combinations will make it possible to optimize the potential of materials and to benefit from maximum environmental, architectural, and economic advantages.

B.2- Tool development

Another type of government action in support of the present strategy is the development of tools to increase the use of wood in nonresidential and multi-family construction.

These actions are very targeted and specifically aim to remove obstacles to wood use. These obstacles may be informational (lack of information on the part of prime contractors and insurers) or commercial (software for the design and cost evaluation of wood structures in the industrial and commercial construction sector).

The Government of Québec is committed to continuing efforts in this direction by supporting the action plan of Centre d'expertise en construction commerciale en bois (CECOBOIS), an organization that brings together industry stakeholders in primary, secondary, and tertiary wood processing. It is these stakeholders who define, by consensus, tool development needs and action plan priorities. The Canadian Wood Council, FPInnovations – Forintek and the university system are lending their expertise to CECOBOIS.

The Québec industry particularly aims to supply highly technical wood products for the construction of small and medium-sized commercial buildings. The actions set out in the action plan prioritize construction segments that offer the greatest potential for manufacturers of high-value-added products in terms of housing starts, value, and appearance, while taking into account the products they manufacture.



LES CHANTIERS CHIROUGAMAU LTÉE

The action plan is divided into five parts :

- Actions of solicitation, technical support, and networking for professionals, promoters, and insurance providers
- Analysis, studies, and investigations to better understand market demand
- Development of technical tools to, among other things, design, estimate, conceive, and create nonresidential wood frame buildings
- Technical training activities for construction workers and professionals at businesses and construction sites as well as professional development at Québec universities
- Promotional actions aimed at key specifiers and prime contractors, including municipal councils

B.3- The promotion of a greater appreciation of wood through an alliance of partners

All government and private-sector actions risk futility if there is not a positive perception of the economic, environmental, and social roles of forest operations. We must intensify our efforts to raise awareness of the real benefits of using forest resources with respect to sustainable development and the fight against greenhouse gas emissions.

The Government of Québec has thus undertaken to establish a Québec wood alliance whose objectives are not only to promote forest products but also to inspire pride in the use of wood.

A communication plan must therefore be drawn up to raise the profile of wood products, position wood as an eco-friendly product, and raise awareness of the importance of using wood in the everyday life of Quebecers. The framework for this strategy is based on the following priorities :

- Intervene with private and public contractors so that they voluntarily agree to consider using wood in the projects they have to deliver.
- Carry out promotional activities with interest groups and the general public through advertising campaigns, contests, and promotional tools.

This alliance will not be meaningful unless it includes a very broad spectrum of members representing various sectors. Partners' membership, however, will be based on shared principles of sustainable development and its three components: environmental, economic, and social.

The alliance must not only promote a vision of increased wood use in the construction sector, but also foster development of numerous other uses of forest resources, such as in the energy sector.

Each partner will present what it is currently doing to promote wood resources. Each must undertake to produce a three-year action plan with a view to promoting the use of wood in their operations and in their field and will be called on to help support promotional activities.

Intended partners include government organizations, consumer associations, environmental groups, universities, and private sector stakeholders such as builders, real estate owners, banking institutions, labor unions, and wood product manufacturers.

To avoid the need to create new structures, Q-WEB will take charge of the alliance's secretariat and will call on the various groups under its aegis, notably Regions Group made up of representatives of regional conferences of elected officials.

Financial support

To financially support the present strategy, the Government of Québec will, over the next six years (2008 to 2014), provide a total of \$16 million in funding. This money will make it possible to

- provide \$2.5 million to municipal officials to increase the use of wood in municipal and private buildings in their region;
- carry out a \$6 million campaign to promote wood as a material with high environmental value;
- make \$5 million available to spur innovation in the development of technologies and products for nonresidential and multifamily construction;

- provide an additional \$1 million to CECOBOIS for the development of tools to eliminate obstacles to wood use, on top of a similar contribution from the Government of Canada and \$600,000 already granted; and
- consolidate efforts through promotional activities outside Québec between 2008 and 2014 funded by the Government of Québec and its partners to the tune of nearly \$2 million, half of which will come out of the Government's budget.



PHOTOGRAPHY - FORNTEK - SYLVAIN GAGNON



FOR THE COMMON GOOD

An economic engine

Businesses in the wood products sector face daunting challenges. However, with new product positioning emphasizing high environmental value and, ultimately, full and integrated systems, the industry can reduce its reliance on traditional United States lumber markets.

The present strategy represents a challenge that in several respects may prove a shock for certain industry stakeholders. It will demand an even closer relationship between lumber producers and the actual end users—architects, engineers, and builders. Producers will have to make the necessary efforts to adapt their products and approaches to this new context where it is no longer enough to “push” sales.⁸ However, the strategy will offer sawmill businesses a concrete way to boost their productivity by introducing new technologies related to, for example, traceability and information processing.

In the mid term, implementation of the present strategy will result in an expansion of business opportunities outside Québec. The strategy is both a necessity and a springboard to growth for Québec businesses in both the domestic and foreign markets for “green” products.

The strategy will also make it possible to foster the manufacture of high-added-value products, because nonresidential construction requires engineered and highly technical products. This will therefore further the creation of added value and employment in the majority of Québec’s regions and at the same time serve as a basis for the growth in the key tertiary sector made up of universities, research centers, and engineering firms.



LES CHANTIERS CHIROUGAMAU LEE

This approach will increase the value of Québec’s wood industry by redirecting a part of the production historically destined for the United States to the Québec market and by manufacturing products with greater added value.

⁸ As opposed to “pull production,” only firm orders trigger manufacturing. In this type of organizational structure, flexibility is of utmost importance, as are quality and the timely transmission of information.

An environmental vision

Wood can dovetail with an environmental vision and be recognized for its sustainable development role because its use helps to reduce greenhouse gas emissions while respecting the sustained yield policy for forests and the commitments made when the network of protected areas was established.

Québec benefits from an abundance of natural resources. Hydroelectric and forest resources contribute significantly to the fight against climate change. These resources allow Québec to achieve greenhouse gas emissions objectives more “quickly.” The strategy for the use of wood in nonresidential construction and multifamily housing in Québec thus contributes to

collective efforts to create a healthier environment.

A collective undertaking

Implementation of the present strategy cannot be achieved without the participation of those who make up the wood products industry. The alliance of partners is key to promoting a greater appreciation of wood. It is essential that Québec society understand and appreciate the values underlying the strategy’s objectives—and the alliance’s role in doing this is of prime importance.



0-WEB-TRÉSORS DE BOIS

A contribution to the declaration “Building together...”

This strategy is a first tangible contribution to the declaration of December 12, 2007, at the *Summit on the Future of the Quebec Forest Sector*.

The government, having noted the urgency of the situation in the forest sector, has chosen to put forward the present strategy, which is in keeping with the commitments made by summit partners to work to overcome the crisis and transform the wood products industry.

The strategy aims to increase the final consumption of wood in Québec by 360 million bd ft a year over the 2008–2014 period. In certain respects, this is not much. However, having an attainable objective is a smart way to start—and the objective is big enough to be a good first step to ensuring that Quebecers make greater and better use of their wood resources. Concretely, this objective represents enough wood to build 28,000 single-family homes, which is how many homes of this type are built in Québec during the best years.

For MRNF, this strategy is the first step in the updating process to its strategy for industrial development in the forest sector.

Thus, following an initial startup phase, a new consolidation phase should be underway by 2012. In addition to consolidating wood’s position in Québec’s nonresidential market, this phase will deploy Québec expertise in foreign markets. In Canada, the market for timber in nonresidential construction currently stands at more than 430 million bd ft. Achieving similar objectives as in Québec would boost demand for wood in this market segment to nearly 860 million bd ft.

As was mentioned previously, the current strategy is the first step in a more general industrial strategy for forest products processing. Other development directions, including power, oil, and primary processing, will have to build on this strategy.



The strategy will require stakeholders to show openness and to collaborate through industry alliances. A “cluster” approach fashioned on dialogue and networking among industry stakeholders, research communities, regional partners, and the government is essential and unavoidable.



CONSTRUCTION IN QUÉBEC IN FIGURES

In Québec, building construction and repair spending totals nearly \$35 billion⁹ a year. New capital assets account for more than 85 % of these expenditures, or around \$30 billion dollars.

Of the \$30 billion invested by the private and public sectors, three-quarters are earmarked for new building construction (around \$23 billion), with the rest devoted to various engineering work (transportation system, power grid, water treatment and aqueducts, communications, mines, and natural gas).

Outlays for new residential buildings (single-family homes, multifamily homes, and other dwellings) total \$17 billion, with the rest representing construction expenditures for new nonresidential buildings.

Nonresidential buildings include three main categories: industrial buildings (plants, garages, workshops, and equipment warehouses), commercial buildings (principally shopping centers, office buildings, and service firms), and institutional buildings (schools, hospitals, homes for the elderly, etc.).

Shopping centers and stores, office buildings, and educational institutions are the three main building types in nonresidential construction. They account for more than 50 % of the \$6 billion in capital spending in the nonresidential sector.

⁹ 2005 was the last year for which complete information was available as at February 2008.



KEY ELEMENTS OF THE STRATEGY

Objectives by 2014

	Mfbm	Tons CO2 (in thousands)
Nonresidential	205	340
Multifamily	74	122
Appearance	80	131
TOTAL	359	593

Policy Instruments

Leading by example in the Government of Québec

The use of wood in multifamily and nonresidential construction :

- Innovation
- Tool development
- Promotion of a greater appreciation of wood through an alliance of partners

Financial Resources Allocated

	\$M/6 years
• Support for municipal officials	2,5
• Promotional campaign	6,0
• Innovation	5,0
• Tool development	1,0
• Administrative support	0,5
• Consolidation (2009–2014)	1,0
TOTAL	16,0





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