In the Green Paper entitled *Forests: Building a Future for Québec*, the Québec Government proposed to introduce an industrial development strategy focused on high value-added products, including forest biomass. This new strategy, covering the period 2012-2017, was published in July 2012. It is designed to help maintain an innovative industry able to create wealth and long-term jobs, and also aims to increase the use of wood as an ecological material. In addition, the new forest regime not only allows for the allocation of forest biomass, but also promotes investment and the development of biomass application technologies.

**FOREST BIOMASS**

**A SOURCE OF RENEWABLE ENERGY**

Québec’s forests offer considerable potential for forest biomass, an abundant and renewable resource that can be used among other things to produce energy. Thanks to research and development, it can be now be processed and used advantageously in the form of bio-products. Forest biomass includes material left on logging sites (trunks, crowns and branches), and unused inferior-quality wood from public and private forests. The potential annual volume from Québec’s public and private forests is estimated at 6.4 million anhydrous metric tonnes (AMT).

In February 2009, the Québec Government took a further step towards the implementation of a true industrial development strategy by introducing a plan of action focused specifically on the energy sector and entitled “Developing the Value of Forest Biomass”. The aim of the plan is to replace pollutant energy forms by clean, renewable forms, thereby reducing greenhouse gas emissions.
Since then, investments relating to the plan of action have totalled roughly $255 million, including $62 million from financial support programs introduced by the Government. As a result, nearly 310,000 tonnes of greenhouse gases have been avoided every year.

In July 2012, the Government released its 2012-2017 Strategy to transform Québec’s forest products industry. The strategy focuses on three aspects of the industry: wood products, pulp and paper, and forest biomass. The Government intends to seize business opportunities involving the use of forest biomass by focusing on four main goals:

- to support the development of forest biomass markets for energy production;
- to invest in the use of forest biomass as a replacement for fossil fuels (pyrolysis, biooils and biochar, transportation liquids, pellets, torrefied pellets);
- to promote the use of forest biomass for energy production (cogenerating);
- to invest in equipment and facilities for the production and handling of pellets so that it becomes viable to harvest forest biomass.

**ENVIRONMENTAL PROTECTION AND SOIL FERTILITY**

Soil fertility is monitored scientifically to ensure that biomass harvesting does not compromise the integrity of the forests. Precautions must also be taken, among other things to protect fragile soils. Current harvesting methods require at least 30% of logged materials to be left on logging sites, thereby helping to fuel the forest ecosystem.

**FOREST BIOMASS ALLOCATIONS**

A Forest Biomass Allocation Program came into force in the public forests in June 2008 and was in force until March 31, 2013. It allowed the Ministère des Ressources naturelles (now known as Ministère des Forêts, de la Faune et des Parcs) to enter into five-year agreements with proponents, allocating forest biomass from one or more management units, following a competitive bidding process. The Ministère reviewed the program with a view to promoting the emergence of structural projects. As a result, a new method of allocating forest biomass was brought into force on April 1, 2013. It is simpler than the former process, and provides more supply security for proponents in line with the provisions of the Sustainable Forest Development Act.

In Québec, forest biomass recovery is still in its infancy. In Europe, however, it is common to salvage and use the resource, mainly because of high energy values and the short distances between biomass salvage sites and end users.
AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Forest biomass and wood, when used for energy purposes, have a neutral carbon cycle over a given period, unlike fossil fuels, which are directly responsible for emitting greenhouse gases. Replacement of fossil fuels with forest biomass therefore helps to reduce long-term greenhouse gas emissions.

Modern residential, industrial and commercial heating devices are more efficient at combustion than their predecessors, and this reduces the emission of particles that are harmful to human health.

THE PELLET MARKET

According to the Ministère’s registers, there are currently ten heating pellet manufacturers in Québec, with a combined annual production capacity of roughly 650,000 anhydrous metric tonnes (AMT). In Québec, pellet consumption is approximately 70 AMT per year. The residential market for the product is stagnant. However, the international potential is undeniable, since green energy regulations abroad are advanced and fossil energy prices are high.

The context is conducive to the emergence of forest biomass development projects, since biomass is a renewable resource able to produce green energy to meet growing energy needs and play a significant role in reducing greenhouse gas emissions.

Replacement of fossil fuels with forest biomass therefore helps to reduce long-term greenhouse gas emissions.
The main anticipated impacts of forest biomass use include the creation of new economic activity in the regions, and better trade and energy balances for Québec.

Key points

- There is considerable potential for the development of forest biomass.
- Forest biomass is an emerging sector that will allow for job creation, new product development and the use of another environmental resource to generate energy value.
- In February 2009, the Government launched a plan of action entitled “Developing the Value of Forest Biomass”, which has helped to create a context conducive to these new ecological outlets.
- The forest biomass allocation method, in force since April 1, 2013, will provide greater supply security for project proponents.
- In Québec, there are ten pellet manufacturers, five compressed log manufacturers and ten cogenerating plants.

For further information on forest biomass, please visit the following website:

mrn.gouv.qc.ca/forests/enterprises