

Trends and Prospects
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Prepared by:

**Policy, Economics and Industry Branch
Canadian Forest Service
Natural Resources Canada**

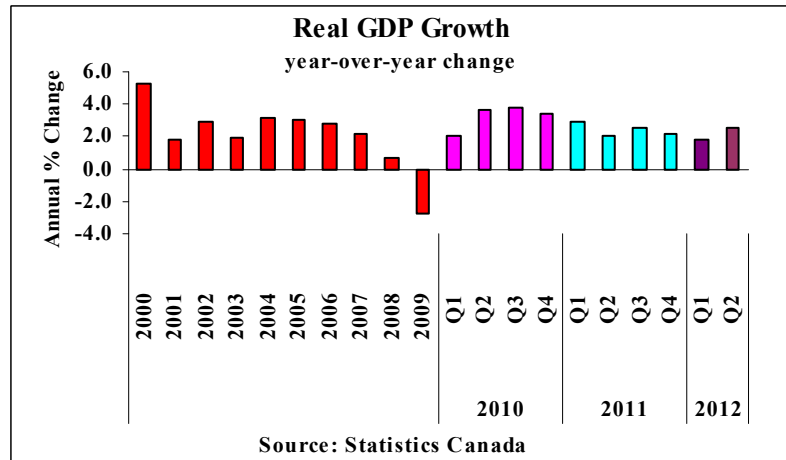
September 2012

CANADA

I. An Economic Overview

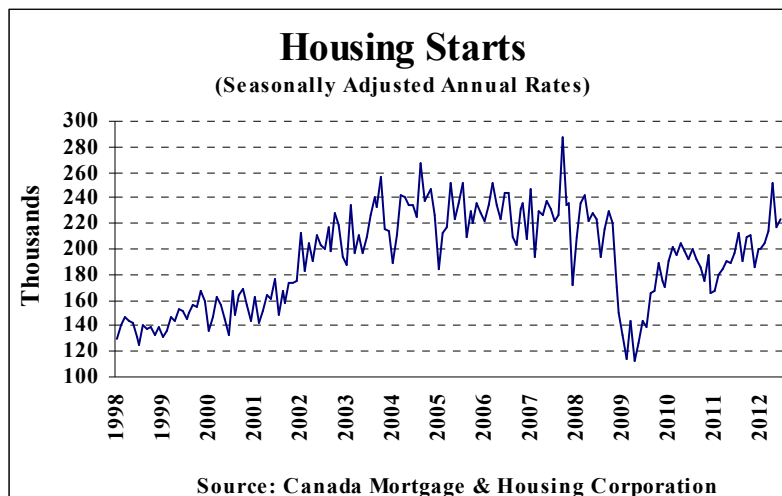
General Economic Conditions

The Canadian economy grew by 1.8% and 2.5% in the first and second quarters of 2012 respectively. Modest growth is anticipated for the remainder of 2012 due to low levels of external demand expected from the U.S. and Europe. Domestically, businesses remain cautious about expanding production while consumers continue to wrestle with high household



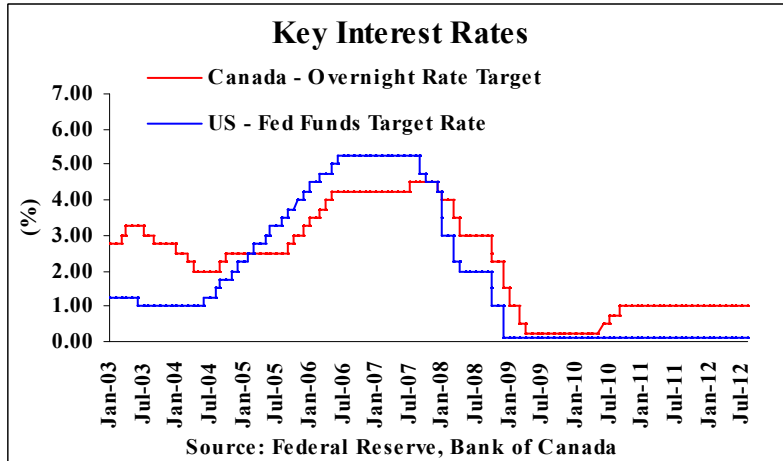
National unemployment levels are stable (around 7%) but household debt is at record levels (household debt to personal disposable income at 150% in 2011), suggesting that consumers will limit purchases in order to pare down both personal credit and home mortgage liability levels.

Canadian housing starts improved 18.4% in the first half of 2012, compared to the same period in 2011. However, a slow-down in Canadian housing starts is anticipated as tighter mortgage qualification standards become effective following a mid-2012 federal government announcement. These measures include a reduction in maximum amortization periods from 30 to 25 years. Housing prices are already near historical highs and while they have remained relatively stable since June 2011, sales are unlikely to increase appreciably under current economic conditions.



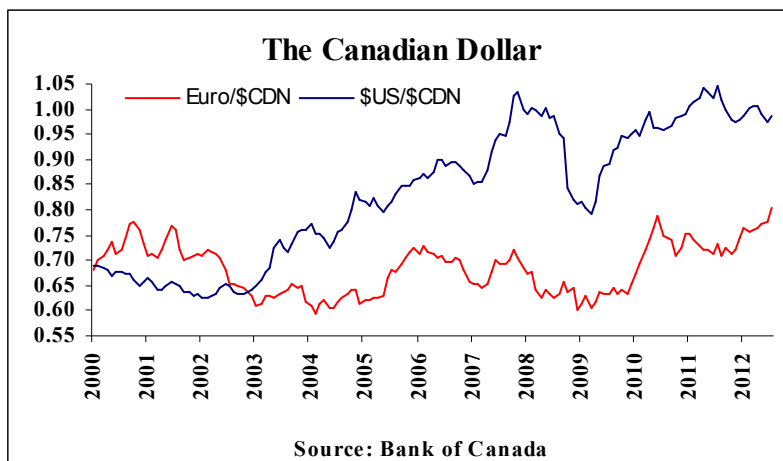
From December 2007 through to March 2009 the Bank of Canada lowered its overnight rate target (ORT) as the nation's economy weakened with the onset of the global economic downturn. It was lowered from 4.5% in December 2007 to 0.5% in March 2009, and kept at this level until mid-2010 when it was steadily increased to 1.0% and has remained unchanged since. Given inflationary pressures within the Canadian economy are likely to be muted – by downside global economic pressures (in the US, Europe and China) and moderate domestic economic

growth – the Bank of Canada has reaffirmed that it will keep the ORT at 1.0% through summer 2012 before reassessing in September. Due to the degree of interconnectedness between the two economies, movement in the ORT is affected by the US Federal Funds Target Rate (FFTR), which followed a similar trend through 2008. Since then the FFTR has remained flat. As of August



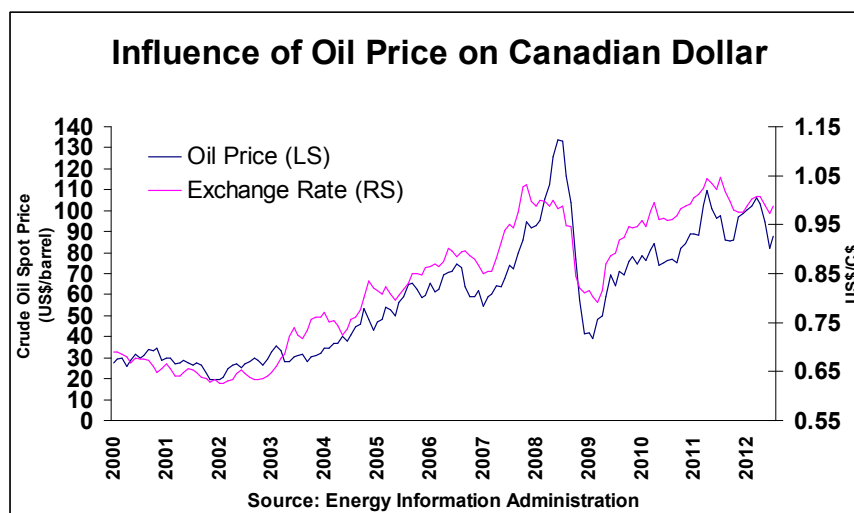
2012, the U.S. Federal Reserve announced its intention to “keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014.”

The Canadian dollar has exhibited considerable variation over the past few years; going from a monthly high of US \$1.04 in November 2007, to a low of US \$0.79 in March 2009. The Canadian dollar rebounded thereafter, peaking to an all-time monthly high of US \$1.05 in July 2011. In the first 8 months of 2012, the Canadian dollar has averaged US \$1 (parity) with a high of US \$1.01 and a low of US \$0.97 seen in June 2012.



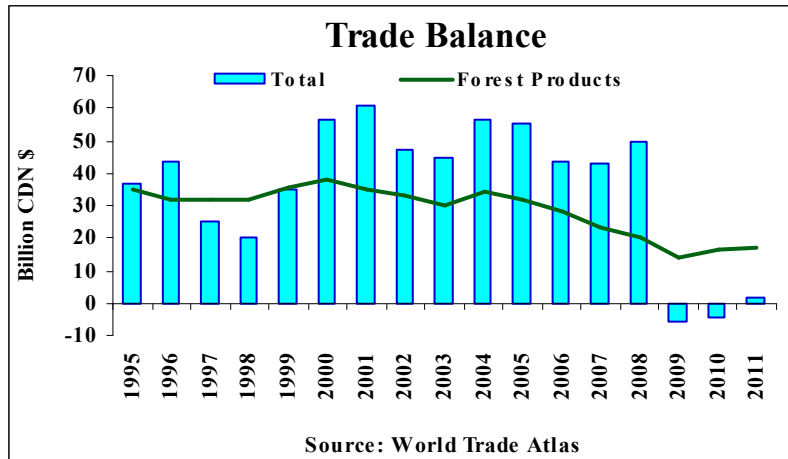
The Canadian dollar has also performed well against the Euro, reaching an all-time daily high in July 2012, at € 0.80. As a result of on-going financial uncertainty in Europe and the U.S., more investors are seeking investment opportunities in nations with low risk economic profiles (such as Canada). This may increase the value of the Canadian dollar relative to traditional reserve currencies beyond traditional levels.

Another important factor driving changes in the Canadian dollar are price fluctuations of Canadian commodity exports, such as crude oil. A major benchmark for North American crude oil is the



West Texas Intermediate (WTI). The WTI price increased significantly beginning in 2000, spiking at a monthly price of US \$133.88 in June 2008 before falling to US \$41.12 in December 2008. The price has recovered since, averaging US \$94.87 a barrel in 2011 and US \$96.69 in the first 7 months of 2012. During this period, a high of US \$109.53 and a low of US \$82.30 were reached in April 2011 and June 2012 respectively.

After nearly a decade of stability (from 2000 through 2008), Canada's trade balance fell dramatically during the global financial crisis, turning negative for the first time in 17 years. However, with the recovery, it returned to a positive value in 2011. Canada's forest products trade balance has displayed a similar pattern of stability then decline. Nonetheless, for over 17 years, Canada's forest trade



balance has remained positive, benefitting from sizable net exports to the US and more recently to China as well. In 2011, Canada's forest trade balance with the US was \$9.1 billion and with China it was \$3.3 billion, relative to \$9.5 billion and \$1.1 billion in 2009, respectively.

II. Policy Measures in Canada Impacting Forest Management and Forest Product Trade

1. Commitment to Sustainable Forest Management

In 2008, the Canadian Council of Forest Ministers (CCFM) released *A Vision for Canada's Forests: 2008 and Beyond* which presents a long-term, strategic vision for maintaining and advancing sustainable forest management in Canada. During a period of transition for Canada's forests and forest sector, the Vision also focuses on two key areas: forest sector transformation and climate change.

For more information on *A Vision for Canada's Forests: 2008 and Beyond*, see the Canadian Council of Forest Minister's website at www.ccfm.org.

2. Competitiveness Initiatives

The Government of Canada is playing a key role in supporting the transformation of the forestry sector through support for innovation and market development activities. In recent years, a number of initiatives have been implemented to help secure a more sustainable forest industry by helping the sector develop new products and processes, and take action on new opportunities in the international market place.

The 2012 Federal Budget, provided \$105 M for fiscal years 2012/13 and 2013/14 for the ongoing transformation of the forest sector in the areas of innovation and markets.

Innovation

Federal efforts to support innovation and market development in the forest sector have helped to lay the groundwork for transformation. In support of innovation, key results included the transformation of the forest innovation system in Canada to create a national, integrated innovation centre, FPIInnovations. In 2007 the federal government helped restructure and consolidate the three forest research institutes (FERIC, Forintek and Paprican) into FPIInnovations, which is linked to Natural Resources Canada's Canadian Wood Fibre Centre (CWFC). Consequently, FPIInnovations is now the world's largest public-private partnership for forest-related research.

The restructuring of Canada's forest innovation system also requires improved integration of the efforts by academia. The Natural Sciences and Engineering Research Council (NSERC) in partnership with Natural Resources Canada and FPIInnovations created the Forest Sector R&D Initiative in 2008, a \$34 million, five-year initiative to identify commercially relevant research programs that will create new market opportunities for the Canadian forest sector. The goal is for all researchers – not just those working in disciplines traditionally associated with the forest

sector – to participate in this initiative to develop new products and enhanced production processes that will benefit the Canadian forest sector.

The Government of Canada and provinces working with industry have continued to support research at FPInnovations in partnership with major universities. The federal government's Transformative Technologies Program (TTP) was launched in 2006. The objective of this Program is to undertake pre-competitive, non-proprietary research and development (R&D) having a longer-term focus to address the development and adaptation of emerging technologies, specifically targeting four key areas; next generation building systems, bio-product development, integrated value maximization and innovation deployment.

An example of new technologies developed under the Transformative Technology Program is the development of nanocrystalline cellulose (NCC) by FPInnovations. NCC offers a new product opportunity for the forest sector. NCC is extracted from wood fibre and has the ability to improve existing industrial products such as textiles, enhanced papers, improved plastics and specialized coatings. NCC's strength and environmental benefits position it to create new markets for Canadian wood producers. NCC has a North American market potential estimated at \$1-billion-plus by some in the pulp and paper industry. The federal government along with the province of Quebec and industry have supported the building of a new pilot scale demonstration facility at the Domtar pulp and paper mill in Windsor, Quebec. This facility is the first of this scale in the world.

Other successes include the extraction of chemicals (lignin) from black liquor to produce carbon fibres (widely used in sports equipment for example) and replacement of carbon black in tires, and the introduction of cross-laminated timber (CLT) as a new wood panel product into the North American market place. CLT is made by bonding together timber boards in a criss-cross pattern to produce a solid panel that is stronger than traditional timber. It also has proven advantages in the areas of fire safety, noise transmission and heat insulation. As a result, CLT provides an important opportunity for large volumes of wood to be used in mid-rise residential and commercial buildings. Through Canada's Economic Action Plan, NRCan provided funding to two projects at the University of British Columbia to showcase the use of CLT and other innovative wood products. The BioEnergy Research and Demonstration Facility and the Earth Systems and Science Building (ESSB) are first of kind projects in North America when it comes to showcasing the commercial applications of CLT. Construction of both projects is complete with occupancy expected to take place shortly.

Ultimately, the Transformative Technology Program is aimed at finding the best bets for new products and processes for a rejuvenated Canadian forest products sector.

Going forward, program activities will continue to focus on addressing gaps along the innovation continuum supporting the development and adaptation of emerging and breakthrough technologies (i.e. conversion of biomass to bioenergy, development of new bio-materials and bio-composites).

In Budget 2012, the Federal Government reiterated its commitment to innovation by providing \$66 million over two years to the *Forest Innovation Program* which combines the activities of the Transformative Technologies Program, the Canadian Wood Fibre Centre and the technology

transfer activities aimed at small and medium-sized enterprises previously delivered under the Value to Wood Program.

Markets

As part of Budget 2012, the federal government also invested \$39 million over two years to support the market diversification of Canada's forest sector by establishing the *Expanding Market Opportunities Program*.

Expanding Market Opportunities Program

The goal of the Expanding Market Opportunities (EMO) program is to increase market opportunities for the Canadian forest industry in offshore markets and non-residential construction and mid-rise segments in North American markets. The EMO program combines activities previously delivered under three separate forest-sector related programs: the Canada Wood Export Program (which focussed on diversifying exports to offshore markets), the North American Wood First Initiative (which focussed on increasing wood use in non-residential and mid-rise construction in Canada and the U.S.) and the Leadership in Environmental Advantage in Forestry (which focussed on highlighting the environmental credentials of Canadian forest products to buyers in Asia, Europe and North America).

Under the EMO program, federal funding is provided to forest product associations to support market diversification and expansion activities such as: branding, demonstration of Canadian wood-frame construction techniques, technical support to address market access and regulatory issues, quality assurance and activities that support the forest sector's environmental reputation through the promotion of Canada's strong record on sustainable forest management.

Pulp and Paper Green Transformation Program

Announced in June 2009, the \$1 billion Pulp and Paper Green Transformation Program (PPGTP) is laying the groundwork for a greener, more sustainable future for Canada's pulp and paper sector by supporting innovation and environmentally friendly investments in areas such as energy efficiency and renewable energy production. Funding for this Program was completed on March 31, 2012.

In October 2009, the PPGTP allocated funding envelopes to 24 pulp and paper companies based on a \$0.16 per litre credit for the black liquor produced by their Canadian mills between January and May 2009 (when the program cap of \$1 billion was reached). Firms had until March 31, 2012, to draw on their allocated credits to finance approved capital projects that would generate measurable environmental benefits. Eligible projects included boiler upgrades, turbine installations and investments in energy-efficient motors and other equipment.

The 98 projects funded by the Program have had direct positive environmental, economic and social impacts on recipient mills and the 38 communities across Canada that they sustain. These

include helping to maintain 14,000 jobs, improving air quality and reducing fossil fuel consumption and GHG emissions.

PPGTP projects are expected to generate over 200 megawatts of renewable electrical capacity, increasing the amount of green power available to Canadians. Improvements to the energy efficiency of mills are together expected to save 8.5 million GJ of energy per year, enough to heat 135 000 homes on an ongoing basis.

The program's environmental achievements have significantly exceeded initial expectations and have had a profound positive impact on the sustainability of the Canadian forest sector. The improvements in energy efficiency and substituting other fuels for fossil fuels in mill processes are expected to directly reduce GHG emissions by Canadian mills by 543 000 t/yr, representing over 10% of the entire Canadian pulp and paper industry's emissions in 2009. Other benefits of these projects include reduced mill emissions of sulphur dioxide by 5000 t/yr, total reduced sulphur by 725 t/yr and total particulate matter by 2200 t/yr.

Investments in Forest Industry Transformation

The Investments in Forest Industry Transformation (IFIT) Program, launched in August 2010, will help expand opportunities for Canada's forest sector by investing in innovative technologies that support a more diverse, higher-value product mix in the forest sector. These products include bioenergy, biomaterials, biochemicals, and next generation building products. Over the long term, these investments will improve the forest sector's economic viability and environmental sustainability, helping to secure a more prosperous future for Canada's forestry industry and forest-dependent communities.

The \$100 million, four-year program was announced in Budget 2010, and launched its first Call for Proposals in early fall 2010, followed by the second and final Call for Proposals in July 2011. The two Calls for Proposals received 107 applications representing over \$2B in total project costs and requesting over \$500M in program funding, clearly demonstrating the great appetite for innovation within the sector.

To date, a total of 6 highly transformative projects across Canada have been funded with additional projects under analysis in order to allocate the remainder of the program funding before the program end date of March 31, 2014. Examples of projects funded to date include the installation of a biomethanol project that will extract and purify methanol from the off-gas created by the kraft pulping process, using technology being demonstrated for the first time in the world. A second project is installing an Organic Rankine Cycle system to capture waste heat and produce power, the first project of its kind in a Canadian forest products mill. Both projects have significant potential for replication across the sector.

3. *Climate Change*

The attention paid to the impacts of climate change on Canada's forest and forest sector and potential adaptation strategies continues to increase. The 2008 Canadian Council of Forest Ministers (CCFM) document "*A Vision for Canada's Forests: 2008 and Beyond*", stated that "consideration of climate change and future climate variability is needed in all aspects of sustainable forest management." Also in 2008, provincial and territorial Premiers, through the Council of the Federation, requested the CCFM's Climate Change Task Force (CCTF) to undertake collaborative work on adaptation in forestry. Phase 1 of this interjurisdictional effort, completed in 2010, provided an assessment of tree species vulnerability and management options for adaptation (http://www.ccfm.org/pdf/TreeSpecies_web_e.pdf).

Phase 2 of the CCTF's initiative moved beyond trees to consider adaptation for forests and in the forest sector. The primary goal has been to develop and disseminate vulnerability assessment tools and adaptation knowledge syntheses to enable members of the forest sector to begin applying new sustainable forest management techniques that take into account changing climatic conditions. These tools and techniques, which are designed to be readily mainstreamed into day-to-day sustainable forest management planning and decision-making processes, are being field tested through several case studies across Canada. They will be described in a special series of nine reports targeted for publication by the CCFM in 2012 and 2013. The CCFM is also conducting numerous knowledge exchange activities with forest managers in order to accelerate the update and application of these tools and this new knowledge.

Recognizing that business and industry lack access to reliable information on climate change impacts and adaptation responses, the 2011 federal budget announced funding for nine federal departments for work on climate change adaptation. The main goal of the Natural Resources Canada (NRCan) program is to enhance competitiveness in a changing climate. Through the Forest Change initiative, NRCan is working with members of the forest sector to develop, transfer and mainstream targeted adaptation information, knowledge, and tools into sustainable forest management policies and practices. This will enable members of Canada's forest sector to minimize the risks and maximize the opportunities associated with climate change. The initiative has three main deliverables:

- 1) A Tracking System that reports on a logical and cohesive set of indicators on the effects of climate change on the forests and forest management systems of Canada.
- 2) An Adaptation Toolkit of actionable science and decision-quality information for sustainable forest management under a changing climate, including a range of knowledge products such as maps, guidebooks, climate projections, decision-support systems, etc.
- 3) An Integrated assessment of the implications of climate change on Canada's forests and forest sector under a range of future, "what-if" climate scenarios. The assessment will be focused on key policy questions and will directly inform policies and investment by the public and private sectors.

Also, an adaptation CFS web-portal will provide access to the range of relevant and applicable information delivered through the Forest Change initiative. This portal aims to become the key source of information for forest adaptation in Canada.

Several provincial and territorial governments are also continuing to advance adaptation of sustainable forest management activities. Some examples include the Forest Stewardship Action Plan for Climate Change Adaptation (2012-2017) in British Columbia; Alberta Sustainable Resource Development has established and is implementing its Climate Change Adaptation Framework; and the Ontario Ministry of Natural Resources has produced “A Practitioners Guide to Climate Change Adaptation in Ontario’s Ecosystems”.

Within several jurisdictions vulnerability assessments are being conducted at the forest management unit and regional level as a basis for incorporating climate change considerations into day-to-day sustainable forest management activities. Also a Forestry Adaptation Community of Practice (FACoP) has been established to facilitate the sharing of best practices and lessons learned in adaptation among researchers, policy-makers, and forest managers across Canada. (<http://www.ccadaptation.ca/>)

The federal and provincial governments continue to conduct the extensive analysis and consultation work required to prepare for a regulatory approach to limit greenhouse gas emissions that could include forest carbon. Governments are assessing the mitigation potential of the forest sector for achieving climate change goals.

The Government of Canada continues to work towards the goal of reducing Canada’s total greenhouse gas (GHG) emissions by 17% below 2005 levels by 2020. As endorsed in the G8 declaration in 2011, Canada is willing to share with all countries the goal of achieving at least a 50% reduction in global emissions by 2050, as well as support the goal of developed countries reducing emissions of greenhouse gases in aggregate by 80% or more by 2050.

The Government of Canada also continues to work constructively to implement the Copenhagen Accord (2009), Cancun Agreements (2010) and Durban Agreements (2011), including the decision to complete, by no later than 2015, the negotiations under the UNFCCC for a comprehensive, legally binding agreement to enter into force in 2020. Under the UNFCCC negotiations, Canada supports inclusion of forest, agricultural and other lands in a manner that contributes to reducing anthropogenic emissions and enhancing carbon removals, and that strengthens incentives for sustainable land management, while taking into account national circumstances. .

In 2010, Canada endorsed the global voluntary partnership to Reduce Emissions from Deforestation and Forest Degradation, and enhance sustainable forest management in developing countries (the REDD+ Partnership), as it aligns with priorities outlined in the Copenhagen Accord. In 2011, Canada participated in a Joint Declaration of Intent on REDD+ in the Congo Basin that signals high-level commitment among donor countries to scaling-up of finance and other support for REDD+ in the Congo Basin. As part of Canada’s commitment to provide its fair share of fast-start financing under the Copenhagen Accord, Canada has pledged \$1.2 billion in new and additional climate change financing over the period 2010-2012. This funding is

directed toward supporting developing countries' efforts to reduce greenhouse gas emissions and adapt to the adverse impacts of climate change, focusing on three priority areas: adaptation, clean energy, and forests and agriculture. Of the 2010 funding, \$40 million was used to support the Forest Carbon Partnership Facility's (FCPF) Readiness Fund, which, in turn, supports the building of national capacity to address deforestation and forest degradation. Canada's contributions to REDD+ activities as part of its 2011-2012 fast-start financing include \$20 million to the Congo Basin Forest Fund, \$5 million to the Forest Carbon Partnership Facility (FCPF) Carbon Fund, \$4.5 million to the World Bank BioCarbon Plus Fund, and \$2 million for the Congo Basin Forest Partnership. Details of Canada's Fast-Start financing can be found at www.climatechange.gc.ca

The Government of Canada is taking a sector by sector approach to regulating GHG emissions, beginning with the development of policies aimed at reducing the GHG emissions from the electricity and transportation sectors. Where appropriate, the environmental regulations of the federal government will be aligned with those of the United States.

In August 2012, Environment Canada released its report, "*Canada's Emissions Trends 2012*", which details projections of Canada's contribution to its 2020 GHG emissions reduction target under the Copenhagen Accord. Projections of the emissions from the Land Use, Land-Use-Change and Forestry sector (LULUCF) were included in the report for the first time. According to the projections in the report, Canada is half way to reaching its 2020 emissions reduction target.

At the provincial level, Ontario, Quebec, Manitoba and British Columbia continue to be active members in the Western Climate Initiative which is a collaboration of independent jurisdictions working together to identify, evaluate, and implement policies to tackle climate change at a regional level.

In June 2012, the Province of Quebec announced that \$2.7 billion will be designated for climate change mitigation and adaptation programs to work towards its GHG reduction target of 20% below 1990 levels by 2020. The Province of Quebec has announced plans to implement a GHG cap and trade system beginning in 2013.

The Province of British Columbia enacted the Greenhouse Gas Reduction Act in 2008. The Act authorizes hard caps on greenhouse gas emissions (33% below 2007 levels by 2020 and 80% by 2050), provides the statutory basis for setting up a market-based cap and trade framework and provides authority for a Reporting Regulation. The Province of British Columbia has developed the initial institutional framework for carbon offsets as part of that that province's target of carbon neutral public sector by 2012: including the establishment of a provincial crown corporation, the Pacific Carbon Trust. Forest offset credits are eligible to contribute to the province's stated commitment to a carbon-neutral government.

In 2011 the Government of British Columbia introduced a Forest Carbon Offset Protocol (FCOP) that will guide the design, development, quantification and verification of B.C. forest carbon offsets. The protocol is aimed at forest carbon offsets generated in B.C. on private and/or

public lands. Forest carbon mitigation activities that are eligible under the protocol include: afforestation, improved forest management and forest conservation.

Using Wood to Mitigate Climate Change

In 2011-2012, the Canadian Council of Forest Ministers (CCFM) organized a short-term Task Force on the *Use of Wood to Mitigate Climate Change*, with the aim to capitalize on environmental attributes of wood and promote the benefits of using wood as a means to mitigate the effects of climate change. This initiative followed a former commitment of the CCFM to promote wood as a building material, as a renewable energy source, and in biorefining. Federal, provincial, and territorial Governments worked together on this initiative to share knowledge and best practices that can contribute to increasing the use of wood.

4. Mountain Pine Beetle Infestation in Western Canada

The Mountain Pine Beetle is a native insect that attacks pines in Western North American forests and the infestation has caused widespread timber losses in the province of British Columbia. Since the current beetle epidemic started in the early 1990s, it has killed more than 50% of British Columbia's commercial pine volume, largely dense stands of lodgepole pine in the central interior of the province.

The beetle has since spread far beyond its historic range into northern British Columbia and eastward into the boreal forest of north-central Alberta. Scientists are assessing the risk that the beetle may continue to spread eastward across Canada's boreal forest, potentially impacting Canada's forest industries and the well-being of forest-dependent communities located in Canada's boreal zone.

Because of the vital role the forest industry plays in Canada's economy as a whole, and the growing threat the beetle poses to forests throughout Western Canada, the Government of Canada is concerned about the beetle infestation's impact on forest communities and is working in collaboration with the provinces, territories, stakeholders and communities across Canada to respond to the challenges it poses.

The Canadian Council of Forest Ministers brings together Federal, Provincial and Territorial Governments to work collaboratively on the *National Forest Pest Strategy* to ensure a coordinated approach to managing risks associated with forest pests, including the Mountain Pine Beetle. As a result of these efforts, there is increased capacity to detect beetles early and to manage risks associated with population growth and spread.

5. Trade Policy

In addition to the Softwood Lumber Agreement with the United States, and the North America Free Trade Agreement (1994), Canada has free trade agreements in force with Colombia (2011), Peru (2009), the European Free Trade Association (2009), Costa Rica (2002), Chile (1997) and Israel (1997). Canada also signed free trade agreements with Honduras (2011), Panama (2010) and Jordan (2009) and these are in the process of being implemented.

Currently, negotiations for free trade agreements are underway with the European Union, as well as with Morocco, Korea, the Andean Community, the Caribbean Community, Dominican Republic, India, Singapore, Ukraine, Guatemala, Nicaragua and El Salvador. Canada is also engaged in exploratory trade discussions with Turkey and Thailand and Mercosur. Following the release in 2012 of a joint study examining the feasibility for a free trade agreement, Canada launched negotiations for an Economic Partnership Agreement with Japan. In 2012, Canada was also invited to join the ongoing Trans Pacific Partnership (TPP) negotiations.

6. Phytosanitary Measures

Canada has demonstrated leadership in the area of phytosanitary measures through the development of certification systems for wood exports and for wood packaging. The Canadian Heat Treated Wood Products Certification Program (CHTWPCP) is the official certification system for the export of wood products to countries requiring heat treatment prior to entry. The Canadian Wood Packaging Certification Program (CWPCP) certifies that the wood packaging materials for export satisfies the international requirement of ISPM-15.

Canadian experts continue to take an active role in international fora related to phytosanitary measures, including North American Plant Protection Organization (NAPPO), International Plant Protection Convention (IPPC) and International Union of Forest Research Organizations (IUFRO) activities.

III. Market Drivers

The Canadian forest sector has slowly emerged from the global economic downturn of 2008/09. Recovery in the sector has been driven primarily by growing demand from Asia (particularly by China and South Korea) for wood products. The value of Canadian wood product exports to China have increased by almost 46-fold between 2001 and 2011.

Demand for paper and paperboard has been robust in India with exports increasing by 300.4% between 2002 and 2011. Likewise, the demand for Canadian pulp has been strong in China which has seen exports increase by 282.7% between 2002 and 2011.

It should be noted that the U.S. is still Canada's largest market for forest products; however, as a percentage of total forest exports, the share going to the U.S. has been declining. For example, almost 80% of forest product exports were destined to the U.S. in 2002 compared to 61.4% in 2011. Conversely, forest exports to China increased from 1.8% in 2002 to 15.6% in 2011. This can partly be explained by the fact that the U.S. economy is undergoing a slow recovery. U.S.

unemployment stood at 8.1% (as of August 2012) and current housing starts of 746,000 units (July 2012 - seasonally adjusted annual rate) are still well below the peak of 2.07 million starts in 2005.

Canada's forest sector still faces numerous challenges; among them are rising energy costs, a strong dollar and increasingly aggressive foreign competition.

Emerging Opportunities

While many traditional markets for Canadian forest products are mature, there are still opportunities for growth by pursuing developing or emerging markets. This also includes increased use of wood in non-residential and mid-rise construction and expanding offshore export opportunities for Canadian wood products in emerging markets. Climate change considerations and a growing recognition of the environmental benefits of wood use are helping to open up opportunities for wood products; including bio-energy and next generation bio-fuels.

Energy Prices

The price of oil (West Texas Intermediate) has risen steadily since 2001 when it was priced at US \$25.95 per barrel. Between 2001 to 2008, the price of oil increased by 281% to US \$99.57. It retreated to US \$61.65 in 2009 during the height of the economic recession before rising again to average US \$79.40 in 2010. Oil prices have continued to climb upwards, averaging US \$94.87 in 2011 and US \$98.15 in the first six months of 2012.

Steadily rising energy costs certainly poses challenges to the forest industry. Over the years, the pulp and paper industry has been particularly impacted by rising energy costs. Rising oil prices may be providing opportunities for alternative energy sources such as bio-energy and bio-fuel.

Exchange Rates

Exchange rates continue to play a role in the prosperity of the forest industry since most Canadian forest products are sold in U.S. dollar terms while the sector pays most of its costs in Canadian dollars. The Canadian dollar has maintained its strength against the U.S. dollar over the past 5 years, averaging \$0.93 (US) in 2007 and rising to \$1.01 (US) in 2011. In the first 8 months of 2012, the Canadian dollar has averaged US \$1 (at parity). The strength of the dollar will invariably play a role in determining the profitability of Canadian forest products firms in the near term.

US Housing Market

The U.S. housing market is the primary driver behind softwood lumber and wood panel demand in North America. The U.S. housing market is still undergoing a slow economic recovery. For comparison, housing starts in 2005 were a record 2.1 million units. In 2011, starts were just under 30 percent of the 2005 figure at 609,200 units.

As a consequence, U.S. demand for softwood lumber has decreased, leading to a drop in Canadian softwood lumber exports of 67% between 2005 and 2011. Full recovery of the U.S. housing market is likely still a couple years away as there is still an overhang of existing housing inventory on the market which has impacted the demand for the construction of new homes.

U.S. home prices appear to be stabilizing and recent housing data suggests that housing prices are flat to slightly rising on a national basis.¹

Even though Canada has benefitted from strong Chinese demand for lumber, many Canadian lumber producers are facing challenging economic times since new home construction in the U.S. is a key demand driver for Canadian wood products (softwood lumber in particular). Losses for the industry have also been impacted by the strong Canadian dollar along with the fact that recovery of the U.S. housing market is taking longer than initially predicted.

Shifting Global Demand for Paper

The pulp and paper sector is anticipated to realize a small pre-tax profit this year of \$229 million according to a recent abstract by the Conference Board of Canada.² The Conference Board forecasts that the industry will post profitability of more than \$600 million annually by 2016. Demand for paper products in North America continues to be in decline although there are some opportunities for growth in emerging markets such as China and India. In the near term, global economic uncertainty may moderate growth.

While there are some positive indications for the industry, there are a few challenges that pose a risk to the long-term outlook. These challenges include:

- Continued appreciation of the Canadian dollar
- Structural shift away from print media towards electronic media
- High crude oil prices impacting energy and transportation costs

The challenges above may seem significant but there are also opportunities for the industry that should be noted. These opportunities include:

- Rapidly developing economies in countries such as China and India where per capita paper consumption is much lower than developed countries. This presents significant

¹ FEA Macroeconomic Advisor Report, May 2012

² Conference Board of Canada, (abstract) *Rise of Electronic Media and Readers Putting a Damper on Paper Products Industry*, June 25, 2012.

opportunity to grow market share in these new markets. Population growth and growing affluence will likely further drive demand.

- Niche or specialty papers (e.g. coated papers and flexible packaging) have shown growth possibly as a result of rising disposable incomes which has improved demand for items such as wallpaper and gift wrapping.
- Increasing e-commerce activity will stimulate demand for paper packaging materials such as corrugated boxes which are needed to ship purchases.

IV. Developments in Forest Products Markets Sectors

1. Wood Energy Policy

The Canadian forest sector makes widespread use of forest biomass in the cogeneration of heat and electricity for use in industrial processes and sale to 3rd parties. In 2009, the biomass installed generating capacity was 1,671 MW, the majority of which was installed at pulp and paper facilities and at sawmills. In addition, several independent power producers generate electricity from the burning of wood wastes and other biomass materials. About 6.5% of Canada's total secondary energy use comes from forest biomass.

In 1990, fossil fuel use accounted for 38% of the forest sector's energy needs. A focus on changing the fuel supply mix and improving energy efficiency in the industry caused the fossil fuel use to fall to 22% by 2009. Over the same period the sector's use of bioenergy and other renewable energy sources has risen from 62% to 78%.

Canada's wood pellet production capacity has grown from 500,000 tonnes in 2002 to 3.2 million tonnes in 2011. Developing liquid fuels from biomass continues to be an important focus for Canada. The federal Renewable Fuel Standard (RFS) regulations, which took effect in much of the country in December, 2010, requires an average of 5% renewable fuel content in gasoline across Canada. Biodiesel production and use in Canada is still in the early stages of adoption. The federal RFS include provisions requiring an average 2% renewable fuel content in diesel fuel and heating distillate oil. This requirement went into effect on July 1, 2011.

2. Certified Wood Products

The different levels of government, and the various forestry and wood products associations, have various programs and policies in place that promote the sustainable use of wood both domestically and internationally, whether at the harvesting, manufacturing or consumption level. For example, many provincial governments have policies and guidelines requiring that the pulp and paper sector use existing wood fiber, available through primary manufacturing plants such as sawmills and other wood processing mills, before being granted a tenure license. Such a procedure ensures that existing fiber is used efficiently before new harvesting areas are opened up.

Environmental issues are, more than ever, a growing concern in the marketplace, and demand for certified forest products continues to increase. Recognizing the growing global interest in certified forest products, the Canadian forest products industry has implemented forest certification as a way of improving its forest management practices and demonstrating its commitment to sustainable forest management. Canada now has 40% of the world's certified forest areas. As of end of year 2011, 158.5 million hectares have been certified under one of the three forest-specific certification systems available in Canada. The distribution under the three systems is as follows — Canadian Standards Association (CSA) 57.1 million ha, Sustainable Forestry Initiative (SFI) 55.1 million ha, and Forest Stewardship Council (FSC) 46.3 million ha³.

3. Value-Added Wood Products

In the Canadian context, the value-added wood products group includes wood windows and doors, factory-built homes, millwork and joinery products, shingles and shakes, containers and pallets, engineered wood products (EWPs) such as I-beams and roof trusses, and other structural products.

Market acceptance of EWPs, the shift from larger dimension lumber to EWPs and the shift from stick-built homes to factory-built homes, all contributed to the significant growth of this segment than began in the mid-1990s. This growth has since slowed, reaching a peak of \$11 billion in 2006 and declining to \$8.7 billion in 2010.

In 2011, approximately \$1.27B in value-added products were exported, almost exclusively to the US market (91.4%). In 2011, the value of total exports of value-added wood products continued to decrease from previous years, with a decline of 4.1% over 2010. Between 2010 and 2011, imports of value-added wood products increased by 2% to \$1.34 billion.

The value-added sector has been affected by the ongoing weakness in the U.S. housing market, which has reduced demand for Canadian wood products, and the continued strength of the Canadian dollar, which has eroded Canadian-denominated revenues from U.S. markets. Furthermore, although Canada has developed some special niche markets within this product group, Canada faces increased competition from Asia.

4. Sawn Softwood

Between 2007 and 2011, Canadian sawn softwood production decreased by 26.4% to 51.9 million cubic metres. During this period, North American sawn softwood prices fell by 4.0% while the volume of Canadian sawn softwood exports to the U.S. dropped by 47.0%. Ongoing weakness in the U.S. housing sector has been a key factor behind this decline. Softness in the

³ If a forest area has been certified to more than one standard (ISO, CSA, FSC, SFI), the area is only counted once, hence the grand total of certifications may be less than the sum of the individual totals.

U.S. housing market is attributable to weak employment figures, tepid economic growth and large volumes of unsold U.S. home inventory.

There has been optimism on the part of sawn softwood producers due to strong demand growth in China. Between 2001 to 2011, sawn softwood exports to China increased by 80-fold on a volume basis, from 91,253 m³ to 7,345,227 m³. In 2007 to 2011 alone, the volume of softwood lumber exports increased more than 11 fold. Demand in China is increasingly driven by government housing projects, as the pace of private multi-storey residential construction has slowed.

Although the value of softwood lumber exports to China decreased 13.8% in the first half of 2012 compared to the same period in 2011, the volume of softwood lumber exports to China increased by 3.2% during that time. Year-to-date, China holds a 22.4% share of total Canadian sawn softwood exports (by volume). This suggests that China will remain a key market for Canadian sawn softwood in the near term. As the U.S. housing market continues to recover, it is expected that U.S. sawn softwood demand will pick up, boosting total Canadian sawn softwood exports.

5. Oriented Strand Board

OSB represents a large portion of Canada's total structural panel exports, most of which is destined for the U.S. market. In 2006, OSB comprised almost 82% of Canada's total structural panel production volume. Since then, OSB's share of the production of structural panels has dropped to 74.6% (2011). It is expected that as the U.S. housing market improves, OSB's share of Canada's total structural panel production will also rise.

The decline in demand for Canadian OSB is solely the result of the U.S. housing crisis. Between 2007 and 2011 the value of total exports of OSB dropped by 50% while to the U.S. it fell by 54.5%. This is significant since the U.S. is by far the largest consumer of Canadian OSB, receiving 82.1% of Canadian exports in 2011. The average North American price of OSB fell considerably in 2011 compared to 2010, by 15.6% to US \$186/Msf. However, the OSB price has rebounded over the first 7 months in 2012, up 22.0% compared to the same period in 2011.

6. Paper and Paperboard

The value of Canadian paper and paperboard exports declined by 36.7 percent between 2005 and 2011 to \$9.7 billion. The industry continues to face a high Canadian dollar and elevated wood fibre and energy costs, which have significantly cut into producer margins. Additionally, online media sources have successfully competed against newsprint-based media sources, significantly eroding its market share while printing and writing papers most recently have been hurt by the rise of electronic reading devices. Given the maturity of the North American market, there are limited growth opportunities for paper and paperboard.

7. Wood Pulp

In 2011, the value of Canadian wood pulp exports increased by 3.4% while the volume of overall Canadian wood pulp production stayed flat (-0.3%) compared to 2010. The rise in the value of Canadian wood pulp exports has been aided by considerable growth in the demand in Asian markets where the paper industry, a major driver of pulp demand, has grown significantly. The value of Canadian pulp exports to China grew at an annual average rate of 16.1% from 2002 through 2011. This growth has been fuelled by two main factors. First, China has greatly expanded its paper capacity and this is contributing to increased demand for pulp. Second, China has significantly reduced its domestic non-wood pulp capacity (e.g. reed, bamboo and bagasse), causing Chinese paper producers to source pulp supplies from foreign markets. The drive to reduce inefficient, highly polluting non-wood Chinese pulp capacity will likely continue.

In the long-term, Canadian pulp producers will likely continue to benefit from growing Chinese pulp demand, with Canada continuing to ship its primary pulp product, Northern Bleached Softwood Kraft (NBSK), to China. However, low-cost foreign competition will play a role in determining Canada's market share. Since 2006, Canada's share of Chinese wood pulp imports has increased slightly from 27.0% to 28.1% in 2011. Over the same period, Brazil's share has risen from 12.4% to 15.4% while the U.S. share has improved from 10.5% to 12.9%. If Canadians are able to maintain or expand their wood pulp market share in China, they will benefit from having reduced their exposure to the U.S. pulp market – one which has limited pulp market expansion opportunities. In 2011, Canadian pulp exports to China were 34.4% of Canada's total pulp exports, slightly below Canadian exports to the U.S., at 38.6%.

Opportunities for Canadian producers of dissolving grade pulp exist in India where it is used in the production of rayon fibre. The Aditya Birla Group of India owns a majority stake in two dissolving pulp mills in New Brunswick and recently announced the purchase of an idled pulp mill in north-western Ontario that will be converted to produce dissolving pulp.

Appendix

Statistics and Prospects

* Figures for 2012 and 2013 are estimated/forecasted

Sawn Softwood (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	37,712	37,992	40,468	41,579
Apparent consumption	16,661	-----	15,762	15,917
Imports	815	U	840	766
Exports	21,866	23,797	25,546	26,428

Coniferous Veneer and Sawlogs (000 Cubic Metres)

	2010	2011
Imports	2,469	2,147
Apparent consumption	106,811	104,875
Exports (Total)	3,630	5,244

Sawn Hardwood (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	955	866	986	1,070
Apparent consumption	1,011	----	1,052	1,148
Imports	565	U	501	519
Exports (Total)	509	375	435	441

Oriented Strandboard (OSB) (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	4,423	4,660	5,233	5,313
Apparent consumption	1,665	1,335	1,969	1,708
Imports	131	110	110	110
Exports (Total)	2,889	3,435	3,374	3,715

Plywood (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	2,005	2,017	2,064	2,070
Apparent consumption	3,613	3,552	3,473	3,459
Imports	1,909	1,896	1,823	1,869
Exports (Total)	301	361	414	480

Particleboard (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	6,157	6,369	7,002	7,021
Apparent consumption	3,843	2,866	3,272	3,021
Imports	1,276	618	440	475
Exports (Total)	3,590	4,121	4,170	4,475

MDF (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	793	767	799	800
Apparent consumption	685	562	600	601
Imports	300	240	256	262
Exports (Total)	408	445	455	461

Fibreboard (000 Cubic Metres)

	2010	2011	2012*	2013*
Production	884	847	901	901
Apparent consumption	958	825	904	911
Imports	651	579	618	633
Exports (Total)	577	601	615	623

Wood Pulp (000 tonnes)

	2010	2011	2012*	2013*
Production	18,936	18,287	18,814	18,954
Apparent consumption	9,858	8,839	9,017	8,843
Imports	227	227	298	287
Exports (Total)	9,305	9,675	10,095	10,398

Paper and Paperboard (000 tonnes)

	2010	2011	2012*	2013*
Production	12,733	12,056	11,869	11,789
Apparent consumption	5,916	5,929	5,370	5,287
Imports	2,647	3,426	2,538	2,495
Exports (Total)	9,464	9,553	9,037	8,997

U – Data are unavailable

Shaded areas in blue font indicate revised 2010 data

Note: Figures above have been adjusted to reflect actual volumes as opposed to nominal. Figures are consistent with those provided for the *2012 UNECE Timber Committee Forecasts (Forest Products)*.