

Trends and Prospects
**UNECE Committee on Forests and the
Forest Industry**

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Prepared by:

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

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CANADA

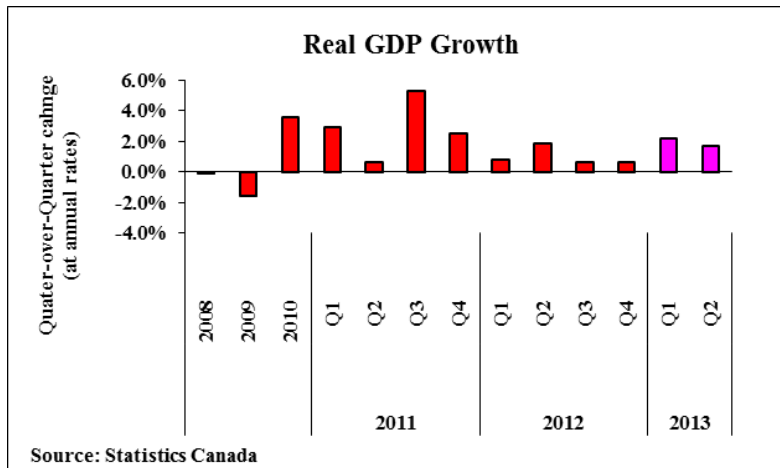
I. An Economic Overview

General Economic Conditions

The Canadian economy grew by 2.2% and 1.7% (at annual rates) in the first and second quarters of 2013 respectively. With increasing external demand and strengthening business confidence, the underlying momentum of the Canadian economy is expected to improve through mid-2014.

However, uncertainties remain in the Canadian economy due to the protracted recovery in U.S. and global demand, particularly in the current environment of greater restraint in domestic household and government spending. While national unemployment levels are still stable (around 7% level), the growth of household credit has

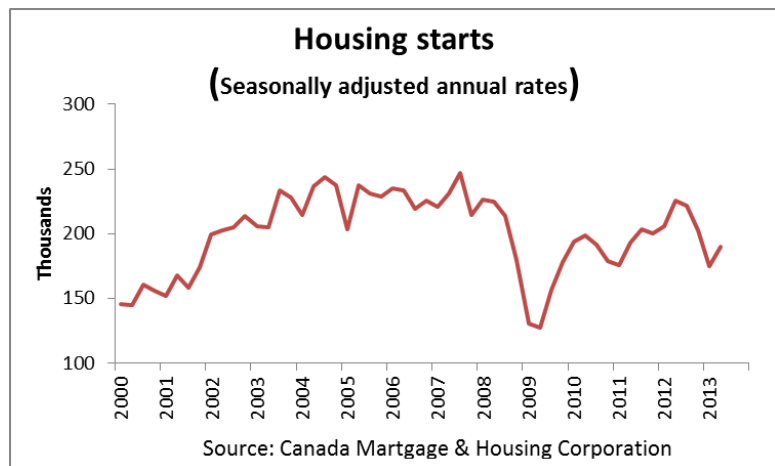
slowed down since 2012 and the household debt to personal disposable income ratio has edged lower, indicating consumers have been deleveraging to pare down both personal credit and mortgage liability levels.



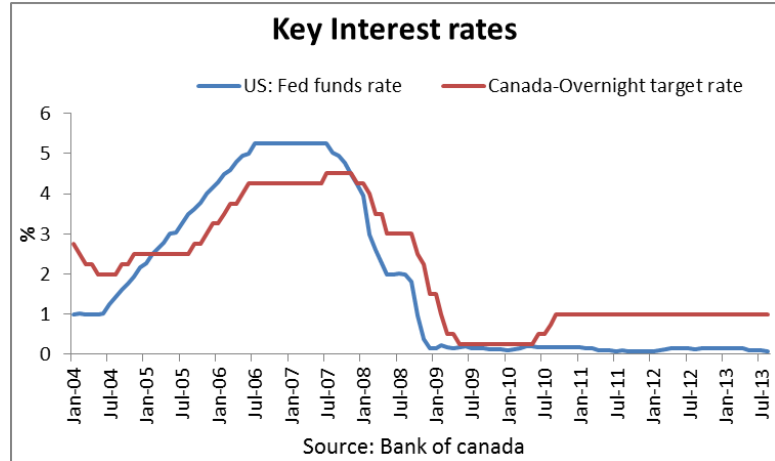
Canadian housing starts were down 15.6% in the first half of 2013, compared to the same period in 2012. This is partially due to the effects of tighter mortgage qualification standards and policy changes to stringent mortgage insurance rules. Moreover this downward trend also reflects the increasing consumer appreciation of the risks associated with elevated debt levels, and the impacts of the eventual normalization of interest rates.

While housing prices have continued to edge up, the pace of price appreciation has been

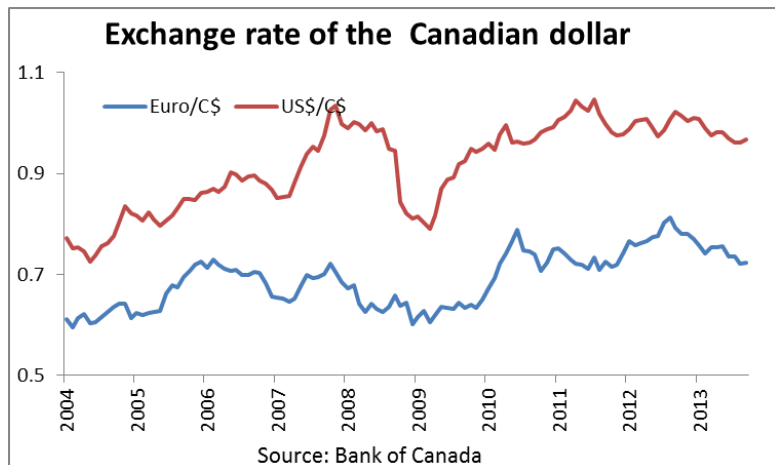
stabilized. In August 2013, Canada’s housing price was up 2.3% compared to the same period last year. Overall, the Canadian housing market is gradually shifting to a more balanced path.



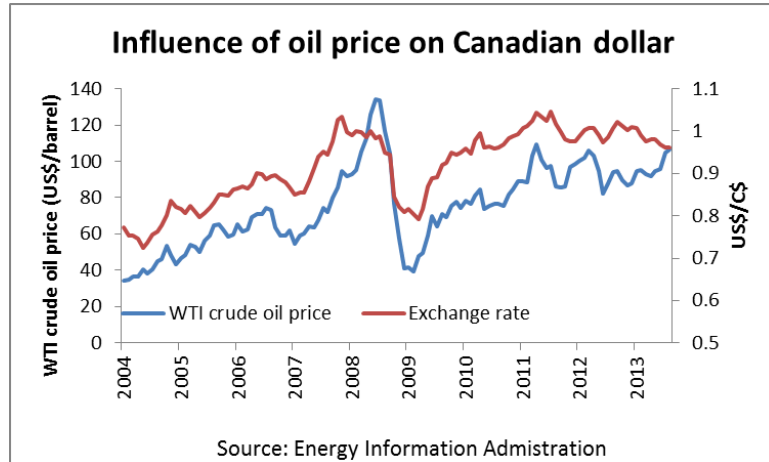
From December 2007 through to March 2009 the Bank of Canada lowered its overnight rate target (ORT) as the nation’s economy weakened with the onset of the global economic downturn. It was lowered from 4.5% in December 2007 to 0.5% in March 2009, and kept at this level until mid-2010 when it was steadily increased to 1.0% and has remained unchanged since. As inflation in Canada remains subdued by moderate domestic economic growth (particularly with respect to exports and investment), and uncertain global economic conditions (in the U.S., Europe and China), the Bank of Canada has still maintained the target for the overnight rate at 1%. Due to the degree of interconnectedness between the two economies, movement in the ORT should also be affected by the US Federal Funds Target Rate (FFTR), which followed a similar trend through 2008. Since then the FFTR has remained flat. While scrutinizing whether or when to wind down the quantitative easing policy, the U.S. Federal Reserve has committed to keep low levels for the federal funds rate at least through late 2014.



The Canadian dollar has exhibited considerable variation over the 2004 to 2009 period; going from a monthly high of US \$1.04 in November 2007, to a low of US \$0.79 in March 2009 as a result of the global financial crisis. The Canadian dollar rebounded thereafter, peaking to a new monthly high of US \$1.05 in July 2011. The Canadian dollar remained roughly on par until February 2013, but has been hovering around US\$ 0.96-0.98 since. The Canadian dollar has also performed well against the Euro, reaching a monthly high in August 2012, at € 0.81, mostly due to the elevated financial uncertainties in Europe. Since then Canadian dollar has been edging down against Euro as the financial conditions in Europe have been improving.



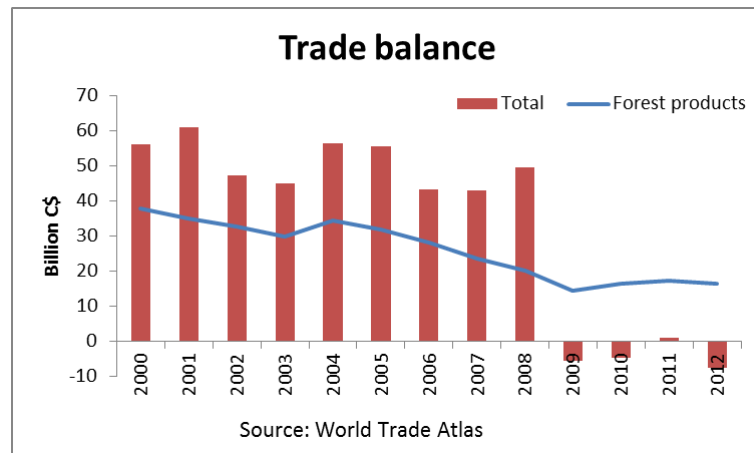
Another important factor driving changes in the Canadian dollar are price fluctuations of Canadian commodity exports, such as crude oil. A major benchmark for North American crude oil is the West Texas Intermediate (WTI). The WTI price increased significantly beginning in 2000, spiking at a monthly price of US \$133.88 in June 2008 before falling to US \$41.12 in December 2008. The price has recovered since, averaging US \$94.49 a



barrel over the period from 2011 to 2012, and US \$97.07 in the first 8 months of 2013. In August 2013, the WTI price reached US\$ 106.57--the highest level since the last peak.

After nearly a decade of stability (from 2000 through 2008), Canada's trade balance fell dramatically during the global financial crisis, turning negative in 2009, 2010 and 2012. Canada's forest products trade balance has been stable until 2004, and then experienced a sharp decline between 2005 and 2009.

Nonetheless the forest trade balance remained positive over this period, even during the financial crisis. Since 2010, Canada's forest trade balance has gradually recovered, benefitting from sizable net exports to the US and rapid growing of exports to emerging economies, particularly to China. In 2012, Canada's forest trade balance stood at \$16 billion, significantly offsetting the negative net trade in the overall economy.



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 million for fiscal years 2012/13 and 2013/14 for the ongoing transformation of the forest sector in the areas of innovation and markets. Budget 2013 announced additional funding of \$92 million, over fiscal years 2014/15 and 2015/16 to further support market diversification and forest sector innovation.

Innovation

Targeted federal investments in developing new innovative products and market diversification are driving renewal in Canada's forest sector. The Government of Canada has championed this renewal by supporting: the consolidation of three national forest research institutes (FERIC, Paprican, Forintek) into FPInnovations; the creation of the Canadian Wood Fibre Centre whose activities are directed from both the Natural Resources Canada and FPInnovations; and, the design and support to eight university-led research networks. This enhanced alignment has reduced the fragmentation in forest sector R&D and provided for more effective and efficient application of S&T resources.

Concurrently, the Government has made unprecedented investments in a suite of programs under the Forest Innovations Program, including the flagship Transformative Technologies Program. The research carried out under the Transformative Technologies Program operates in an integrated fashion with the other forest sector R&D and market development programs to promote the transformation and competitiveness of Canada's forest industry. Under the

Transformative Technologies Program, the Canadian Forest Service provides funding to FPInnovations to deliver on a research agenda in collaboration with industry, provinces, and universities. The research focuses on the development and adaptation of emerging and breakthrough technologies. Early successes include:

- The production of pre-commercial quantities of nanocrystalline cellulose (NCC™) and subsequent creation of CelluForce, a joint venture between Domtar and FPInnovations to produce (NCC™).
- The production of Cellulose Filaments to be used as a strength, softness and brightness increasing additive in paper-making, as well as in the production of thin films and biocomposites and offers new and innovative product and market opportunities to Canadian pulp manufacturers.
- The construction of a pilot scale lignin extraction facility which provides the R&D base for those mills exploring the potential for converting lignin into chemicals currently derived from petroleum-based sources.
- The development of Cross Laminated Timber (CLT) and its adoption in codes and standards. CLT provides an important opportunity for large volumes of wood to be used in mid-rise residential and commercial buildings.
- Providing a framework to coordinate forest bio-refinery activities through the support of R&D laboratory work undertaken by Natural Resources Canada's CanmetEnergy laboratories in collaboration with FPInnovations.

The primary objective of this later initiative is to identify and commercialize novel products and technologies from bio-economy-based forest operations. Researchers from both organizations are working together to deliver innovative solutions in the areas of energy efficiency, process integration, energy cogeneration, biorefining, and the transformation of forestry biomass to bioenergy and high value bioproducts.

Also, as part of the Forest Innovation Program, NRCan-Canadian Forest Service is coordinating a long-term framework for standards activities that ensures a national perspective and is actively participating in international activities to ensure Canada is at the forefront and leading the development of International standards (ISO) on cellulosic nanomaterial.

Ultimately, the above noted investments are supporting world-class research and innovation to help ensure new ideas are developed and transferred from laboratories into the marketplace for a rejuvenated Canadian forest products sector.

Markets

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, international representation through in-market staff in offshore offices, 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 and a preferred global source of sustainable forest products. Activities in this area also include the development of science and outreach products related to forest management in Canada's boreal forest.

This market diversification strategy has helped Canada's wood product sector increase over the past decade, its exports in some rapidly-growing Asian emerging economies. For example, the value of Canadian wood product exports to China increased almost 24-fold between 2002 and 2012 to \$1.4 billion. In South Korea, they grew by 169 percent to \$165 million during the same period.

The North American component of the EMO program has supported industry efforts to increase wood use in non-residential buildings such as school, health care facilities and commercial outlets and in mid-rise buildings up to 6-storeys. As a result, wood has been used in more than 1,354 non-residential construction projects in Canada and the United States since 2007, representing an estimated \$540 million in new wood sales for the wood products sector.

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 8 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 production of a new material called an engineered fibre mat (EFM). Made of wood and agricultural fibre residues that would previously have been discarded, EFMs may be used in the manufacture of parts for vehicle interiors; geotextiles; home insulation; air, liquid and gas filters; and noise absorbents. A second project is installing an innovative anaerobic digestion system at a northern pulp mill to produce biogas which can then be used to generate electricity and heat.

3. Climate Change

Adaptation

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

The attention paid to the impacts of climate change and potential adaptation strategies has remained strong. Phase 2 of the CCTF initiative moved beyond trees to consider adaptation for forests and in the forest sector. Vulnerability assessment tools and adaptation knowledge syntheses have been developed and are now being disseminated to enable members of the forest sector to incorporate consideration of changing climatic conditions into sustainable forest management. The tools and techniques being provided to the sector are designed to be readily mainstreamed into day-to-day forest management planning and decision-making processes, and are being field tested through several case studies across Canada. They are described in a special series of nine reports by the CCFM, four of which are now available (www.ccfm.org). The remaining five reports are scheduled for release in 2014. The CCFM is also conducting 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 timely access to applicable information on climate change impacts and adaptation, the 2011 federal budget provided funding for work by nine federal departments 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 and transfer targeted adaptation information, knowledge, and tools to help mainstream adaptation into sustainable forest management policies and practices. This is meant to help members of Canada's forest sector minimize the risks and maximize the opportunities associated with climate change. The Canadian Forest Service of NRCan is designing a Forest Change web portal to serve as a key source of information and tools for forest adaptation in Canada. Trends and projections will be provided based on a logical and cohesive set of indicators of the effects of climate change on forests and forest management systems. Actionable science and decision-quality information relevant to sustainable forest management under a changing climate, including a range of knowledge products such as maps, synthesis reports, guidebooks, climate projections and decision-support systems, will also be delivered through the portal. Multidisciplinary information and knowledge on past and projected climate change impacts is being analysed to produce an integrated assessment of the implications of climate change on Canada's forest and forest sector under a range of future, "what-if" climate scenarios. The resulting Forest Change assessment will identify potential areas and timing of vulnerabilities in order to directly inform policies and investment by the public and private sectors.

Provincial and territorial governments are also continuing to advance adaptation of sustainable forest management activities. Examples include: the British Columbia government has developed a Forest Stewardship Action Plan for Climate Change Adaptation (2012-2017); 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 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 (www.ccadaptation.ca).

International efforts

The Government of Canada continues to work to implement the Copenhagen Accord (2009), as well as the Cancun (2010), Durban (2011) and Doha (2012) agreements under the United Nations Framework Convention on Climate Change (UNFCCC). Under the Copenhagen Accord Canada has established a goal of reducing its greenhouse gas (GHG) emissions by 17% below 2005 levels by 2020. In the longer term, 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, and supports the goal of developed countries reducing GHG emissions in aggregate by 80% or more by 2050.

Canada is participating in efforts to Reduce Emissions from Deforestation and Forest Degradation and enhance sustainable forest management in developing countries (REDD+). In 2010, Canada endorsed the global REDD+ voluntary partnership which 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 pledged \$1.2 billion in new and additional climate change financing for the fiscal years 2010-11, 2011-12 and 2012-13. This funding has been directed toward supporting developing countries' efforts to reduce GHG emissions and adapt to the adverse impacts of climate change, focusing on three priority areas: adaptation, clean energy, and forests and agriculture. Of the 2010-11 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 included \$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.

Canada is committed to on-going negotiations under the UNFCCC aimed at producing, by 2015, a comprehensive, legally binding agreement to enter into force in 2020. In these 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.

Domestic emission reduction efforts

The Government of Canada continues to work towards the 2020 emission reduction goal it established under the Copenhagen Accord. The government is taking a sector by sector approach to regulating GHG emissions, beginning with policies aimed at reducing the GHG emissions from the electricity and transportation sectors. Canada's sectoral approach is aligned with the United States, as appropriate, given the degree of economic integration between the countries.

Environment Canada's most recent *Canada's Emissions Trends* report (released in 2012) detailed projections of progress toward Canada's 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 report, Canada was half way to reaching its 2020 target. The 2013 version of *Canada's Emissions Trends* is expected to be released in autumn 2013 and will provide the latest projections. Governments also are assessing the mitigation potential of the forest sector for achieving climate change goals, and analysis of how mitigation actions involving Canada's managed forests could contribute over the longer term is expected to be published in 2014.

At the provincial level, Ontario, Quebec, Manitoba and British Columbia continue to be members in the Western Climate Initiative, a collaboration of independent jurisdictions working together to tackle climate change at a regional level. Members of the Initiative have set a regional GHG emission reduction target of 15% below 2005 levels by 2020. As well, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador are all signatories to the New England Governors / Eastern Canadian Premiers (NEG/ECP) Climate

Change Action Plan (2001). This plan includes a voluntary commitment to reduce regional GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and recognizes a long term 2050 target for reductions of 75 – 80 % below 2001 levels. According to the 1990-2011 regional GHG inventory, the NEG/ECP surpassed its 2010 target.

In June 2012, the Quebec launched its Climate Change Action Plan 2013-2020. The Plan included the allocation of \$2.7 billion for climate change mitigation and adaptation programs to work toward a GHG reduction target of 20% below 1990 levels by 2020. One key element of the Plan is a GHG cap and trade system that began operating in 2013 and will link with California's trading system in 2014. Other measures under the Plan include the establishment of green building standards and promotion of renewable energy.

Ontario's Climate Change Action Plan was released in 2007 and included a set of short-term (6% below 1990 levels by 2014), medium-term (15% below 1990 levels by 2020), and long-term (80% below 1990 levels by 2050) targets for reducing the province's GHG emissions. The Plan also included a 50 Million Tree Program, in which the government invested \$79M in the planting of 50 million trees on the settled landscape of southern Ontario. This is expected to sequester approximately 6.6 megatonnes of carbon dioxide by 2050 and help restore forest cover on a highly fragmented landscape.

In Alberta, the government announced its climate change action plan in 2008 with an objective to reduce GHG emissions by 50 megatonnes from a business-as-usual scenario by 2020 and by 200 megatonnes by 2050. In 2011, Alberta extended and expanded its Bioenergy Producer Credit Program until 2016. The program has been in place since 2006 and provides incentives to develop bioenergy products to support implementation of the province's Renewable Fuel Standards and the development of new technologies and facilities that use non-food crops, waste biomass and wood fibre for fuel, power and heat.

Saskatchewan's *Management and Reduction of Greenhouse Gases Act* was enacted in 2010 and amended in April 2013. Among other things the Act provides for the regulation of major GHG emitters and the setting of a provincial carbon price for regulated emitters. The Government of Saskatchewan has supported, through its \$70 million Go Green Fund, a range of small scale renewable energy initiatives in the province, including solar, wind, and biomass.

British Columbia enacted its *Greenhouse Gas Reduction Act* in 2008. The Act authorized hard caps on GHG emissions by designated large emitters (33% below 2007 levels by 2020 and 80% by 2050) and provided the statutory basis for setting up a market-based cap and trade framework. A key element of the province's Climate Action Plan is a revenue-neutral carbon tax that puts a price on GHG emissions. In addition, the province has developed the initial institutional framework for carbon offsets as part of working toward a carbon neutral public sector. In 2011 the province introduced a forest carbon offset protocol to guide the design, development, quantification and verification of forest carbon offsets generated on private and public lands in the province. Forest carbon mitigation activities that are eligible include afforestation, improved forest management and forest conservation.

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 American Free Trade Agreement with the United States and Mexico (1994), Canada has free trade agreements in force with Panama (2013), Jordan (2012), Colombia (2011), Peru (2009), the European Free Trade Association (2009), Costa Rica (2002), Chile (1997) and Israel (1997). Canada also signed a free trade agreement with Honduras (2013) which is in the process of being implemented. Canada and the European Union announced in October 2013 an agreement-in-principle for a Comprehensive Economic and Trade Agreement.

Negotiations for free trade agreements are underway with Japan, the Trans-Pacific Partnership as well as with Morocco, Korea, the Caribbean Community, Dominican Republic, India, Singapore, Ukraine, Guatemala, Nicaragua and El Salvador. Negotiations are also underway to modernize the Canada-Costa Rica free trade agreement.

Canada is engaged in exploratory trade discussions with Turkey, Thailand and Mercosur. Exploratory discussions are also taking place for the modernization of the Canada-Israel free trade agreement.

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 44-fold between 2001 and 2012.

Demand for paper and paperboard has been robust in India with exports increasing by 144.6% between 2002 and 2012. Likewise, the demand for Canadian pulp has been strong in China which has seen exports increase by 289.6% between 2002 and 2012.

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 63.1% in 2012. Conversely, forest exports to China increased from 1.8% in 2002 to 16.3% in 2012. Demand for wood products in China has grown exponentially over the course of the past decade as a result of a rapidly developing Chinese economy, averaging 10.2% GDP growth between 2001 and 2012 along with rising urbanisation that is expected to see 200 million Chinese people move into urban areas over the next decade.

Canada's forest sector still faces numerous challenges; among them are rising energy costs, a robust 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

Although North America has seen significant increases in oil production over the past decade due to technological advances that have unlocked oil supplies in the Canadian oil sands and shale rock formations in the U.S., supply disruptions in Africa and the Middle East have offset these gains and have kept oil prices elevated.

The price of oil (West Texas Intermediate) has risen since 2009, increasing more than 51 percent to US\$94.05 per barrel. Oil prices have continued to climb upwards, averaging US\$97.07 per barrel in the first eight months of 2013.

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 appreciated against the U.S. dollar over the past 5 years, averaging US \$0.94 in 2008 and rising to an average US \$1.00 (parity) in 2012. In the first 9 months of 2013, the Canadian dollar has averaged US \$0.98. The strength of the dollar will invariably play a role in determining the profitability of Canadian forest products firms.

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 experiencing an ongoing 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 612,000 units. 2012 housing saw starts grow to 783,000 units showing an increase of 28 percent compared to 2011.¹ This level of housing starts is still well below the long-term (20 year) average of 1.4 million annual starts although the market has seen steady improvement from 2009 when housing starts had dropped to a low of 554,000 units.

As a consequence, U.S. demand for softwood lumber has decreased, leading to a 59 percent decline in the value of Canadian softwood lumber exports to the U.S. between 2005 and 2012. It should be noted, however, that exports of softwood lumber to the U.S. have increased markedly by 40 percent between 2009 to 2012. So far, in the first 8 months of 2013, the value of softwood lumber exports to the U.S. have risen by 36.2 percent compared to the same period last year.

While steady improvements are evident, full recovery of the U.S. housing market is likely still a couple years away. U.S. home prices appear to be rising and recent housing data suggests that the US housing sector is currently underbuilt relative to underlying demand indicating that there is still significant room for growth in the sector.²

Even though Canada has benefitted from strong Chinese demand for lumber, many Canadian lumber producers have faced challenging economic times since new home construction in the U.S. is a key demand driver for Canadian wood products (softwood lumber in particular). The industry has had to contend with a 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 paper sector is anticipated to realize a pre-tax loss this year of \$213 million according to a recent abstract by the Conference Board of Canada.³ The Conference Board forecasts that the industry will realize a pre-tax profit in 2014 but profit margins are expected to remain thin over the next four years. 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:

¹ U.S. Federal Reserve Bank of St. Louis – Economic Research
<<http://research.stlouisfed.org/fred2/series/HOUST/downloaddata?cid=32302> >

² FEA Macroeconomic Advisor Report, June 2013

³ Conference Board of Canada, (abstract) *Wood Products Industry Profits to Double in 2013*, June 26, 2013
<http://www.conferenceboard.ca/press/newsrelease/13-06-26/wood_products_industry_profits_to_double_in_2013.aspx>.

- Ongoing strength 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 opportunity to grow market share in these new markets. Population growth and growing affluence will likely further drive demand.
- Rising demand for sanitary paper and other higher value-added paper products, which are helping to offset declining demand for newsprint.
- Increasing e-commerce activity will stimulate demand for paper packaging materials such as corrugated boxes which are needed to ship purchases.

Built With Wood Policies

There are a number of policies and initiatives taking place in Canada to promote the use of wood in mid-rise and tall building applications.

Quebec Wood Charter

The province of Quebec released a Wood Charter in April 2013 that allows for the construction of wood buildings up to six storeys. The Charter includes amendments to the Quebec Building Code that immediately support the construction of 5 and 6 storey residential wood buildings in the province. Before these amendments, Quebec's Building Code required detailed engineering and safety analyses to be submitted to the Régie du Bâtiment du Québec (RBQ) before construction projects were approved. The province's Wood Charter also requires all new Quebec government-funded construction and renovation projects to consider wood as a building material. In addition, provincially-funded projects must prove that greenhouse gas emission impacts of all building options were considered at the design stage. Finally, the Wood Charter commits Quebec to establish a wood products industrial cluster within the province's boundaries, promote wood as a building material and increase wood design and construction capacity in its university and college education programs. The Charter is expected to increase the use of wood in construction projects and the use of value-added wood products in the province.

Quebec's Wood Charter follows the province of British Columbia which amended its building code in 2009 to allow for mid-rise wood building construction up to six storeys. The province of Ontario is also looking at amending its provincial building code in favour of taller wood building construction.

Wood Related Code Changes to the 2015 Edition of the National Building Code of Canada

In 2011, the federal government along with the Canadian Wood Council began working on a project to amend specific provisions in the National Building Code (NBC) of Canada that restrict the height and size of wood frame construction. Known informally as the Code review project, its goal is to enable Canadian architects, engineers and builders to design and build wood structures of up to six stories in various occupancy categories (i.e. residential, mixed-use etc.). Current provisions in the NBC heavily restrict the height and size of buildings that can be constructed with wood. This has limited the use of wood in the construction of bigger and taller buildings in Canada. Elements of this project include: identifying barriers in the existing code that restrict the size and height of wood construction to only low-rise projects, conducting research on how wood products perform under various conditions such as fire, acoustics and building envelope performance and conducting outreach sessions for design and construction professionals to increase their knowledge of mid-rise wood buildings. The wood-related code changes are expected to be reflected in the 2015 edition of the National Building Code, thus enabling the construction of larger, taller wood buildings and fostering greater use of wood in mid-rise and private buildings. These measures will also help improve the overall competitiveness of Canada's forest sector.

Expression of Interest (EOI) for Tall Wood Buildings

On May 6, 2013, the Canadian Wood Council (CWC), in collaboration with NRCan, formally issued an Expression of Interest (EOI) for a Tall Wood Building initiative in Canada. The EOI will help identify Canadian real estate developers, designers and other institutions which can conceptualize, design and build cost-effective, structurally sound and visually-pleasing tall wood buildings. The buildings would demonstrate the commercial viability of using innovative wood building solutions in high-rise construction, including new composite or hybrid construction methods. This EOI would also showcase the application, practicality and sustainability of innovative structural wood-based building solutions. The EOI is funded by the Government of Canada through the Expanding Market Opportunities Program administered by Natural Resources Canada. The EOI closed on October 18th - project proposal evaluations followed by an announcement of projects funded will take place over the next few months.

Related to the EOI, FPInnovations, Canada's national forest research institute, has developed a technical guide to help developers and other stakeholders design and construct tall wood buildings based on scientific data and their expertise on next-generation building systems. The guide, developed in partnership with a diverse group of experts, includes the latest available scientific knowledge of wood-based building systems. It also addresses how these systems perform under various parameters and scenarios. The guide can assist experienced design and construction teams to gain a better understanding of the unique factors and challenges that need to be taken into account when building high-rise wood structures in Canada.

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 2010, the biomass installed generating capacity was 1,700 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 6.0% of Canada's total secondary energy use came from forest biomass in 2010.

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 28% by 2010. Over the same period, the sector's use of bioenergy, hydroelectricity, and nuclear energy has risen from 61% to 72%.

Canada's wood pellet production capacity has grown from 500,000 tonnes in 2002 to 3.8 million tonnes in 2012. 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 38% of the world's certified forest areas. As of end of year 2012, 148 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) 44 million ha, Sustainable Forestry Initiative (SFI) 58 million ha, and Forest Stewardship Council (FSC) 54 million ha⁴.

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 that began in the mid-1990s.

In 2012, approximately \$1.56B in value-added products were exported, the majority of it supplying the US market (81.8%) followed by the U.K (8.1%) and Japan (2.6%). In 2012, the value of total exports of value-added wood products increased for the first time since 2009 – growing by 12.4 percent compared to 2009.

4. Sawn Softwood

Between 2009 and 2012, Canadian sawn softwood production increased by 23.2% to 54.7 million cubic metres. During this period, North American sawn softwood prices increased by 45% while the volume of Canadian sawn softwood exports to the U.S. increased by 14.7%.

The strengthening U.S. housing market along with continued strong demand from China for softwood lumber helped in increasing the price in 2012. China has become a significant offshore market for Canadian sawn softwood products as exports have increased tremendously over the span of a decade (In 2008 to 2012 alone, the volume of softwood lumber exports increased more than 6- fold). Between 2002 to 2012, sawn softwood exports to China increased by nearly 50-fold on a volume basis, from 152,944 m³ to 7,513,903 m³. Demand in China is increasingly driven by government housing projects, as well as by private multi-storey residential construction.

The value of softwood lumber exports to China increased 31.5% in the first 8 months of 2013 compared to the same period in 2012 while the volume of softwood lumber exports to China increased by 1.5% during that time. Year-to-date, China holds a 19.9% 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. U.S. demand for Canadian softwood lumber has improved significantly as a result of the turnaround in the housing market. Between 2011 and

⁴ 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.

2012, Canadian exports of softwood lumber to the U.S. increased 22.4% to \$3.4 billion and in the first 8 months of 2013 exports have increased 36.2% compared to the same period last year.

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 75.9% (2012). It is expected that as the U.S. housing market continues to improve, OSB's share of Canada's total structural panel production will also rise.

Canadian exports of OSB have begun to rebound after experiencing significant declines as a result of the downturn in the U.S. housing market. Between 2009 and 2012, total exports of Canadian OSB grew by 60.7% to \$883.6 million. In the first 8 months of 2013, exports of OSB increased 71.4% compared to the same period last year. Much of this growth has been driven by the recovery in the U.S. housing market as almost 90% of Canadian OSB was destined for the U.S. in 2012.

6. Paper and Paperboard

The value of Canadian paper and paperboard exports declined by 34.6 percent between 2007 and 2012 to \$8.4 billion. The industry continues to face a strong 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 2012, the value of Canadian wood pulp exports decreased by 11.8% while the volume of overall Canadian wood pulp production also declined, but by a smaller value (-2.7%) compared to 2011. Global pulp demand is largely driven by inventory management cycles in China, which created a down year for both global pulp demand and pulp prices in 2012 – the inevitable upswing in this cycle should lead to improved performance in the short term.

In 2012, a significant change occurred in Canadian pulp market orientation: China (39%) surpassed the U.S. (35%) as the number one market for Canadian pulp exports. The value of Canadian pulp exports to China grew at an annual average rate of 14.6% from 2002 through 2012. 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 2007, Canada's share of Chinese wood pulp imports has decreased slightly from 26.2% to 24.6% in 2012. Over the same period, Brazil's share has risen from 9.5% to 15.3% while the U.S. share has improved from 12.9% to 14.7%. 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.

Demand for dissolving pulp grades continues to grow, primarily driven by an expanding Asian textile industry, but with other higher value uses as well. However, a rapid global expansion in capacity, especially in Brazil, China, the U.S. and Canada, has increased supply faster than the increase in demand, significantly lowering prices. While its long-term prospects remain strong, in the medium term dissolving pulp markets are expected to be weak performers.

Appendix

Statistics and Prospects

* Figures for 2013 and 2014 are estimated/forecasted

Sawn Softwood (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	37,409	39,417	42,361	43,477
Apparent consumption	14,248	15,792	16,342	16,128
Imports	637	1,261	1,367	1,357
Exports	23,797	24,886	27,386	28,706

Coniferous Veneer and Sawlogs (000 Cubic Metres)

	2011	2012
Imports	2,147	2,216
Apparent consumption	108,341	108,155
Exports (Total)	5,244	5,499

Sawn Hardwood (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	1,471	1,298	1,303	1,261
Apparent consumption	2,014	2,156	2,245	2,187
Imports	918	1,340	1,395	1,409
Exports (Total)	375	482	453	483

Oriented Strandboard (OSB) (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	5,265	5,742	6,050	7,108
Apparent consumption	1,940	2,445	1,980	2,202
Imports	110	83	103	87
Exports (Total)	3,435	3,380	4,173	4,993

Plywood (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	1,794	1,824	1,849	1,861
Apparent consumption	3,060	3,205	3,178	3,254
Imports	1,626	1,668	1,721	1,831
Exports (Total)	360	287	392	438

Particleboard (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	6,878	7,446	7,841	8,915
Apparent consumption	3,375	3,705	3,309	3,566
Imports	618	452	501	475
Exports (Total)	4,121	4,192	5,033	5,824

MDF (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	785	780	811	834
Apparent consumption	581	615	595	624
Imports	240	264	251	244
Exports (Total)	445	429	468	454

Fibreboard (000 Cubic Metres)

	2011	2012	2013*	2014*
Production	865	860	893	920
Apparent consumption	843	956	906	933
Imports	579	665	633	615
Exports (Total)	601	569	620	602

Wood Pulp (000 tonnes)

	2011	2012	2013*	2014*
Production	18,342	17,079	16,667	16,831
Apparent consumption	8,889	7,446	7,267	7,307
Imports	222	279	382	366
Exports (Total)	9,675	9,912	9,782	9,890

Paper and Paperboard (000 tonnes)

	2011	2012	2013*	2014*
Production	12,057	10,755	10,644	10,802
Apparent consumption	5,932	5,818	5,743	5,756
Imports	3,428	3,356	3,564	3,639
Exports (Total)	9,553	8,293	8,465	8,685

U – Data are unavailable

Shaded areas in blue font indicate revised 2011 data

Note: Figures above have been adjusted to reflect actual volumes as opposed to nominal. Figures are consistent with those provided for the *2013 UNECE Timber Committee Forecasts (Forest Products)*.