

# TIMBER TRENDS

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## Highlights

- The US economic and housing recoveries are gaining traction.
- North American lumber prices and production continue to increase, but log prices in the US South have yet to follow suit.
- The inventory of unsold homes in the US is declining as housing prices rise.
- Housing starts in Australia look to have bottomed out, and home prices are rising.
- Recent developments in nanotechnology in the pulp and paper industry offer bright prospects.

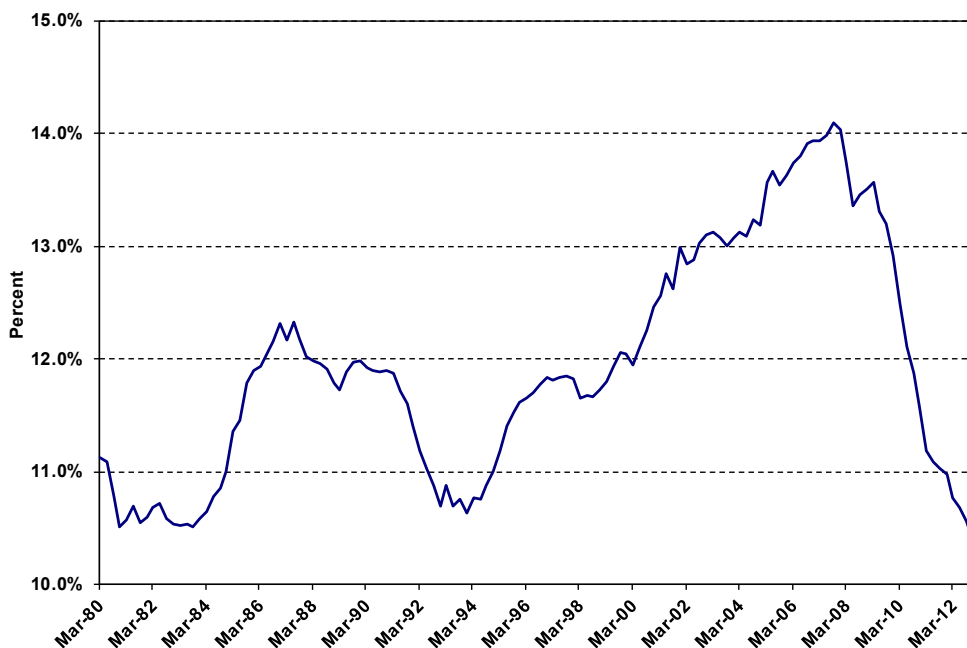
## The Economy in Graphs

**Average Household Debt Burdens Are Now Well Below Pre-Downturn Levels Facilitating Both Economic And Housing Recoveries.**

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US household debt payments as a proportion of disposable personal income



Source: FRB

## International Trade

### Exchange Rates

#### Why The Aussie Dollar Is Strong As An Ox<sup>1</sup>

Reasons for the Australian dollar's resilience and outright strength are relatively easy to identify.

- It seems unlikely that the RBA will be cutting interest rates again in this cycle, which will keep a wide interest rate gap in Australia's favor over the likes of the US, Japan, most of the Eurozone, the UK and Canada. At the same time, retail sales are picking up, house prices are strengthening, the surge in wealth from the recent gains in share prices is boosting consumer sentiment, and the jobs market is consolidating with job ads rising and the unemployment rate steady.
- At the same time, international investors and ratings agencies having nothing but praise for the fiscal management of the economy over the past few decades. Even now, in the aftermath of the financial crisis, government debt levels are trivial and the decision not to blindly pursue a budget surplus in the current fiscal year has drawn wide praise. As things stand, it looks like the budget will be in surplus in 2013-14.
- The triple-A assessment of Australia's economy and fiscal position is a magnet for investors as they weigh up the credit risks with other countries around the world.
- Another factor behind the Australian dollar's strength is the news of a pick-up in the global economy. The US is poised to record GDP growth above 3% for the first time in six years while China is humming along with 8% GDP growth. Despite this better news, commodity prices have been flat in aggregate, even though there have been some big moves in individual commodities such as iron, ore and gold.

So what can go wrong with this view? The biggest risks remain global. An unexpected slump in Chinese growth or market turmoil from a serious banking or sovereign debt issue within Europe would clearly be bearish for the Australian dollar.

Domestically, there does not seem to be much that can go horribly wrong. To be sure, the election of September 14 could throw up the risk of policies that scare global investors and pull the rug out from under the Australian dollar. Issues concerning the government debt ceiling or unnecessary fiscal austerity are two that spring to mind. There is also a risk that stronger global growth provides investment opportunities outside Australia, in the currently battered and bruised economies of the world and that at some stage, investors sell their profitable Australian dollar investments to buy cheap assets elsewhere.

### Exports

#### Exports Of Logs And Lumber From North America To China Fell By 17% In 2012<sup>2</sup>

China's hunger for wood was less acute in 2012 than the previous year. In particular imports of softwood logs fell substantially from the record levels of 2011. Imports of lumber were also lower in 2012, but the decline was much less than that of logs. The biggest changes in wood imports between 2011 and 2012 were the sharp decline of Russian logs crossing the Chinese border and the reduced lumber volumes from the US entering Chinese ports.

North America is a major supplier of softwood products to China, with the market share for logs and lumber in January 2013, accounting for 26% and 53%, respectively. In 2012, Canada and the US exported logs and lumber valued at 2.1 billion dollars, which was down 17% from 2011. Despite the decline in shipments last year, it was still the second highest level on record and more than four times the level just three years earlier.

Sawmills in British Columbia have become the largest suppliers of lumber to China in recent years, surpassing Russia in 2010. The value of Canadian shipments was about 1.1 billion dollars in both 2011 and 2012, and the value is likely to be higher in 2013. Just five years ago, less than hundred million dollars worth of lumber was shipped to China!

This new market has become increasingly important for many sawmills in Western Canada, which historically have shipped most of their production to the US market. Five years ago, about 10% of the export volumes from the province were destined for China. This share had gone up to 32% in 2012. The still unanswered question is how sawmills in this region will choose to allocate their production in the coming years when lumber demand is expected to increase in the US.

Log exports from Western US to China have jumped ten-fold the past five years, which has had a major impact on the Coastal log market in the states of Washington and Oregon. Despite relatively low production levels in the industry the past five years, sawlog prices in 2012Q4 were about 60% higher than in 2009. This development coincides with the period when log exports to China expanded rapidly. Although lumber price increases are good news for sawmills in the Western states during 2012 and early 2013, the bad news for sawmills that the log prices increasing as well.

## Trade In Wood Products

### Latin America

#### Chilean Forest Exports Fall 8.7% In 2012; To Rise 10% To \$6B In 2013<sup>3</sup>

Chilean forest product exports totaled \$5.39 billion in 2012, an 8.7% decrease over 2011, according to Chile's Forest Institute (INFOR). INFOR's executive director, Hans Grosse Werner, said the main reason for the weaker result last year was "the decline in pulp prices, which is the main product exported by the sector, as well as significant decreases in export volumes of some emblematic products such as wood panels, *Eucalyptus* chips, newsprint and MDF panels, in a context of a very depressed international economic scenario." Bleached *Eucalyptus* pulp accounted for \$1.15 billion of Chilean forest products exports, or 21.4% of the total, surpassing bleached radiata pine pulp.

China maintained the first position in the Chilean forest product export rank in 2012, importing a total of \$1.03 billion or 19.2% last year, 3% less than China bought from Chile in 2011. The US imported \$596.9 million from Chile or 11.1%, although the amount declined by 4.6% over 2011.

INFOR expects Chilean forest product exports to increase by around 10% in 2013 to hit \$6 billion, based on the international market performance and especially on four factors: Chinese economic growth, US real estate sector recovery, higher pulp prices, and increases in big Chilean companies' export volumes. "In relation to Europe, we expect that demand for forest products will keep stable, while the European economy starts leaving recession," said Grosse.

## Prices

### North American Lumber

#### Lumber Markets Improved Sharply In The US During 2012 And Early 2013<sup>4</sup>

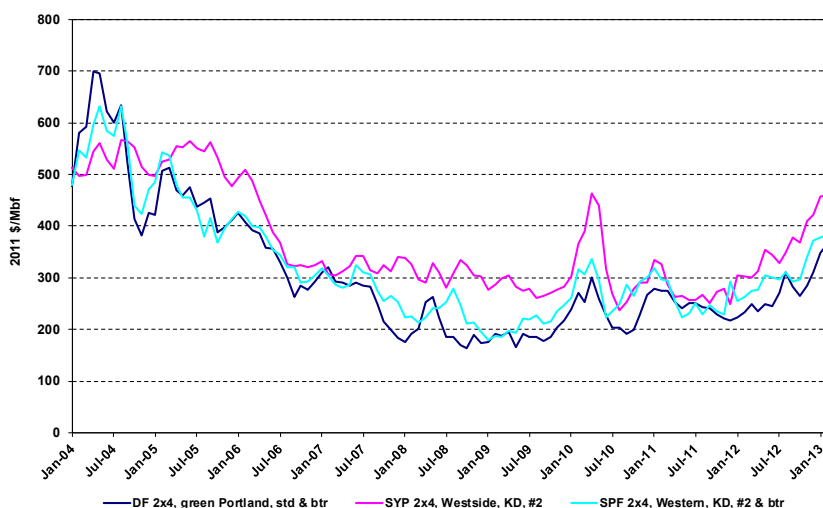
Lumber production in the US and Canada improved during 2012, with total output in 2012 being 8% and 5% higher, respectively, than in 2011, according to WWPA. Sawmills in the Western region have been more fortunate than mills in other regions in North America since they have been able to ship lumber both to markets in the US and Asia.

US housing market is continuing to improve, with higher house prices, lower inventories and limited sales of foreclosure homes (increasingly turned into rental properties). These developments have resulted in an increased number of housing starts and higher demand for lumber. Canadian sawmills, which export a majority of their lumber to US, have been ramping up production during 2012 to meet the higher demand for lumber. This has been particularly true for sawmills in the Eastern provinces where production in 2012Q4 was up 16% year-over-year.

The US lumber price developments during 2012 and into early 2013 have been quite remarkable with the Random Length Lumber Price Index increasing by over 60% from late 2011 to March 2013. This development has been drawing the attention from sawmills far away from the North American continent. With substantially higher prices and a predicted increase in the demand for lumber in 2013, many foreign companies hope to be able to increase shipments of lumber to the US shores in the coming year.

The strong lumber market has pushed sawlog prices upward throughout North America. Prices for Douglas-fir sawlogs in the Western US reached a five-year high in 2012Q4, and prices continued upward in 2013Q1 because of higher log demand both from domestic sawmills and from log buyers in Asia. Sawlog prices have also inched up in Coastal British Columbia and Eastern Canada as a result of tighter log supply. Pine sawlog prices in the US South have been surprisingly stable since 2010 and, in 2012Q4, were close to the lowest level in almost 15 years. However, with the improved housing market in the US and higher lumber prices, sawmills are expected to increase log consumption and that the Southern states will follow the rest of North America with upward trending log prices during 2013.

Key softwood lumber real price indicators for the US West Coast (Douglas-fir, DF), the US South (Southern Yellow Pine, SYP), and Canada (Spruce-Pine-Fir, SPF, in Interior British Columbia)



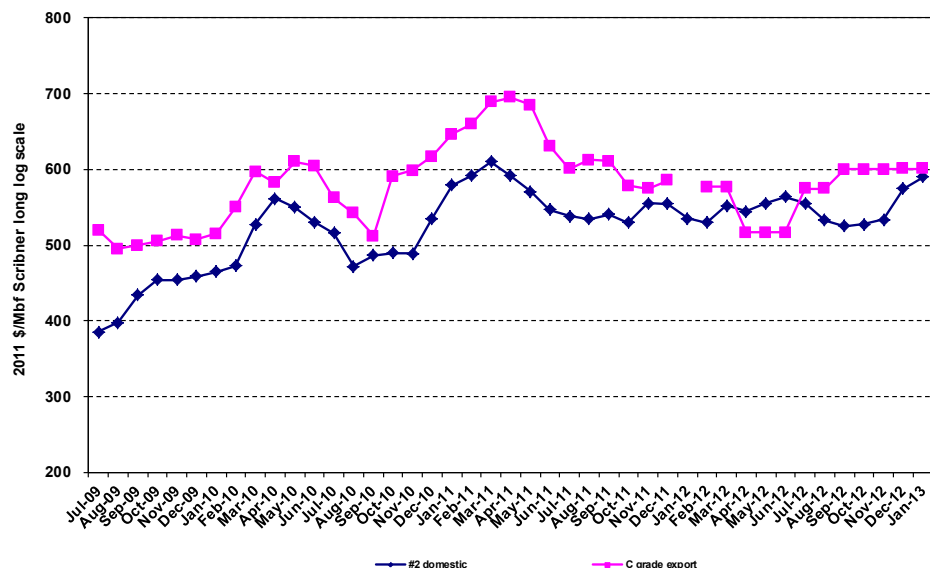
Source: Random Lengths, BLS

## Logs

### Pacific Northwest Coastal Log Values

The Spread Between Douglas-Fir Export And Domestic Log Prices Is Narrowing As US Lumber Demand Revives

Delivered prices for Douglas-fir domestic and export sawlogs in LogLines Region 2 (Columbia River)

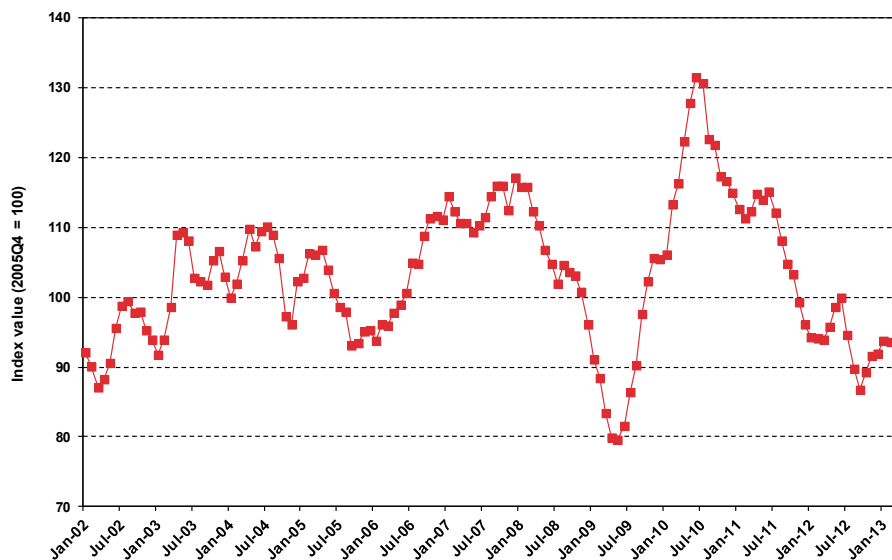


Source: Loglines

## Pulp and Paper

The Rate Of Recovery Of North American Chemical Pulp Prices Has Slowed In Recent Months

North America chemical pulp price index (constant dollar basis)



Source: ForestWeb

## Supply

### North America

#### Canada & US “Top 20” Lumber Producers’ Report Indicates Renewed Industry Optimism<sup>5</sup>

The latest WOOD MARKETS annual survey of the “Top 20” Canadian and US softwood lumber producers shows an uneven trend across North America for 2012: US softwood lumber production increased 6.3% to 28.5 bbf, whereas Canadian production increased only 0.4% to 22.6 bbf. Rapidly increasing demand outpaced mill output in 2012, while blockbuster corporate acquisitions and catastrophic mill fires further altered the production landscape.

The top 20 Canadian companies increased their market share of total Canadian lumber production, rising from 75% in 2011 to 80% in 2012. Canfor pulled ahead of West Fraser as the top Canadian lumber producer with 3.8 bbf of production from its purchase of two sawmills from Tembec in the first half of 2012; Tolko, Resolute Forest Products and Western Forest Products took the next three spots. Together, these five firms produced a total of 11.6 bbf (52% of Canadian lumber output, up from 48% in 2011). Despite surging prices in US and China in the second half of 2012, it was not enough to change the production response at Canada’s lumber mills from those levels achieved in 2011. A tightening of timber supplies in BC, Ontario and Quebec was partly responsible.

The output of the top 20 US companies rose strongly: from 15.1 bbf in 2011 to 16.4 bbf (+9.1%) in 2012. In doing so, these firms increased their market share of US production from 56% to 58%. The five largest producing US companies, Weyerhaeuser, Sierra Pacific, West Fraser (US operations), Hampton Affiliates and Georgia-Pacific, produced 9.0 bbf or 31% of total US production. Of note, all regions in the US recorded production increases in 2012, with the US South showing the largest gains in lumber volume (an increase of over 800 million bf compared with 2011).

Catastrophic fires and blockbuster corporate acquisitions played a role in shifting the top 20 landscape in 2012 and the early part of 2013. Fires and/or explosions at Hampton’s sawmill in Burns Lake, BC; EACOM’s sawmill in Timmins, Ontario; and Lakeland’s sawmill in Prince George, BC, together removed about 630 MMbf of annual production capacity. Acquisition activity included Canfor’s purchase of two BC sawmills from Tembec in 2012; Interfor’s 2013Q1 purchase of Rayonier’s wood products business (including three sawmills); and Georgia-Pacific’s proposed 2013Q1 purchase of Temple-Inland’s building products business (including five sawmills). Following the acquisition, Georgia-Pacific will have a total of seventeen operating sawmills and should soar to near the top of Top 20 list.

With rapidly increasing lumber demand and prices through 2012 and into 2013, companies are increasingly planning to reduce down time, add shifts, and re-open mills. More of this is expected for 2013, as sawmill companies gear up for the potential lumber “super-cycle” that is expected around 2015.

### US Lumber Production

#### US Lumber Output Through December Up 8.1% Versus 2011 Total<sup>6</sup>

US softwood lumber production in 2012 totaled 28.652 bbf, up 8.1% from the 2011 total, according to the Western Wood Products Association’s. Production in the West totaled 12.859 bbf, up 10.7% from 2011. Southern production was 14.279 bbf, up 6.0%. Production in other regions was 1.514 bbf, up 7.1%. Nationwide, production in December totaled 2.109 bbf, down 9.2% from November but 7.8% higher than the December 2011 figure.

#### Share Of Kiln-Dried Douglas-Fir Gaining As Green Shrinks<sup>7</sup>

Back in 2006, an estimated 82% of Douglas-fir lumber production in the Coast region of the West was unseasoned. That percentage has gone downhill every year since then. Last year, less than half of Fir production was green, according to estimates by the Western Wood Products Association. Traders and analysts cite a variety of reasons for the decline:

- Construction activity in California, the largest market for green lumber, was in the doldrums until recently. This turned Fir producers to other markets that require heat-treated or kiln-dried lumber, leading some to install kilns. Dry Fir picked up market share in the East as a lower-cost alternative to Western SPF from Canada.
- Offshore demand for Fir has increased, and most overseas buyers require KD or HT lumber.
- The price premium of dry over green has grown significantly in domestic markets, making it more profitable for Fir producers to run their output through kilns.
- The lower weight of dry lumber gives it a 25-30% advantage in freight, allowing it to ship to farther points at lower cost than green.
- Construction project certifications tend to favor dry lumber. In Los Angeles, KD can be used in place of green, but green can’t be used in place of KD. “As a consequence, when green and dry get to an even keel pricewise, buyers many times will opt for KD,” said one buyer. He said this is particularly prevalent in the summer when warmer weather promotes mold growth.
- Mold in green Fir led some end users to switch to dry. Even with anti-stain treatments used by most green manufacturers, many buyers say KD lumber has a longer shelf life than green.



## **Western US Sawmills Produce 1.155 bbf In January, Up From 1.002 bbf A Year Earlier<sup>8</sup>**

Western US sawmills produced 1.155 bbf of softwood lumber in January, a gain of 15.2% from the 1.002 bbf produced in January 2012, according to the Western Wood Products Association. Production from coastal mills were up 15.0% year-over-year to 713 MMbf from 620 MMbf, while inland production increased by 12.7% to 394 MMbf from 350 MMbf in Jan. 2012. Production from California's redwood region gained 45.8%, reaching 48 MMbf in January compared with 33 MMbf a year earlier.

### **Canadian Lumber**

#### **Canadian Timber Groups Are Investing In Enlarging Capacity Again<sup>9</sup>**

The unexpectedly brisk recovery in the US building industry and increasing exports of softwood lumber to China and Japan are currently putting many Canadian and US timber groups in an optimistic frame of mind. Producers are working from the assumption that the upward trend already observed in softwood lumber sales, production, and prices for a number of months now is going to continue this year. A variety of Canadian companies in particular have responded to the last few months of growing demand for softwood lumber assortments and the marked recovery in prices, especially in the US, by drawing up plans for capacity enlargement in the softwood lumber sector. The decisions range from reopening temporarily idled facilities and investment in expansion to setting up new production lines. The measures announced to date in Canada alone indicate that the output of softwood lumber could rise by several million m<sup>3</sup> in 2013 and 2014.

## **Logs**

### **North America**

#### **Impact Of Housing Market Recovery On Timber Markets Not Yet Clear, As Timber Prices In US South Remain At Pre-Recessionary Lows<sup>10</sup>**

The impacts of the nascent recovery in US residential construction markets are beginning to appear in North America's solid wood product markets. In 2012, softwood lumber consumption rose 11%, boosted by strong growth in demand for residential construction and residential improvements. Even though demand levels remain well below pre-recessionary levels, prices have surged. Why is this?

The strong increase in prices is a result of the contraction in operating capacity during the downturn. Since 2006, nearly 200 softwood lumber mills have been closed or idled, resulting in a 10% decline in North America's timber capacity.

Looking forward, higher product prices and improved profitability will spur capacity expansion. The greatest capacity growth will occur in regions with available timber supply, chiefly the US South. As a result of the mountain pine beetle epidemic in the interior region of British Columbia and reduced Annual Allowable Cut levels in Quebec due to sustainability concerns, Canada's share of North American capacity will decline.

The impacts of the housing recovery on timber markets have been less clear. With the notable exception of the western sawtimber markets, where strong growth has bolstered demand and prices, sawtimber markets are lackluster relative to solid wood product markets. This is especially evident in the US South where timber prices remain at recessionary lows. Why haven't we seen a greater response similar to what has occurred in the product markets? It is because demand levels remain weak, and in contrast to product markets, where capacity has adjusted lower, timber supply remains elevated. In other words, despite the improvement in demand, we are still only harvesting enough timber to build less than one million housing units while the timber resource can support much higher levels.

When can we expect to see improvement in timber markets? Given the depth and duration of the downturn, it will take years for demand to return to their previous levels. As residential construction markets continue to improve, demand for sawtimber will continue to increase and sawtimber prices will move up from their lows. By mid-decade, growing demand for sawtimber in the US South to support an expanding solid wood product sector will push harvest levels back above growth and support significantly higher timber prices.

## Demand

### Group Forecasts 4.3% Gain In Home Improvement Spending<sup>11</sup>

Driven by growth in the economy and improvements in housing, the Home Improvement Research Institute forecasts a 4.3% gain in US home improvement spending following a 5.4% gain in 2012, lifting the home improvement market to \$287.3 billion. The institute notes that new home starts are improving, and existing home sales are seeing increases both in numbers of homes sold and in prices. Economic growth, while still expected to be mild, will help consumers feel comfortable with spending on their homes.

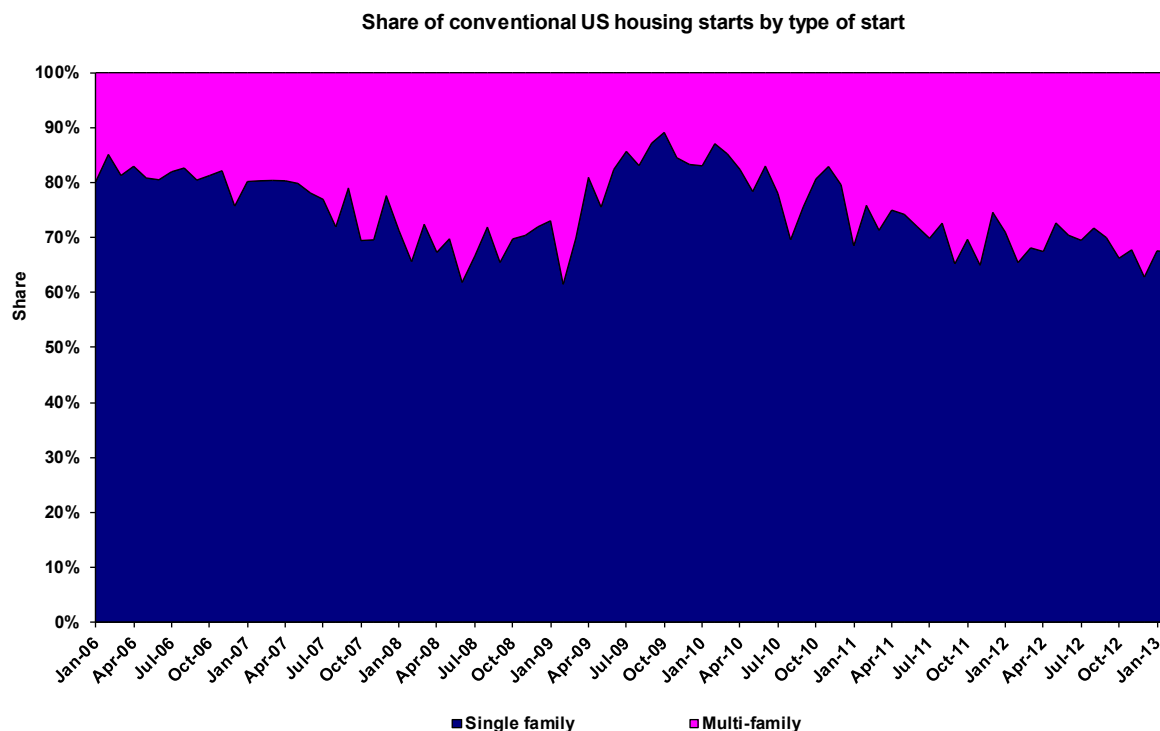
### Construction Spending Declines<sup>12</sup>

Construction spending during January was estimated at a seasonally adjusted annual rate of \$883.3 billion, 2.1% below the revised December estimate, according to the Census Bureau. The January figure is 7.1% above the January 2012 estimate. Residential construction was at a SAAR of \$304.6 billion in January, about the same as the revised December figure.

## Housing

### US

### The Share Of Multi-Family Starts Has Increased Since The Start Of The Housing Recovery



### US Existing-Home Sales Edge Upward<sup>13</sup>

US sales of pre-owned homes were at a seasonally adjusted annual rate of 4.98 million units in February, up 0.8% from January and 10.2% above the level of February 2012, according to the National Association of Realtors. February sales were at the highest level since the tax credit period of November 2009. The national median existing-home price for all housing types was \$173,600 in February, up 11.6% from February 2012. Distressed homes-- foreclosures and short sales-- accounted for 25% of February sales, up from 23% in January but down from 34% in February 2012. Total housing inventory at the end of February rose 9.6% to 1.94 million existing homes available for sale, representing a 4.7-month supply at the current sales pace, up from 4.3 months in January, which was the lowest supply since May 2005. Listed inventory is 19.2% below a year ago, when there was a 6.4-month supply.

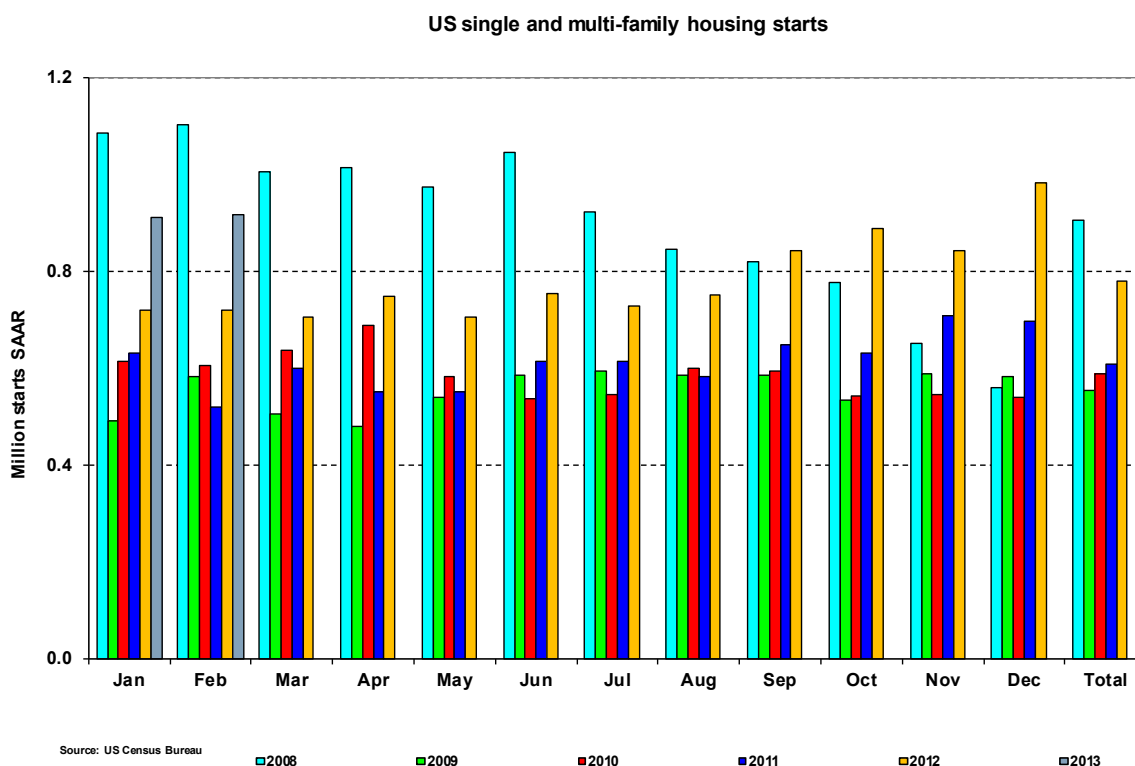
## US Residential Properties Continue Moving Out Of Foreclosure<sup>14</sup>

CoreLogic released new analysis showing approximately 200,000 more residential properties returned to a state of positive equity during 2012Q4. This brings the total number of properties that moved from negative to positive equity in 2012 to 1.7 million and the number of mortgaged residential properties with equity to 38.1 million. The analysis also shows that 10.4 million, or 21.5% of all residential properties with a mortgage, were still in negative equity at the end of 2012Q4. This figure is down from 10.6 million properties, or 22%, at the end of 2012Q3.

Negative equity, often referred to as “underwater” or “upside down,” means that borrowers owe more on their mortgages than their homes are worth. Negative equity can occur because of a decline in value, an increase in mortgage debt or a combination of both. The national aggregate value of negative equity decreased \$42 billion to \$628 billion at the end of 2012Q4 from \$670 billion at the end of 2012Q3. This decrease was driven in large part by an improvement in home prices.

## US Housing Starts Edge Upward<sup>15</sup>

US housing starts were at a seasonally adjusted annual rate of 917,000 units in February, 0.8% above the revised January estimate and 27.7% above the February 2012 rate of 718,000 units, according to the Census Bureau. Single-family housing starts were at a rate of 618,000 in February, 0.5% above the revised January figure. Housing units authorized by building permits were at a SAAR of 946,000 units, 4.6% above the revised January rate and 33.8% higher than the February 2012 estimate.



## Number Of US Foreign-Born Homeowners Set To Rise By 2.8 Million From 2010-2020<sup>16</sup>

Homeownership and rental demand of foreign-born households will continue to increase as growing numbers of immigrants settle longer in the United States, according to a new report sponsored by the Mortgage Bankers Association's (MBA) Research Institute for Housing America (RIHA). The report entitled *Immigrant Contributions to Housing Demand in the United States: A Comparison of Recent Decades and Projections to 2020 for the States and Nation*, constructs a demographic-based projection through 2020 of the growth in homeowner and renter households headed by immigrants in the states and regions of the nation. Key findings from the study include:

- The volume of growth in foreign-born homeowners has increased each decade, rising from 0.8 million added immigrant homeowners in the United States during 1980-1990, to 2.1 million added in 1990-2000, to 2.4 million added in 2000-2010, and is projected to rise further to 2.8 million in growth in the current decade (2010-2020).

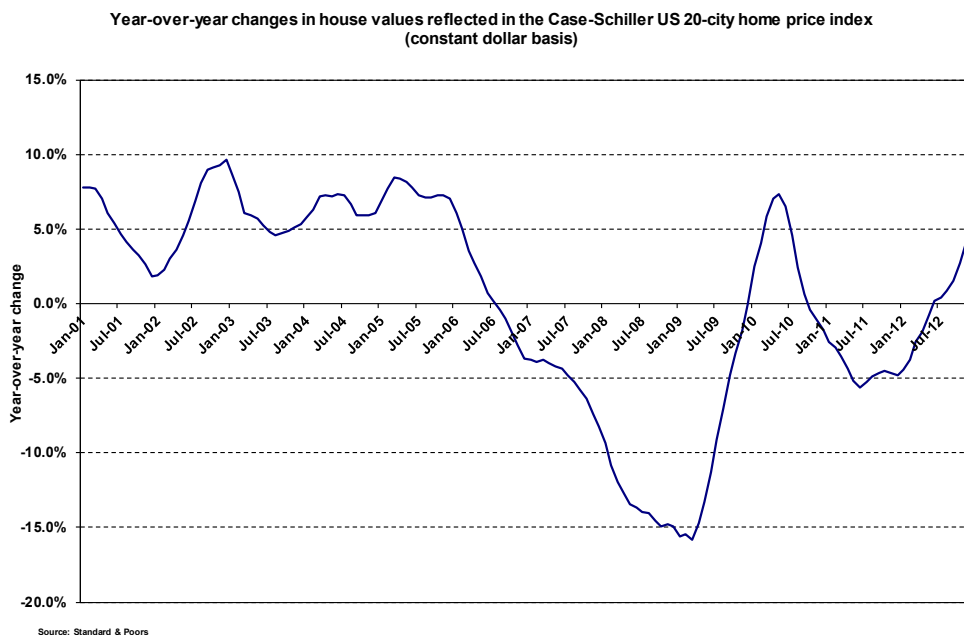


- Between 2010 and 2020, immigrants nationwide are projected to account for 32.2% of the growth in all households, including 35.7% growth in homeowners and 26.4% growth in renter households.
- Despite the projected rise in immigrant housing demand, the immigrant share of all demand growth is somewhat reduced in the current decade as compared with the last, because a larger increase is projected among native-born homebuyers. The combined projected growth of nearly eight million added homeowners is much greater than the 5.1 million growth of the last decade.

"Immigrants are an important and growing source of demand that has bolstered housing markets in recent decades," said Professor Dowell Myers of the Population Dynamics Research Group at the University of Southern California. "Growth in housing demand in recent decades has been more stable among foreign-born than native-born households. This is because increases in native-born demand have been subject to large swings in the size of cohorts reaching ages 25 to 34, the most common age of entry to the housing market. In contrast, inflows of new immigrants have not varied widely in recent decades, and in addition the strong upward mobility of prior immigrants has led to continued increases in aggregate demand for home ownership." The report can be found at [www.housingamerica.org](http://www.housingamerica.org).

### Home Prices Post Big Gains<sup>17</sup>

Home prices in 20 US cities as measured by the S&P/Case-Schiller index of property values rose 6.8% in December from December 2011. It was the biggest year-over-year gain since July 2006.



### New Residential Sales Hit Highest Level Since 2008<sup>18</sup>

US sales of new, single-family homes in January were at a seasonally adjusted annual rate of 437,000 units, 15.6% above the revised December rate and 28.9% above the January 2012 estimate, according to the Census Bureau. The January sales figure was the highest since July 2008. The median sales price of new houses sold in January was \$226,400. The seasonally adjusted estimate of new houses for sale at the end of January was 150,000 units. This represents a supply of 4.1 months at the current sales rate.

## Australia

### Earth Moves Under Australia's Housing Recovery<sup>19</sup>

Australians are changing the way they live and the property industry must adapt to survive. In an insightful speech to the Australian Institute of Building, the Reserve Bank's assistant governor (economic), Christopher Kent, gave an update on recent developments in the housing market while also highlighting some fundamental changes in the property landscape over the past decade. Pouring equal measures of cold water on housing bulls and housing bears, Kent said the bank's liaison with the housing industry suggested there had been a welcome pick up in demand for new housing. But the market remains "relatively subdued".

Nationwide, house prices have risen about 4% over the past year, but remain below their peak of October 2010. Melbourne and Brisbane remain particular weak spots, their property parties having ended somewhat later than Sydney's did in the early 2000s.

But while prices are picking up, debt appetite remains suppressed. Housing credit extended to owner occupiers is growing more slowly than credit to investors, partly because existing borrowers are choosing to pay down their mortgages faster. Housing credit is now growing in line with incomes growth at about 4.5%. Borrowers' adjustment to the new era of low inflation and low interest rates, which pushed house prices up sharply in previous cycles, now appears to have "run its course", according to Kent. And so we must expect a more subdued outlook for house prices than in the past decades.

Tellingly, turnover in the market remains historically low. About one in 25 homes are now changing hands each year, compared with one in 12 during the early 2000s. If it turns out this lower turnover is more the historic norm, this would have massive implications for the real estate industry. According to Kent, "if that is right, it means that those who make a living from turnover--real estate agents being the most obvious example--are unlikely to see a return to the easier days of the first half of the previous decade."

So while we may expect a cyclical upswing in property construction and prices in response to the Reserve Bank's radical low interest rate medicine, there are structural forces at play. Perhaps the most interesting, highlighted by Kent, is the trend towards apartment living. Of the pick up in dwelling approvals over the past few years, almost all the strength has been in units and apartments. The building of new detached homes remains in the doldrums. Kent identifies three major drivers of this shift:

- The long-run ramp up in land prices, relative to incomes, is forcing new home buyers to economize on space. Apartments deliver this.
- The increasing level of congestion on capital city roads and public transport routes is imposing a cost on those choosing to live on the fringe. As urban infrastructure fails to keep pace with a growing population, Australians are seeking to avoid the cost of congestion by living closer to where they work.
- There appears to be a preference shift, particularly among younger Australians, towards living closer to the inner city, with all the access to infrastructure, shops and entertainment that inner cities provide.

### Australian Residential Building Activity Up 1.7% In 2012Q4 From Previous Quarter<sup>20</sup>

Preliminary ABS figures indicate that residential construction activity continued to improve in the final quarter of 2012, said the Housing Industry Association, the voice of Australia's residential building industry. "Taken with other data published recently, these figures indicate that a tentative recovery may be underway in the residential construction market," said HIA Senior Economist Shane Garrett. According to Garrett, "it is encouraging that the actual volume of residential building work has increased for the second successive quarter following more than a year of declines. The fact that the pace of increase picked up supports the view that some momentum may be gathering in the sector. It is also welcome that growth is strongest in the most populous states."

"Total residential building volumes in the final quarter of 2012 were up by 1.7% on the previous quarter. This was driven by rather brisk growth of 2.2% in new house volumes, the cornerstone of the sector," said Garrett. "However, residential building activity was only marginally ahead compared with 12 months earlier. This was due largely to the continued absence of growth in the area of alterations and additions," cautioned Shane Garrett. "International developments since the middle of 2012 have been largely benign but uncertainties continue to plague demand. Furthermore, key sectors of the domestic economy are struggling with the strong value of the dollar," noted Garrett. "Nonetheless, fundamental factors indicate that the current level of residential building activity is below the economy's long term demands."

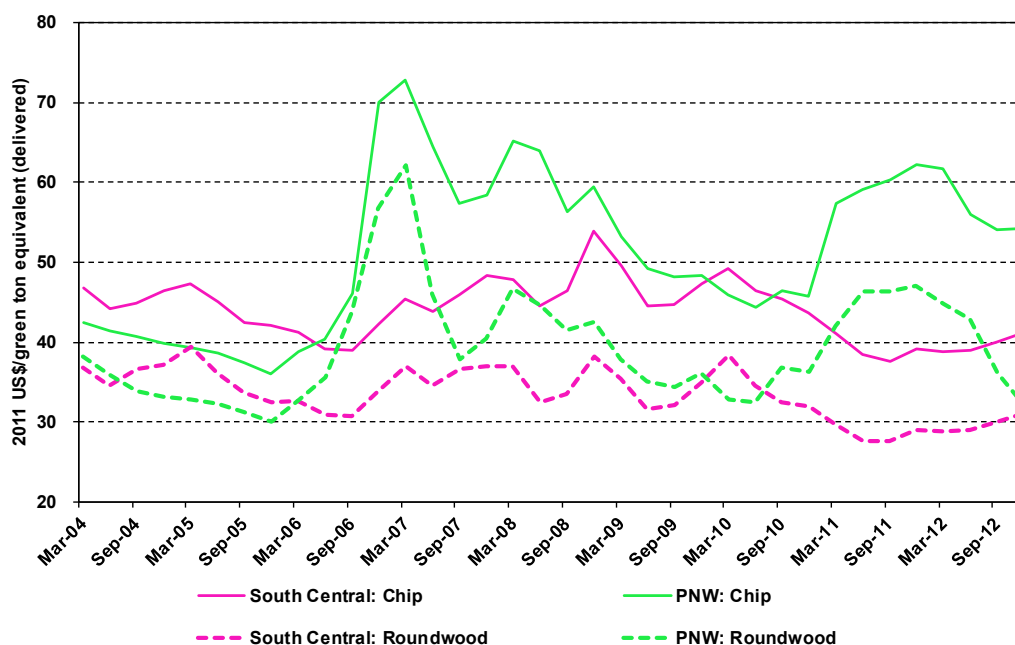
## Chip Residues From Lumber

### Falling Pulpwood Price Trend Eases In Pacific Northwest Markets<sup>21</sup>

If it's even possible to sum up precisely the rollercoaster Northwest region, woodfiber markets appear to be stabilizing in early February, after widespread supply volatility and price cuts throughout 2012. A relatively small regional market survives there, after 25 years of mill closures and industry contraction. Northwest pulpwood consumption, off 2% from 2011, totaled just under 15 million green tons last year, an all-time low. (Comprising 17 remaining consumer mills in the Northwest and one export terminal, the region is less than one-tenth the size of the US South, an estimated 165 million tons and 81 pulpmill market).

Incrementally higher lumber output all of last year and so far this added less expensive residual chips to the mix further aiding buyer budgets. The Northwest remains less and less dependent on costly pulplog furnish, a trend which should only expand as lumber markets recover into 2014.

Selected North American softwood fiber real prices



Source: IWR

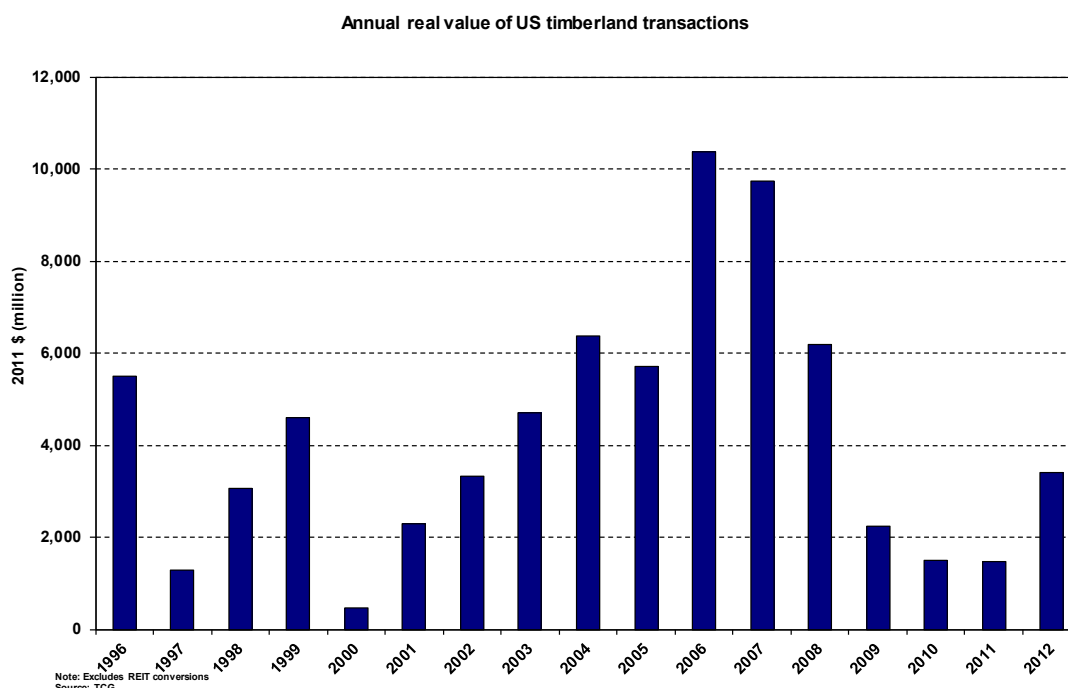
## Announcements

### Georgia-Pacific Plans 20% Increase In Plywood, Lumber Capacity<sup>22</sup>

Georgia-Pacific has announced that it is developing facility expansions and equipment upgrades totaling nearly \$400 million in its plywood and lumber operations. Those projects would increase the company's overall production capacity by about 20%.

## Timberlands Sales

The Value Of Timberland Transactions In The US More Than Doubled From 2011 To 2012



## Certification/Environmental

### Supreme Court Sides With Industry In Dispute Over Road Runoff<sup>23</sup>

In a 7-1 vote, the US Supreme Court sided with the timber industry in a dispute over regulations governing runoff from logging roads in western forests. The court reversed a lower court's ruling which said that runoff from logging sites is the same as any other industrial pollution, requiring a Clean Water Act permit from the Environmental Protection Agency. The EPA itself disagreed with the lower court's ruling, and Supreme Court Justice Anthony Kennedy said that the agency's reading of its own regulations is entitled to deference from the court.

### New Timber Regulation Comes Into Effect Across EU<sup>24</sup>

The European Commission (EC) has brought in effect new measures to prohibit illegally harvested timber and timber products from being placed on the EU market. The new EU Timber Regulation (EUTR) came into force March 3, 2013.

According to EUTR, EU operators selling timber and timber products will have to ensure that the timber has been harvested according to the relevant laws of the country of harvest. To ensure the legality of the wood, the operators must apply the so-called "due diligence" mechanism. This involves providing information on the supply of timber products, including description of species, volume, country of harvest, the supplier's name and address as well as evidence of compliance with applicable legislation. The system also requires risk assessment of the supply chain and, where high risk is identified, mitigation to eliminate any potentially illegal timber. Traders along the supply chain within the EU will be obliged to keep records of all operators through to the end-user.

The EU member states are responsible for applying sanctions to operators who break the rules. Timber products from countries that have entered into Forest Law Enforcement Governance and Trade (FLEGT) voluntary partnership agreements with the EU are considered to be in compliance with the new regulation.

The new law affects both imported and domestically produced timber and timber products, and it covers a range of products from paper and pulp to solid wood and flooring. The controlling machinery might start working as early as March 3, according to the EC's press officer for environment Monica Westernen.

## Bioenergy

### Biomass Provides About One-Third Of Sweden's Power<sup>25</sup>

Last year 51% of Sweden's energy supply was from renewable energy sources. Sweden has reached the renewable energy target set in the Renewable Energy Directive (RED) eight years ahead of time. The EU target for Sweden is 49% in 2020 and the Swedish parliament has adopted a target of 50% in 2020.

"This is a fantastic development, which illustrates that it is much easier to transform the energy system in a sustainable direction than many believe is possible. It is now important that the Swedish government and parliament set even more ambitious targets," said Gustav Melin, CEO of Svebio, the Swedish Bioenergy Association. "The main reason for the Swedish success story on renewables is the use of general incentives like the carbon tax, introduced in 1991. The carbon tax has strengthened the state budget and lead to investments and thousands of new jobs in the local jobs markets," Melin added.

Svebio has calculated the share of renewable energy according to RED based on recently published preliminary statistics from the Swedish Energy Agency. The main renewable energy sources in Sweden are bioenergy and hydropower. Bioenergy accounts for almost a third of Sweden's energy use, and hydropower accounts for almost half of Sweden's electricity supply. Wind power and geothermal heat pumps each supply less than 5% of the renewable energy, and solar energy less than 1%. Hydropower is calculated according to the EU rule of "normal production." If the actual production in 2012 was included, the renewable energy share would be even higher, or 53%.

### KiOR Makes First Shipment Of Wood-Based Diesel Fuel From Mississippi Commercial-Scale Plant<sup>26</sup>

KiOR, Inc. announced the initial shipments of cellulosic diesel from its first commercial-scale facility in Columbus, MS. Unlike traditional biofuels like ethanol or biodiesel, KiOR's fuels have no compatibility issues.

KiOR's facility uses pine wood chips previously feeding a shut-down paper mill at Columbus and produces gasoline and diesel, the first renewable hydrocarbon fuels in the US manufactured at commercial scale and derived solely from non-food feedstocks to avoid competition with human food needs. KiOR's renewable gasoline is also the first renewable cellulosic gasoline ever registered by the Environmental Protection Agency for sale in the US.

Major benefits of KiOR fuels include:

- Fuels are identical to petroleum based fuels made from conventional methods and will fit into the existing fuels infrastructure.
- Studies show that KiOR fuels will have a significant reduction in lifecycle greenhouse gas emissions when compared with fossil-based fuels. KiOR fuels in today's engines can provide a carbon emissions profile that is comparable to or better than electric cars run off the US electric grid.

## Conferences, Overview Studies, And Reports

### Nanotechnology In The Pulp And Paper Industry<sup>27</sup>

During the past few decades, nanotechnology has had tremendous advances in several areas of research and development. Every week we are witnesses to hundreds of articles and scientific publications reporting new pathways for nanoparticle/nanofiber production, modification and use in modern and high-tech applications. In this respect, the pulp and paper industry has not been absent from this development, which has motivated massive research about nanocellulose. This wonderful material, which is synthesized naturally in wood, is composed of nanofibrils with widths usually less than 20 nm, high aspect ratio and remarkable strength.

Researchers from the Pulp and Fibre Research Institute (PFI) were among the first to propose and prove the benefits of using nanocellulose in TMP-based and filled paper, where the strength was considerably improved. However, due to the large capacity of nanocellulose for adsorbing water, drainage in the wet web of a paper machine has been considered a limiting factor for using nanocellulose in an industrial scale.

Moving forward the development of conventional paper, nanopaper has appeared as a keyword. Nanopaper has been reported to have extremely high barrier properties, comparable and superior to conventional oil-based plastics. Due to the intrinsic strength of cellulose nanofibrils and their ability to self-assemble, dense and strong nanobarriers and nanocomposites can be manufactured.

In addition considerable advances have been made to surface modify cellulose nanofibrils and films and thus control the surface hydrophobicity, which is an important aspect to consider in food packaging applications. Surface modification of cellulose nanofibrils is also most important for novel applications, such as stabilization of emulsions, which has been demonstrated to be promising in diesel emulsions fuels.

A necessary step to realize the above-mentioned applications requires the development of effective industrial production of nanocellulose, with affordable production costs. PFI and industrial project partners demonstrated that nanocellulose can be produced industrially, in large scale (1.5 tonnes/day) and with low energy consumption (1600 kWh/tonne). This is considered a significant achievement and implies that nanocellulose from wood can be produced in large quantities, which is a major advantage compared with, for example, bacterial cellulose. However, adequate production and utilization of nanocellulose requires a comprehensive understanding of nanocellulose chemistry and structure. This is an area where PFI actively has contributed to the research community, shedding light into structural terms and characterization based on optical methods and electron microscopy.

In the short run, we foresee novel applications in this promising area of nanotechnology, e.g. functional additives, oil-recovery, and in drilling muds. Additionally, paper electronics is appearing as a potential application of nanocellulose due to the smooth surface and low porosity of nanopapers. In this respect, a strong and transparent nanopaper was proposed by researchers from PFI and Åbo Akademi as a biodegradable and renewable substrate for printing electronics, which obviously will widen the applicability of nanocellulose in functionalized nanostructures.

On the biomedical area, PFI is contributing with comprehensive assessments of biocompatibility of nanocellulose, presently in-vitro, but also in-vivo tests are expected. This is most important, as an adequate and necessary verification of biocompatibility will enable novel applications of nanocellulose as a biomaterial for biomedical applications.

In a few words, the potential is big for this wonderful and naturally occurring nanomaterial, which continues to motivate major research efforts in this promising era of nanotechnological development.

## Resources

### Australian Log Price Index Just Released<sup>28</sup>

The Australian Pine Log Price Index (the Index) for the last six month period has just been released by KPMG. It uses data provided by Australian softwood growers and the index documents changes in pine log prices achieved by large-scale commercial plantation owners selling common grades of plantation softwood logs to domestic processors.

KPMG updates the Index biannually, with the two reporting periods being January to June and July to December. The Index has a base period of January to June 1998. A copy of the report is [attached here](#) for your information.

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