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# IWC NEWS

## THE CHINESE WOOD BALANCE – STATUS AND OUTLOOK

In recent years, market news have been full of impressive growth figures from China followed by speculations about which timberland regions are best suited to fill in the expanding Chinese wood fiber gap. In this article, IWC gives a snapshot of some of the key drivers behind the Chinese wood demand and it's implications for global wood fiber trade flows.

In 2010, China set records in imports of forest products; logs, lumber and wood chip imports were up 22 %, 48 % and 70 % respectively compared to 2009. Also, the value of wood-pulp imports increased by 30 %.

Despite having the world's most ambitious forest plantation program, China is far from being self-sufficient in wood fiber supply. China has, for many years, been the world's biggest log importer, accounting for more than 30 % of globally traded softwood logs in 2010. Traditionally, log imports came almost exclusively from Russia but the introduction of the Russian 25 % log export duty back in 2008 caused log imports to drop from a level of 25 million m<sup>3</sup> to less than 14 million m<sup>3</sup> annually. The reduced log supply from Russia has been substituted by log and lumber imports from other countries, mainly: US (log imports up 266 %), Canada (log imports up 217 %, lumber imports up 65 %, now second largest lumber supplier after Russia), and New Zealand (log imports up 35 % – now second largest log supplier after Russia).

It is important to emphasize that the rapid growth in imports from non-Russian sources is mainly a consequence of the drop in and subsequent substitution of log imports from Russia rather than a mirror of a similar increase in Chinese wood fiber consumption over the same period. However, Chinese wood fiber consumption has increased and is expected to continue doing so at a rate that – as a minimum – follows the Chinese GDP growth.

China's Congress has laid out the country's 12th five-year plan for 2011 – 2015 aiming at stimulating a balanced annual GDP growth of around 7-8 % during the period, which compares to an average annual GDP growth of 11 % during the previous five year period. Despite a focus on stimulating rural development, the plan targets an increase in urbanization from 48 % to 52 % by 2015 equivalent to a flux of 10-11 million rural dwellers to the cities every year over the next five years. This development will increase domestic wood fiber consumption as it will be accompanied by plans to construct another 36 million affordable housing units as well as impose increased spending on public infrastructure. Another important driver is the increased demand from the fast expanding middleclass, who will increase household spending and thereby wood fiber consumption. The demand for pulpwood is also going to put an upward pressure on wood fiber demand as the Chinese government has plans to erect a number of mega pulp and paper mills over the next 3 years.

The growth in wood fiber demand is however not only driven by domestic growth in China but also to a large extent by the economic development on the Chinese export markets, which also saw an up-tick in 2010 compared to 2009. A combination of low-cost manufacturing and a favorable foreign exchange policy have supported Chinese exporters. There is no reason to believe that China's strong competitive position will vanish any time soon.



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The expected developments in these demand drivers have set the course for the Chinese wood fiber gap to expand further in the coming decades. The planned increase in output from the Chinese plantations will, to a large extent, be offset by reduced output from natural forests being set aside for preservation purposes. The Chinese wood fiber deficit in 2009 is estimated at just over 100 million m<sup>3</sup> measured in round wood equivalents (RWE). By 2015, the deficit is expected

to reach as much as 150 million m<sup>3</sup> RWE and IWC expects this gap to widen even further beyond 2015. From a timberland perspective, perhaps the most important question is whether this gap will continue to be filled with increasing imports from non-Russian timberland regions such as US, Canada and New Zealand or will the recent changes in trade flows reverse if Russia decides to remove or reduce the log export duty if entering the WTO?



IWC continuously monitors trends and changes in the global wood trade flows. This is carried out via subscriptions to a broad range of market & industry publications as well as through IWC's direct and in-direct investment exposure to both mature and emerging timberland markets.



CHINESE  
WOOD BALANCE  
FACTS & FIGURES

- China's population is estimated at close to 1.4 billion by 2011.
- Consumption of paper and paper products in China is on the rise and the current level is 45kg per capita. For comparison, the per capita consumption in the US, UK, and India is 300kg, 200kg, 5kg respectively.
- China is the world's largest importer of round wood and is by far the world's biggest importer of softwood logs accounting for about one third of globally traded logs in 2010. Russia is still the biggest log and lumber supplier but Canada is anticipated to take over as the number one lumber supplier by 2011.
- China is the largest pulp importer and has, in addition to this, increased wood chip imports more than 400 % during the last two years. China is now the world's second largest importer of wood chips after Japan.
- China completed 5.3 million ha of plantation in 2010 and the annual commercial log output from Chinese plantations is estimated between 75 – 100 million m<sup>3</sup>. By 2015, China aims at having converted 13.3 million ha into fast-growing, high-yielding (FGHY) plantations. Today, about 7 million ha out of a total plantation area of 24 million ha is considered FGHY plantations.





## EU & US BIOMASS OUTLOOK

### EU's renewable energy targets

When the 20-20-20 targets became law in June 2008 for the EU's 27 member countries, it created an increased demand for biomass due to a policy stating that 20 % of the energy consumption must come from renewable resources by 2020. This policy set legally binding national targets for renewable energy, with different levels ranging from a 10 % share in Malta to a 49 % share in Sweden. Woody biomass is the most important source of renewable energy, resulting in an increase from a 4.9 % share of the total energy consumption in 2010 to 8 % share by 2020. With limited available supply of woody biomass, an increased demand can provide additional income streams for institutional investors in timberland.

### Biomass supply & demand in the EU

The EU has 177 million hectares of forest land and is seeing a current annual utilization of some 800 million m<sup>3</sup>.

The increased use of woody biomass for energy purposes has affected the traditional supply and demand structure in the forest industry. This has led to greater feedstock competition, especially with the traditional consumers of lower grade timber such as the pulp & paper industry. It is expected that demand from power plants will exceed the wood products industry's demand sometime between 2015 and 2020.

Demand and competition for wood fiber tightens in the EU as a result of bio-energy targets increasing EU's dependency on future fibre imports. The US bio-energy sector is still struggling with policy uncertainties rather than fiber availability.

Figure 1 presents supply and demand scenarios up to 2030. In 2020, with medium mobilization, there is expected to be a deficit of 70-100 million m<sup>3</sup> and 220-310 million m<sup>3</sup> in 2030. This supply deficit is expected to be covered mostly by increased imports and to a lesser extent by improved forest management.

### Recent biomass development in the EU

One of the messages from the March 2011 Biomass Trade & Power Conference in Rotterdam was that energy utilities prefer wood pellets to woodchips when importing feedstock. The compressed pellets have higher energy content per volume unit, which reduces freight and storage costs. Demand for wood pellets in the EU is expected to grow by 4 million metric tons by 2015. This is welcomed since the industry has experienced over supply due to faster capacity development compared to growth in demand, and as a consequence, horizontal price development for industrial pellets. Another key point mentioned was that some energy utilities focus on vertical integration when setting up their own wood pellet plant for feedstock production, and securing ownership in port facilities.

On average, the renewable energy share in the EU will be around 12 % of 2011's total energy consumption. This is almost a 50 % increase in share, from the starting point of 8.5 %, but still has a long way to go before achieving the 20 % level. The countries that have a noteworthy need for additional biomass to reach their national renewable targets are the Netherlands, Belgium and the UK. The Netherlands is at 4.7 % with target of 14 %; Belgium is at 3 % with target of 13 % and the UK is at 3.1 % with target of 15 %. Belgium will need an additional 10 million tons of biomass to reach their target.

**Figure 1.**  
Possible scenarios  
ranging supply and  
demand of woody  
biomass measured  
in million m<sup>3</sup>.  
Source: EUwood  
2010.

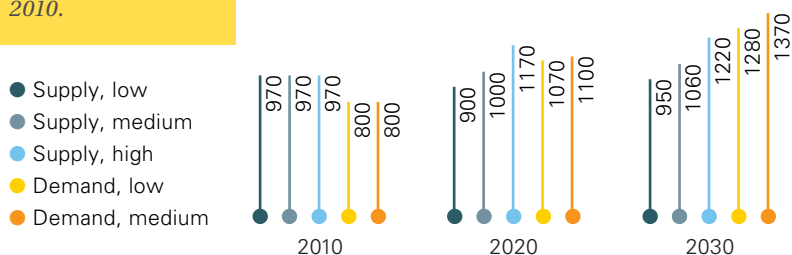


Figure 2. The main timberland regions in the US.

- US Pacific Coast
- US North
- US South

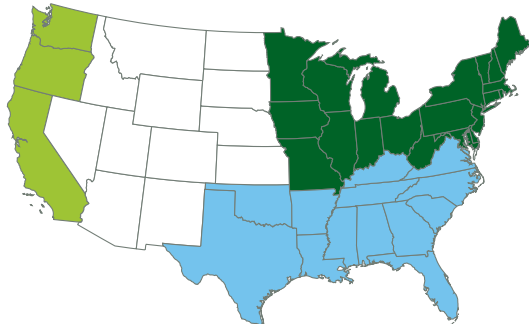


Figure 3. US supply of growing stock and demand of woody biomass measured in million m<sup>3</sup>. Source: Forest Resources of the United States, 2007.

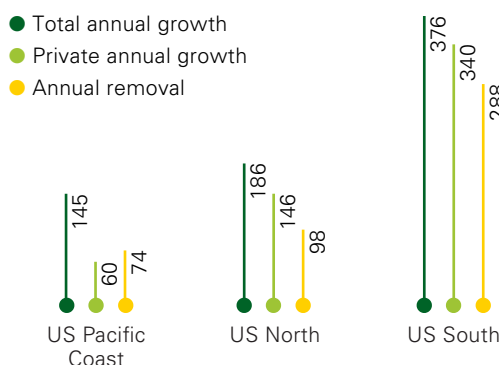
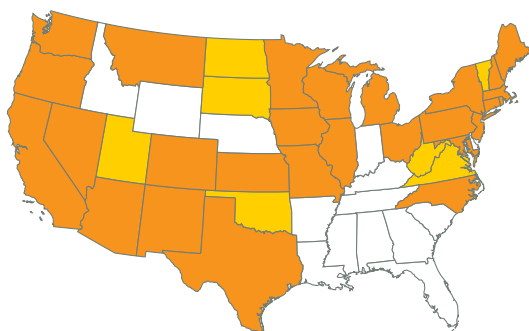


Figure 4. US renewable energy map.

- Renewable Portfolio Standard
- Renewable Portfolio Goal



In the UK, they need to boost their use of woody biomass. This is a challenge for a nation which already has a deficit in supply. A majority of this woody biomass utilization increase is expected to be covered by the existing 30 power plants that have been announced or are seeking planning consent. These could potentially result in a need for 30 million tons of imported biomass. These targets will not likely be reached without subsidies like the Renewable Heat Incentive in the UK. It might be difficult to reach the 20 % EU target as a whole because of the uncertainty of such subsidies in some EU countries.

### Imports required going forward

It is evident that the EU will have to rely heavily on imported biomass to cover the supply and demand gap if the planned 20 % target is to be met by 2020. Imports are mainly coming from: southeastern US, eastern Canada, western Russia and Brazil as likely sources going forward. Countries from the tropical west African region, i.e. Ghana, could also emerge as potential future suppliers. The main focus is on sustainability and on making sure that energy utilities do not use feedstock which result in increased deforestation in the country of origin.

### US supply & demand

In the US, there are around 304 million hectares of forest land. The three main regions that are interesting, from a timberland investor's perspective, makes up 93 % of the total annual forest growth (see Figure 2). There is a supply surplus in all three regions (see Figure 3). The immediate conclusion is that a big potential exists for the development of power plants using woody biomass. The picture changes slightly, given that it is far more difficult, sometimes impossible, to source woody biomass from public land compared to private land. Also, important is that a majority of this surplus is logging residues, which can be too expensive as feedstock and that not all growth is in the proximity of power plants' sourcing areas.

### Status for renewable energy in the US

The US does not have a federal renewable energy target comparable to the EU's. The renewable energy consumption's share of the total energy utilization has remained between 6 - 8 % (2 % from woody biomass) during the last 20 years. Several states have therefore set individual voluntary goals. Currently, 29 states have renewable portfolio standards (RPS) and another 7 states have renewable portfolio goals (see Figure 4).

In the continental US, California has the most ambitious policy aiming at 33 % renewable energy share by 2020 while there are no targets or goals in the whole of US south, except for those in North Carolina. Few federal programs

with financial incentives exist. BCAP is currently the most important. Bioenergy projects are being planned which could create some 70 to 80 million tons of additional woody biomass demand by 2015, of which about half could be supplied by power plants in US South.

**Regulatory uncertainty for bioenergy plants**

One of the reasons behind the slower development of biomass plants in the US is that the Environmental Protection Agency’s (EPA) ‘Tailoring Rule’ states that greenhouse gas emissions from woody biomass should be treated in the same way as fossil fuel emissions, not as a source of renewable energy, and therefore are not carbon neutral. This rule took effect on January 1st, 2011. Later the same month, the EPA decided to defer its decision another three years, to allow for further research on the subject. If implemented, it will lead to increased costs for building and operating biomass facilities due to need for CO2 emission permits. Another reason is the catch 22 situation for new plants not receiving funding without long-term supply agreements and feedstock suppliers being reluctant to sign such contracts without power plants having secured financing.

**BIOMASS CROP ASSISTANCE PROGRAM (BCAP)**

This program was initiated in 2008 with the intention of increasing the demand for and lowering the costs of biomass as a feedstock. BCAP consists of two focus areas; the first part targeting existing energy plants for converting biomass to cellulosic ethanol, power or heat and the second targeting new establishment of energy crops production. With increased production of biofuels, the US would be less dependent upon importing oil. The program’s initial orientation was towards the agricultural sector but the forest industry (pulp, co-firing and pellets plants) has been receiving a high share of these payments.

**Global biomass trade & drivers**

Traditionally, wood fiber destined for high value end products such as pulp & papers, building materials, furniture & decoration have been traded globally and over long distances. Low quality assortments from the harvest often stayed behind and were sold locally with limited income potential. With today’s increasing global demand and competition for woody biomass, this has changed and a lower price floor on the secondary quality assortments has emerged in those forest regions that are well positioned to supply the biomass industry. Forest location and its proximity to energy utilities, pellet plants or ports will often determine the income potential for the individual forest owner.



- The future demand situation for woody biomass for bio-energy will to a large extent depend on the development in:
- Government support and incentive programs: National support programs and incentive schemes will determine the speed of transformation from fossil fuel based energy utility plants to renewable energy utilities and thereby also the demand for woody biomass. A wish to fight climate change and reduce dependency on imported fossil fuels has high priority in many countries.
  - Oil prices: Even though higher oil prices will increase transport costs for wood biomass, it will be offset by increased demand for biomass as an energy substitute to oil as an energy source.
  - Consumer awareness and carbon foot print: Both private households and industrial energy consumers are increasingly switching towards renewable energy sources because they are driven by a wish to reduce their carbon footprints.





## IWC WELCOMES THREE NEW EMPLOYEES

**Pär Hansson** joined the portfolio management team in August 2010 as an Investment Forester. Pär is responsible for the assessment of forestry appraisals, property visits and due diligence of fund investments in the US North East, Europe and Africa. Pär is also assisting with investments relating to Payments for Environmental Services (PES) and wood-based biomass.

Pär holds a MSc in Forestry with major in Business Administration from the Swedish University of Agricultural Sciences in Uppsala. Prior to joining IWC, Pär worked as a trainee analyst for Pöyry Forest Industry Consulting in London, with focus on biomass sourcing, market and industry research.



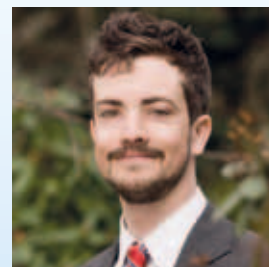
**Bo Lindgren** joined IWC's portfolio management team in January 2011 as the Senior Investment Controller. In this capacity Bo is responsible for the controlling of financial reporting, fund management of external funds, performance evaluation and preparation of quarterly investment reports primarily for non-US Funds. Bo holds a MSc in Business Economics and Auditing from the Copenhagen Business School,

Denmark. Before joining IWC, Bo worked at Nordea Life & Pensions as a Senior Investment Officer, handling both listed and alternative fund investments covering portfolio surveillance, management support, co-managing unit link and new traditional products. Bo has also worked at Sampension as Head of Middle Office dealing with compliance, performance calculation and reporting issues.



**Rune Karsten** joined IWC's Investment Development and Analysis team in November 2010. As a PhD Student under an industrial PhD partnership between IWC and the department of Forest and Landscape of the University of Copenhagen, Rune researches the impacts of different logging schemes on a sustainable management of native forest project in Peru. The main objective is to optimize both the economic and ecological outputs of the concession. Rune holds a double M.Sc. Degree in Forestry from the University of Wales Bangor, United Kingdom, and the University of Copenhagen, Denmark.

"The industrial PhD partnership provides a unique opportunity of combining the innovative environment of the university with the practical experience of IWC. The latter ensures that the project will be directly applicable, while the university guarantees a high academic standard. Furthermore, the project will reinforce IWC's leading role in opening new markets for forest investments."



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