

## Economic and Environmental Aspects of China's Wood Products Industry

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### China's Wood Products Industry – A Global Perspective

Over the past two decades China has grown to become the most important player in the global trade of wood products. During this period China emerged as the largest exporter of value-added wood products (particularly, wood flooring and furniture), and the largest importer of unprocessed or semi processed wood in the form of logs and lumber. A limited supply of domestic timber, due to the Chinese government's logging quota policy, means that the growth in the Chinese wood processing sector is sustained by imported logs and lumber. China's wood processing industry follows an 'export oriented processing' trade model, similar to the model employed by Japan in the 1960's. China imports unprocessed or semi-processed wood raw materials and exports value-added wood materials in the form of wooden furniture, wood flooring, and plywood. This export strategy, in combination with an undervalued yuan, massive investments into the wood products sector and comprehensive fiscal support by the Chinese government (including a variety of subsidies), has resulted in China's emergence as the largest player in the global wood products market.

### Raw Material Imports

China's wood products industry is heavily dependent on imported logs and lumber as the raw material input for the furniture and flooring industry. In 2007,

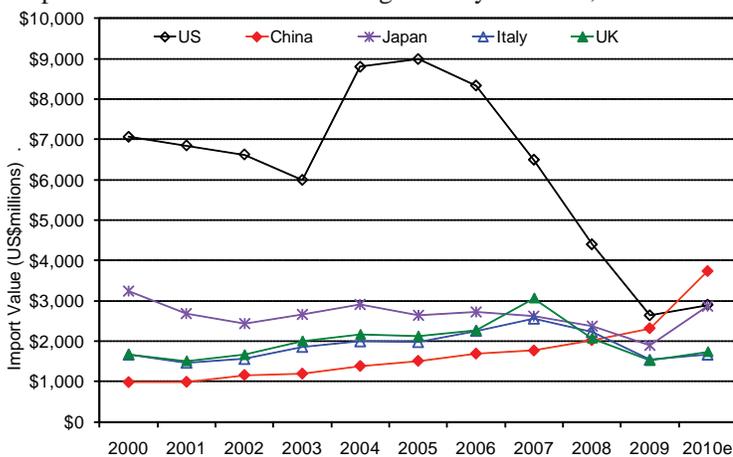


Figure 2: China surpassed the US as the largest lumber importer in 2010. (Source: Global Trade Atlas 2010)

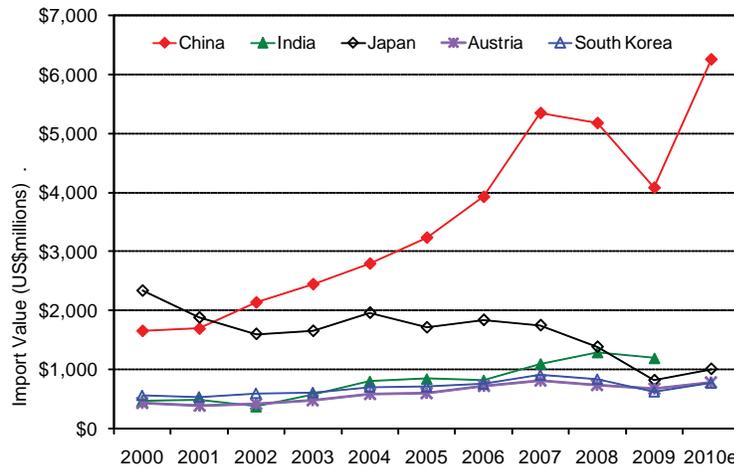


Figure 1: China's log imports exceeded the log imports of the next four countries combined (Source: Global Trade Atlas 2010)

China's log imports totaled more than 37 million m<sup>3</sup> (valued at over US\$ 5.3 billion) before dropping to 28 million m<sup>3</sup> (valued at over US\$ 4 billion) in 2009, as a result of the global recession (Figure 1). However, log imports through the first 10 months of 2010 were up by 23.5% and are projected to reach a record 34 million m<sup>3</sup>. During the same period, China's lumber imports exhibited strong growth, jumping from 6.5 million m<sup>3</sup> (valued at US\$ 1.7 billion) in 2007 to a projected 14 million m<sup>3</sup> (valued at US\$ 3.8 billion) in 2010, (Figure 2). Chinese lumber imports have grown so rapidly

that China is projected to become the largest importer of lumber in the world, a position traditionally held by the US.

### Value Added Good Exports

The Chinese value-added wood products industry has been a tremendous success story, playing a dominant role in global trade. China has been the leading exporter of wooden furniture since 2005, overtaking the traditional European manufacturers, Germany and Italy. In 2010 the total value of Chinese wooden furniture exports is estimated to be US\$ 9.5 billion, more than the combined value of wooden furniture exports by Germany and Italy combined (Figure 3). As recently as 2006, over 80% of all Chinese wooden furniture exports were destined for

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The Center for International Trade in Forest Products addresses opportunities and problems related to the international trade of wood and fiber products. Emphasizing forest economics and policy impacts, international marketing, technology developments, and value-added forest products, CINTRAFOR's work results in a variety of publications, professional gatherings, and consultations with public policy makers, industry representatives, and community members.

Located in the Pacific Northwest, CINTRAFOR is administered through the School of Forest Resources at the University of Washington under the guidance of an Executive Board representing both large and small companies, agencies, and academics. It is supported by state, federal, and private grants. The Center's interdisciplinary research is carried out by university faculty and graduate students, internal staff, and through cooperative arrangements with professional groups and individuals.

I think it's fair to say that despite the continued weak demand for wood products in the US, 2010 can be characterized as the year that the forest products industry rediscovered foreign markets and the important role of market diversification in a down economy.

With US housing starts remaining near historic lows in 2010, forest products manufacturers were forced to look offshore to supplement weak domestic demand. Fortunately, a combination of factors helped drive demand for US wood products in all major markets and across all major product categories. Perhaps most importantly, the relative weakness of the US dollar compared to the Japanese yen, the Canadian dollar and the Euro substantially improved the international competitiveness of US wood products. In addition, continued uncertainty over the implementation of the increased export tariff for Russian logs drove wood manufacturers in China, Japan and South Korea to increase their imports of US wood. Finally, concerns about the verification of legality regulations regarding wood products exported into Japan and the US helped to increase demand for US wood products.

The turnaround in export markets in 2010 was spectacular to say the least. In 2009, US forest products exports were down significantly in every major market, with the singular exception of China, Table 1. However, renewed economic growth in 2010, particularly in Asia and Europe, resulted in a dramatic turnaround in US exports across the major markets. US forest products exports, which fell by 20.2% in 2009, increased by 31.4% in 2010 to reach \$6.94 billion, their highest level since 1997. US forest products exports showed double digit growth in every major market with the singular exception of South Korea. However, despite strong growth in 2010, exports to most markets remained slightly below the levels recorded in 2008. The exceptions to this trend were China and Vietnam, both of which experienced very strong growth in US exports in 2010.

US exports were up significantly in 2010 across all major product categories, exceeding 30% growth for all product categories with the exception of value-added wood products, Table 2. The major markets for US logs were China, Canada, Japan and South Korea with a combined market share of 76%. However, the big story in 2010 was China. Chinese imports of US logs jumped by 174% (and by over 300% in the case of softwood logs) in 2010 increasing the share of US exports from 16.6% to 34.1%, and making China the largest market for US softwood logs for the first time. In contrast, log exports to the other major markets actually declined slightly in 2010.

US exports of softwood and hardwood lumber were both up by 39.8% in 2010 on a volume basis, with softwood

**Table 1. US Forest Products Exports, by country (\$1,000)**

	2008	2009	2010e	2009/2008	2010/2009
Canada	\$2,295,215	\$1,801,410	\$2,176,103	-21.51%	20.80%
China	\$520,660	\$545,562	\$1,210,493	4.78%	121.88%
Japan	\$729,246	\$519,239	\$620,802	-28.80%	19.56%
Mexico	\$519,908	\$416,076	\$485,686	-19.97%	16.73%
South Korea	\$226,770	\$195,291	\$201,501	-13.88%	3.18%
UK	\$226,309	\$179,669	\$212,944	-20.61%	18.52%
Italy	\$191,004	\$139,762	\$191,879	-26.83%	37.29%
Germany	\$170,796	\$123,743	\$154,072	-27.55%	24.51%
Vietnam	\$112,034	\$106,870	\$179,659	-4.61%	68.11%

Source: USDA FAS, 2010. <http://www.fas.usda.gov/gats/ExpressQuery1.aspx>

lumber representing 54.3% of total lumber exports. However, when viewed on a value basis, total lumber exports increased by 48.1% from 2009 to 2010, with softwood lumber exports increasing by 44.4% and hardwood lumber exports rising by 50.5%. Softwood lumber's share of total lumber exports in 2010 was just 38.2% on a value basis (with a unit value of \$273 per m<sup>3</sup>) whereas hardwood lumber had a share of 61.8% and a unit value of \$525 per m<sup>3</sup>). The major markets for softwood lumber in 2010 were Canada, China, Mexico and Japan with a total market share of 66.9% while the major markets for hardwood lumber were Canada, China, Mexico, Vietnam and Italy with a total market share of 77.2%.

Wood-based panel exports showed strong growth in 2010 as well, increasing by almost 32%. On a product basis, plywood exports represented 49% of total panel exports in 2010 followed by fiberboard (32%), OSB (16.6%) and particleboard (2.3%). The major export markets for plywood were Canada (market share of 49%), Mexico (18.2%), Australia (9.2%) and Germany (5.7%). The major markets for fiberboard were Canada (73.4%) and Mexico (19.4%), while most OSB exports went to Canada (47.5%) and Mexico (29.2%). Finally, exports of value-added wood products grew by 10.5% but their growth rate was substantially lower than that of the other product categories.

The outlook for US forest products exports should remain strong in 2011 based on projections for continued strong economic growth in Asia and Europe. In addition, US housing starts are projected to increase from 590,000 in 2010 to reach 745,000 in 2011. However, US wood products manufacturers would be wise to take the key lesson of the US economic meltdown to heart: since all markets experience economic cycles at different times and of varying severity and length, market diversification is the key to managing market risk and limiting the severity of your exposure to an economic downturn in any single market. In other words, even as the US begins to crawl out of its recession, US wood products manufacturers would be wise to maintain their presence in offshore markets.

**Table 2. US Forest Products Exports, by products (\$1,000)**

	2008	2009	2010e	2009/2008	2010/2009
Logs	\$1,869,846	\$1,443,810	\$1,962,138	-22.78%	35.90%
SW Lumber	\$651,016	\$585,975	\$846,148	-9.99%	44.40%
HW Lumber	\$1,130,827	\$921,152	\$1,386,426	-18.54%	50.51%
Panels	\$1,171,366	\$831,119	\$1,096,828	-29.05%	31.97%
VA Wood Products	\$1,797,340	\$1,499,451	\$1,657,493	-16.57%	10.54%
<b>Total</b>	<b>\$6,620,395</b>	<b>\$5,281,507</b>	<b>\$6,937,259</b>	<b>-20.22%</b>	<b>31.35%</b>

Source: USDA FAS, 2010. <http://www.fas.usda.gov/gats/ExpressQuery1.aspx>

the United States. However, in the last few years China has successfully diversified its exports of wooden furniture to include a range of Asian and European countries and in 2010 the US share of Chinese wood furniture exports was just 32.9%.

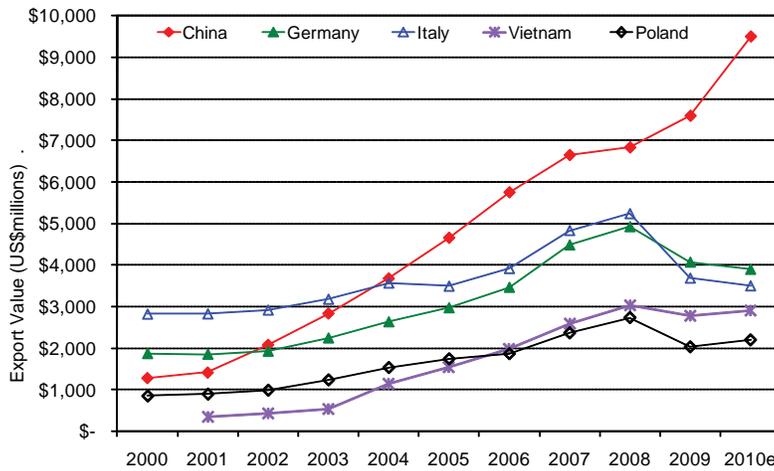
Over the last decade China has also emerged as the world's largest producer and exporter of plywood. China's exports of plywood recorded phe-

including wooden furniture, plywood, fiberboard, wood flooring, miscellaneous wood articles, and builders joinery. However, there are a number of issues confronting the Chinese wood products industry that could affect its competitiveness or restrict its access to developed markets. Some of these issues are associated with the rapid industrialization of the Chinese economy, whereas, others

relate to trade regulations targeted to wood products. The rapid increase in Chinese exports of low priced value-added wood products have resulted in a number of anti-dumping complaints from the US, Canada, the EU and other importing nations. Such anti-dumping complaints tend to focus on furniture and plywood exports from China, but are not uncommon for other value-added wood products, such as wood flooring.

The Chinese wood products industry is also facing steep price competition from other Asian nations (such as Vietnam, Malaysia and Indonesia), who are attracting significant investment into their wood products sectors. For example, Vietnam has experienced substantial growth in its furniture sector and has seen its share of the US market

jump from 3.1% in 2004 to 14.5% in 2009 and

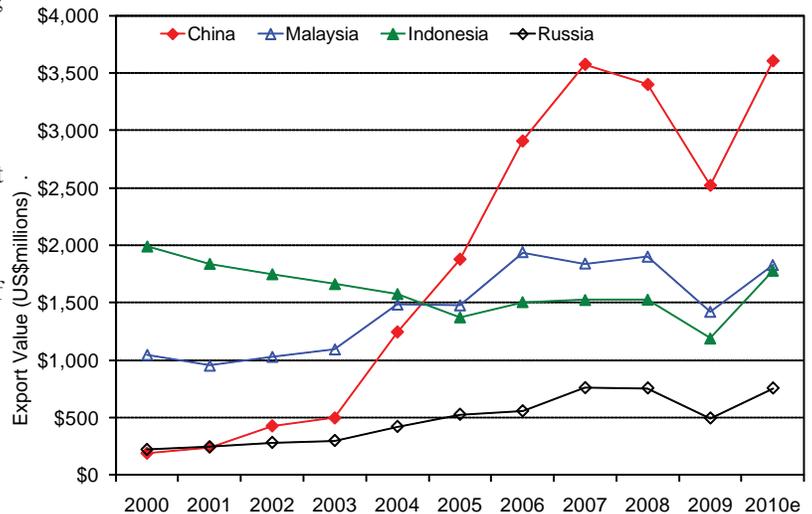


**Figure 3: Chinese wooden furniture exports exceed those of the next two countries combined.** (Source: Global Trade Atlas 2010)

nominal growth between 2000 and 2007, increasing at an average rate of 60% per annum. During this period, China's plywood exports rose from US\$190 million to US \$3.6 billion, a 19 fold increase since 2000 (Figure 4). At the beginning of this decade Indonesia was the leading exporter of plywood in the world, followed by Malaysia. However, through massive investment in the domestic plywood industry, in combination with a steady supply of local and imported raw material, Chinese plywood production grew at an unprecedented rate. Given the advantage of low labor rates, Chinese plywood manufacturers initially targeted the domestic market and the lower end export markets. However, increased investment in advanced production technology allowed Chinese manufacturers to produce higher quality plywood and successfully enter and compete in the US, European and Japanese markets. Beginning in the second quarter of 2008, Chinese plywood production and exports dropped substantially as the global financial crisis affected international demand for plywood. The severe drop in international demand led to a long overdue consolidation within the Chinese plywood industry as small undercapitalized manufacturers dropped out of the industry. The recovery of global demand for plywood began in late 2009 and Chinese exports of plywood are projected to reach an all-time high of US\$3.6 billion in 2010.

**Environmental Challenges for the Chinese Wood Products Industry**

Based on export trends, China will be the biggest exporter of value-added wood products in 2010



**Figure 4: Chinese plywood exports skyrocketed between 2000 and 2007.** (Source: Global Trade Atlas 2010)

it is projected to be 15.7% in 2010. Despite this competition, China remains the dominant exporter of wood furniture and their global market share increased from 16.7% in 2008 to an estimated 28.6% in 2010. To a large extent, the rise of furniture exports from Asia has come at the expense of the more established furniture sectors in Europe. Between 2008 and 2010, Italy saw its share of global exports drop from 13.5% to 10.1%, while Germany's share dropped from 12.6% to 11.1%, and Poland's share dropped from 7.1% to 6.1%. The success of Asian countries such as Vietnam, Ma-

Malaysia and Indonesia can be attributed to several factors, including rising labor and raw material costs in China. In addition, some large multinational furniture manufacturers have implemented a strategy of diversifying across several countries to reduce their exposure to production disruptions. As a result, Chinese manufacturers have begun to recognize the potential of the domestic market as incomes and consumer spending increase across China.

### China's Timber Procurement and Changes in Procurement Patterns

It is well established that illegal logging is a major cause of global deforestation. The rapid growth in China's demand for logs, with sawlog imports increasing from 4.8 million m<sup>3</sup> in 1998 to 25.3 million m<sup>3</sup> in 2007, has put China in the spotlight. The Chinese wood products industry has been harshly criticized for irresponsible procurement practices that have increased the incidence of illegal logging substantially. According to a report published in 2007 by a UK based environmental organization, China has been the largest importer of illegally harvested logs in the world. For example, the UK report estimates that over 75% of logs harvested illegally in Myanmar, Congo, Equatorial Guinea, Gabon, Papua New Guinea and the Russian Far East end up in China. Since China's wood products industry is predominantly export oriented, the UK report notes that the demand for illegal logs is also supported by consumers in developed countries who either ignore or are unaware of the illegal nature of the timber used to manufacture Chinese wood products.

### Legality Verification Requirements by Importing Nations

In response to the growing trade of wood and wood products sourced from illegally harvested

timber, the US, Japan and the EU have adopted environmental procurement policies requiring that all imported wood products be sourced from legally harvested wood. The US Congress recently approved the "Combat Illegal Logging Act of 2007" which amended the Lacey Act to prohibit trade in illegal plants and plant products (including wood products). The emphasis by the US government on ensuring the legality of imported wood, coupled with a growing awareness of eco-labeled wood, has forced the Chinese to implement more responsible wood procurement policies. A similar policy requiring legality verification for traded wood products has been approved by the EU parliament and is scheduled to be implemented in 2013.

A review of the recent trade statistics reveals that there have been significant changes in the composition of log imports by Chinese firms, Table 1. Some of these changes suggest a more responsible raw material procurement policy by Chinese wood importers. Table 1 shows the Chinese log import trends from some of the important trade partners for periods 2000-2007 and 2007-2009. Chinese overall log imports grew by 173% between 2000 and 2007, while they declined by 24% between 2007 and 2009. Much of this can be attributed to the fact that China became increasingly dependent on the steady supply of Russian logs across the border beginning in 1995 when just 13.8% of log imports came from Russia. By 2007, 69% of all logs imported by China came from Russia. However, the gradual imposition of a log export tariff by the Russian government in 2007 increased log prices and forced Chinese wood manufacturers to look for other, more reliable sources of supply and resulted in the substitution of lumber for logs within the raw material mix. The decline in Chinese log imports was further exacerbated by the global financial crisis which occurred in 2008 and significantly reduced global demand for wood products in the developed countries. During the 2000-2007 period, Chinese imports of logs from countries with a high incidence of illegal logging (such as Myanmar, Congo, Equatorial Guinea, Indonesia and Russia) increased at an extremely high rate. However, the post-2007 period saw a significant decline in Chinese log imports from most of these countries, whereas log imports from developed countries where illegal logging has not been a concern (such as New Zealand, Australia, Canada and the US) increased substantially after 2007. This trend in the sourcing of log import suggests a more responsible approach to sourcing logs by the Chinese wood products industry.

### Role of Forest Certification Programs and Eco-Labeling

The success of sustainable forest management is inextricably linked to the development of markets for environmentally certified wood products (ECWPs). An increase in the awareness and

Table 1. Summary of Chinese log import trends for the period 2000-2007 and 2007-2009. (Source: Global Trade Atlas 2010)

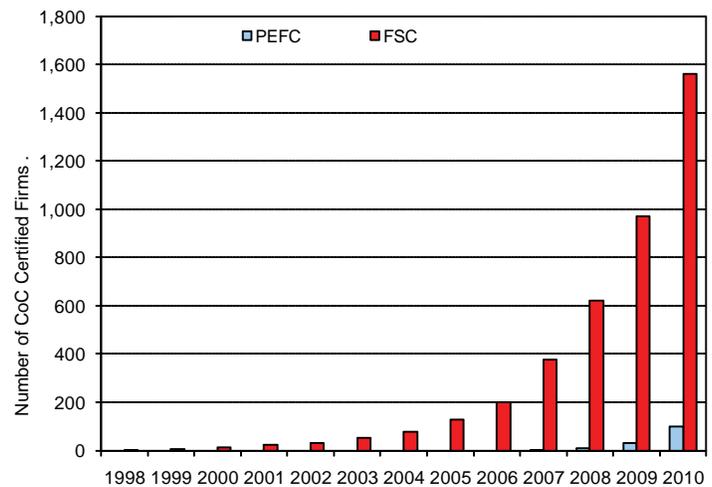
Log Imports From	% Change 2000 to 2007	% Change 2007 to 2009
Overall (World)	173% ↑	-24% ↓
Russia	328% ↑	-42% ↓
Malaysia	-34% ↓	-46% ↓
Gabon	1% •	-4% •
Papua New Guinea	210% ↑	-29% ↓
Indonesia	-96% ↓	-63% ↓
Myanmar	23% ↑	-48% ↓
New Zealand	213% ↑	248% ↑
Equatorial Guinea	36% ↑	-95% ↓
Cameroon	16% ↑	-1% •
Solomon Islands	1062% ↑	7.2% ↑
United States	425% ↑	137% ↑
Australia	4281% ↑	50% ↑
Canada	1,502% ↑	225% ↑
Congo	5,545% ↑	32% ↑

Legend: ↑ imports increased significantly  
 ↓ imports decreased significantly  
 • imports remained approximately same

demand for legal and sustainably managed wood products in developed nations resulted in significant interest among Chinese wood products manufacturers to adopt chain-of-custody certification (CoC). The major internationally recognized certification programs being used in China include the Forest Stewardship Council (FSC) and the Program for Endorsement of Forest Certification (PEFC) programs. Fundamentally, these environmental certification programs promote both sustainable forest management practices by forest managers (Forest Management 'FM' certification), and responsible procurement policies by manufacturers of wood products.

**CoC certification programs in China** The appeal of the CoC programs is strong among Asian exporters of wood products. However, the rate at which Chinese manufacturers of wood products have adopted CoC certification, primarily through the FSC program, is truly impressive. The FSC CoC program was introduced in China in 1998. Between 2000 and 2010, the number of companies in China that have obtained FSC-CoC certification jumped from 12 to 1,562 (Figure 5). Though this is a positive trend, given the total size of the Chinese wood manufacturing sector these numbers constitute only a small proportion (less than 4%) of all wood manufacturing firms in China. In addition, only a small fraction of the wood products manufactured by these CoC certified firms use certified wood. The PEFC-CoC certification, which was introduced in China in 2006, has also experienced significant growth over the last four years. Despite this, the total number of wood product manufacturers in China certified under the PEFC-CoC program is just 99. Since the PEFC program is relatively new in China, one of the major challenges PEFC is facing in China is low brand awareness among wood products manufacturers.

**FM certification programs in China** The lack of availability of FSC certified wood, both from domestic and international sources, has been cited as the major reason why such a low percentage of manufactured wood products are produced from certified wood in China. The adoption of FSC-Forest Management certification in China has been slower than CoC certification, primarily due to the fact that virtually all forests in China are state-owned. A recent report published by FSC in December 2010, found that 28 forests with a total area of 1.7 million hectares have been certified under the FSC's forest management program in China. Most of these certified forests are integrated with state-owned wood manufacturing operations that have also received CoC certification. Hence, most of the supply of FSC certified logs from these forests are not sold into the general market. As a result, the supply of FSC logs available in China is constrained. Moreover, for those logs that are available to be sold into the general market, there is a logistical mismatch between the



**Figure 5: Chinese wood manufacturers have rapidly adopted chain-of-custody certification to maintain access to developed country markets.**

(Sources: [www.FSC.org](http://www.FSC.org) & [www.pefcchina.org](http://www.pefcchina.org))

location of the log supply and the demand for certified logs. For example, most of the supply of FSC certified logs is located in the northeastern region of the country, whereas the primary demand for certified wood is located in the southeastern region of the country. The long distance between the forest farms in the northeast and the wood products manufacturers in the southeast makes supply chain logistics very difficult. Hence, most of the FSC-CoC certified manufacturing operations in China are dependent on imported FSC certified logs and lumber.

While the PEFC certification program has certified the largest area of forests in the world, it does not have any certified forests in China. The PEFC program has evolved to become an international umbrella organization that provides mutual recognition of other regional/national certification programs whose standards meet the requirements of the PEFC program. Upon receiving mutual recognition by PEFC, the approved certification program can either adopt the PEFC brand logo for their products (such as PEFC-Italy or PEFC-France) or the program can retain their existing name and simply ally with the PEFC program (such as the Sustainable Forestry Initiative and the American Tree Farm System in the US). In the absence of a regional or national forest certification program in China, PEFC has not been able to introduce their forest certification program within the country. Hence, all of the PEFC-CoC certified companies in China are currently dependent on imported PEFC certified logs.

However, this situation is expected to change soon with the imminent introduction of a Chinese national forest certification system that incorporates most of the FSC and PEFC certification criteria. Under the aegis of the State Forestry Administration (SFA), the China Forest Certification Council (CFCC) has been developing the necessary guidelines and implementing the national forest certification program. As per the SFA website,

pilot projects involving the Chinese National Forest Certification (CNFC) program will be introduced in state-owned forests in China by 2015. After 2020, the program will be extended to non state-owned collective forests as well. The CNFC will also offer a chain-of-custody certification program for export-oriented wood products manufacturers. The SFA website also indicates that upon establishment of the CNFC, China will seek international recognition for the program. Most likely SFA will look to PEFC for mutual recognition although Chinese officials have informally expressed interest in gaining mutual recognition from FSC as well.

### **Analysis, Outlook and Trends**

To gain a better understanding of the various issues associated with responsible procurement practices and eco-labeled manufacturing within the Chinese wood products industry, a series of interviews were conducted by CINTRAFOR researchers in multiple cities in China in March and April of 2010. In addition, the following insights are informed by many additional research trips that CINTRAFOR researchers have made to China since 2000. During the most recent research visits, a semi-structured interview format was used to interview various stakeholders in the Chinese wood products industry. The structure of the interviews was designed to include all of the major issues, although the respondents were allowed to discuss other issues that they deemed relevant. The topics covered in each interview were dependent on the respondents' background. The parties interviewed for the study included (i) PEFC and FSC representatives in China, (ii) representatives from SGS-CSTC, the leading certification company in China that is accredited to perform certification and audits for both FSC and PEFC, (iii) industry experts involved in the wood products industry and (iv) managers of furniture and flooring manufacturers who are CoC certified under either the PEFC or FSC program.

#### **FSC v/s PEFC**

Interviews with the representatives for the FSC program and the PEFC program revealed some similarities and differences in their opinions regarding their approaches to forest certification within China and providing CoC certification to wood products manufacturers. With respect to CoC certification, there were more similarities than differences between the two certification programs. Marked similarities were observed in the auditing mechanisms of the two CoC programs as well. One of the primary differences in the CoC certification process identified by the interviewees was the pre-requisites that needed to be met by companies before they could attain CoC certification. To be able to attain PEFC-CoC certification, the applicant is required to have an inventory of PEFC certified wood in stock whereas obtaining FSC certification is not contingent upon this inventory requirement.

The primary difference in these two programs is in the area of forest management (FM) certifica-

tion. Though both programs have similar broad objectives, there are significant differences in the criteria measured and the implementation of the programs. The FSC-FM program has a stronger emphasis on the social and ecological aspects of forest management, whereas PEFC-FM programs tend to have a stronger emphasis on sustainable harvest levels and the silvicultural aspects of forest management. On the implementation side, PEFC relies on existing local, regional or national certification programs (often with country specific evaluation criteria) and endorses those upon ensuring that the certification programs meet the specific certification requirements of the PEFC's sustainable forest management program. In contrast, FSC implements their certification program independently using a similar set of criteria across different countries. Moreover, FSC follows a stricter set of guidelines that allow for less country specific flexibility. The PEFC representative interviewed emphasized the fact that they endorse existing certification programs only after ensuring that each program meets the established PEFC criterion. The PEFC representative indicated they are interested in considering the possibility of providing mutual recognition for the CNFC program.

Representatives from both the FSC and PEFC certification programs indicated that they are working closely with the Chinese government to help them develop their national certification program. However, based on our discussions, it appears that there have been strong disagreements between FSC and the Chinese government regarding the certification criteria included in the Chinese certification program. Most of these disagreements related to the social and indigenous people's rights aspects of the CNFC program.

#### **Industry Outlook**

During our most recent research trip to China, we interviewed a number of furniture and flooring manufacturers located in the Guangzhou and Shanghai areas. Most of the manufacturers interviewed have experience implementing a CoC certification program. Representatives from SGS-CSTC Standards Technical Services Company, the largest forest products certification body in China, were also interviewed. The market outlook of the certifying body representatives were well aligned with that of the Chinese wood products industry. During the interviews it became evident that the main driver behind the demand for eco-labeled wood products from China could be traced back to the importing nations (primarily the US and the EU). There is negligible demand for eco-labeled wood products within the domestic Chinese market. All the CoC certified company managers we talked with indicated that they produce both certified and non-certified product lines. However, due to the high price premium associated with using certified wood as

a raw material, they manufacture products using certified wood only when specifically requested by customers.

Both the industry managers and the certifying body representatives indicated that sourcing FSC certified wood is the primary bottleneck in manufacturing certified products. An artifact of the supply shortage is high prices (over 15% price premiums) for FSC certified wood in China. The managers were of the opinion that the price premiums available for eco-labeled products in the market were not sufficient to offset the higher raw material costs for eco-labeled production. Several of the managers of Chinese flooring companies expressed strong frustration and a lack of confidence in the CoC certification process. They also strongly expressed their lack of confidence in the objectives associated with eco-labeling. Moreover, several of the industry managers interviewed indicated that the FSC-CoC eco-labeling program, particularly the auditing process, is tedious and detrimental to the smooth functioning of their business. The industry managers suggested that the FSC-CoC eco-labeling process should be better adapted to the Chinese wood products industry conditions. With regard to the PEFC-CoC program, a different set of problems were identified. The PEFC-CoC program is very new in China and there is little or no awareness of the certification program among Chinese wood products manufacturers. However, during a visit to a lumber market, the CINTRAFOR researchers observed that both PEFC and SFI certified lumber was readily available and was selling at around a 5% price premium.

#### **Impact of the Lacey Act**

The US Congress approved the “Combat Illegal Logging Act of 2007” which amended the Lacey Act to prohibit the trade in illegal wood products. As a result of this amendment, all US wood products importers are required to provide some documentation about the wood used in the products being imported. This information includes a description of the product, value, scientific name of the wood used (genus and species), country of harvest, amount of material and unit of measure. All the parties interviewed were aware of the Lacey Act amendment, although none expressed a clear understanding of the amendment or how it would be implemented. The FSC and PEFC representatives indicated their dissatisfaction with the fact that CoC certification under their programs were not considered to be a sufficient condition for demonstrating the legality of wood under Lacey Act. Certification agencies, certifying bodies and industry managers were of the opinion that since the eco-labeling process ensures the legality of the wood used in the product, CoC certification should be considered a sufficient condition for proving legality of the wood.

Though the US importer is required to provide

the necessary documentation to demonstrate the legality verification of the wood used in the imported item, this documentation is supplied to the US importer by the exporter. Hence, the US importers are reliant on their foreign partners to provide them with accurate and reliable information. However, the apparent lack of information and understanding of the documentation requirements for legality verification among the various players in the Chinese wood products industry reveals the need for an outreach program designed to educate Chinese manufacturers and exporters. Some of the managers we talked with indicated that because of their uncertainty regarding the documentation requirements imposed by the Lacey Act, they have stopped exporting to the US and are now focusing on the European and Asian markets. However, they noted that the adoption of similar regulations in the EU meant that they would need to become familiar with these regulations sooner rather than later.

#### **Summary**

As the largest importer of logs and lumber and the largest exporter of value-added wood products in the world, China has emerged as the most important player in the global wood products industry. The level of automation within the Chinese wood products industry varies from traditional small-scale operations with a high labor input to highly automated and highly efficient large-scale production facilities. Traditionally, the Chinese wood products industry has been viewed as being reliant on high inputs of low cost labor and an OEM supplier for foreign companies. Over the last decade, many Chinese manufacturers have made significant investments that have allowed them to transition to becoming highly efficient manufacturers of high end furniture and flooring products, many with Chinese brand names. The Chinese wooden furniture manufacturers are successfully competing with their Italian and German counterparts in the global market and gaining market share at the European's expense. Though a large segment of the Chinese wood products industry continues to produce low cost commodity products, the industry has made significant process towards manufacturing high quality, innovative wood products.

Being the global leader in the wood products industry also comes with significant environmental responsibilities. Over the years the Chinese wood products industry has been accused of irresponsible procurement practices that drive illegal logging in developing regions around the world. A number of environmental organizations have identified the Chinese wood products industry as the primary user of illegally harvested logs from across the globe. Because products manufactured with illegally harvested logs are exported from China into markets around the world, the



developed nations have begun to require that importers in their countries provide verification of legality for all wood products imports. Such measures have created significant awareness among wood manufacturers in China. Recent Chinese import statistics reveal a shift in log imports from countries known to have large scale illegal logging to countries where illegal logging does not pose a significant problem. Given the size and fragmented nature of the Chinese wood products industry, a complete change in the procurement policy may take some time. Based on our interviews with industry managers, and a review of Chinese import data, it is clear that the Chinese wood products industry is transitioning towards more responsible procurement practices.

The increased awareness and interest in chain-of-custody certification is a further indication of the Chinese wood products industry's changing environmental orientation. The CoC production process ensures that Chinese companies are sourcing wood that has been legally harvested. However, the rapid increase in the number of CoC certified manufacturers has not translated into a corresponding increase in the manufacture of eco-labeled wood products. Since the eco-labeling process is essentially a market driven approach, it is clear that its acceptance and success will depend on consumers across the globe being willing to pay a price premium for eco-labeled products. Moreover, the lack of a reliable supply of FSC certified logs and lumber, as well as a lack of awareness of the PEFC certification program have created bottlenecks to the expanded production of eco-labeled wood products and hindered the adoption of these programs in China.

#### **Opportunities for US Exporters**

The outlook for US exports of logs and lumber over the next decade is optimistic due to impending timber supply constraints in Russia and Canada. While the disruptions in timber supply from Russia and Canada (primarily in British Columbia) will be caused by very different dynamics, the net result should be a strategic opportunity for US firms looking to increase their presence in China. In the case of Russia, the current 25% log export tariff has already caused Russian log exports to China to drop by 43.9% since they were first implemented in 2007. The full implementation of the log export tariff, which is now scheduled to increase to 80% in early 2012, would translate into the loss of between 10-14 million m<sup>3</sup> in logs from the Chinese market in 2012. It is important to note that Russia has twice delayed the implementation of the 80% log export tariff and has hinted that it would likely reduce the current 25% log export tariff if they were to gain accession into WTO.

In Canada, a different dynamic could result in a significant reduction of both log and lumber exports to China as early as 2013. British Columbia (BC), the largest exporter of logs and lumber to China, anticipates that timber harvests and lumber production will decline by approximately 33-38% in 2013 as a result of the disastrous mountain pine beetle infestation that is playing out in the central region of the province. As a result, BC log exports to China would likely decline substantially from the record 1.15 million m<sup>3</sup> in 2010, largely in response to pressure from organized labor to halt log exports in favor of supplementing the declining log supply to affected BC sawmills and plywood mills. Perhaps more importantly, it is expected that Canadian lumber exports to China, which reached a record 4 million m<sup>3</sup> in 2010, could decrease by as much as 50% by 2013. One important factor to consider would be how BC lumber producers allocate their production between the US and Chinese markets going into the future. The US housing market is expected to bounce back to 1.4 - 1.5 million starts by 2013 and will provide strong competition for Canadian lumber even as demand for softwood lumber strengthens in China.

In summary, China's wood products industry is transitioning from being a low cost producer of commodity exports to manufacturing high quality, differentiated products for both the export market as well as the growing domestic market. As the Chinese wood products industry matures, it is increasingly integrating globally accepted environmental procurement policies within its manufacturing sector. While the Chinese wood products industry has already established itself as a world leader in manufacturing value-added wood products, only time will tell if it can establish itself as a world leader in environmentally responsible procurement practices. This transition, in conjunction with supply constraints in Russia and Canada, will provide US forest products exporters with unequalled opportunities in China over the next decade.

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