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##### Market Discussions

### Food and Agriculture Organization

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## Forest Products Annual Market Review: Executive Summary

### Note by the secretariat

#### *Summary*

This document provides a summary of the UNECE/FAO *Forest Products Annual Market Review 2010-2011* and provides background information for the annual UNECE Timber Committee Market Discussions.

The theme of the *Review* in 2011 is “Forest Products – contributing to the green economy”, which ties in with the theme for the Timber Committee/European Forestry Commission meeting, entitled “Orman 2011: Forests in a Green Economy.”

## **I. Market developments**

### **A. The economic background**

1. The global economy in 2011 is in the midst of a three-speed recovery. The advanced economies of North America and western Europe are growing at an annual rate of about 2%, with much of the rest of the world, including Latin America, Africa, the Middle East, central and eastern Europe, and the CIS growing at about 5%, and developing Asia at about 8%. The economic crisis of 2008-2010 was more moderate in the emerging economies and their recoveries have been stronger. This reinforces the rising importance of emerging markets, especially those in Asia.

2. Recovery in North America and Europe has been slow; the gross domestic product of many of the region's economies is only now returning to its peak level prior to the crisis. Unemployment remains high, with little prospect of any rapid change. The housing market collapses in the United States and several European countries, such as Ireland and Spain, have yet to stabilize. With high unemployment, and limited access to credit, a strong rebound seems unlikely. Sovereign debt levels have increased substantially in most advanced economies, becoming problematic in some, including, most notably, those in the periphery of the eurozone. It is becoming increasingly apparent that the debt of these periphery economies represents a solvency issue and that the emergency support that was initially extended by the EU and IMF will not be enough to resolve their crises. There has been a shift towards austerity throughout the advanced economies amid concern about rising debt levels that are likely to further weaken their recoveries. The relatively strong growth in much of the rest of the world has resulted in escalating global prices for commodities, raising concerns about inflation.

3. An added problem for some countries has been currency-exchange rates. One example of such a problem exists within the eurozone. While the core is enjoying satisfactory growth, those countries on the periphery may face an extended recession, or at least very slow growth. The core is running a trade surplus and could benefit from a slight euro appreciation, while the periphery countries are running large current account deficits and desperately need a euro depreciation and looser macroeconomic policy.

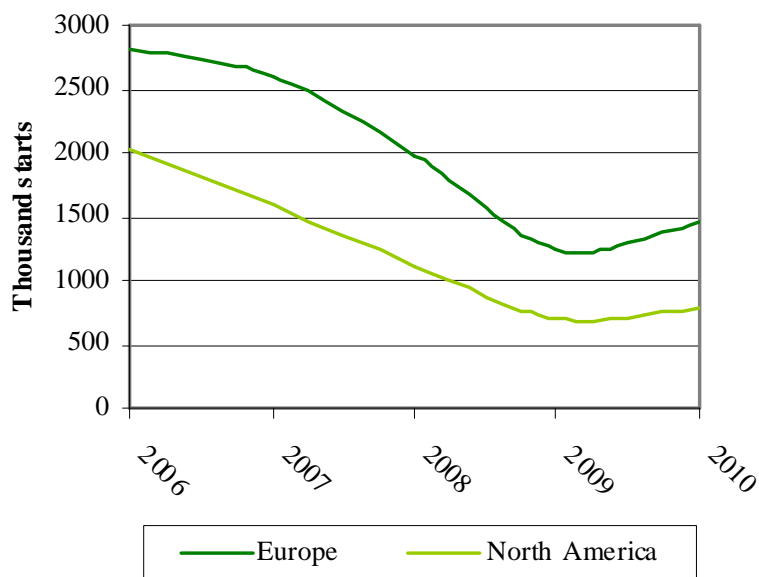
4. The world economy is facing a number of longer-run difficult challenges, and securing international cooperation to address them has been difficult. This includes improving financial-sector regulation, liberalizing trade (i.e. the finalization of the WTO Doha negotiations), and climate change.

### **B. Construction sector**

5. It is well recognized that the construction sector is the principal driver for the demand for forest products. If proof were needed, it is only necessary to look to North America: the collapse in the residential construction sector (dropping from almost 2.5 million starts in 2005 to just over 0.5 million starts in 2009) led to a reduction in demand for building materials that produced the sharpest fall in timber harvests since UNECE/FAO began collecting data in 1964. There has been a modest recovery in 2010 and the hope is that this will continue into 2011 (graph 1).

**GRAPH 1**

**Housing starts in Europe and North America subregions<sup>1</sup>, 2006-2010**



**Sources:** US Census Bureau, Canada Mortgage and Housing Corporation, Euroconstruct, 2011.

**II. Policy developments**

6. The General Assembly of the United Nations declared 2011 the International Year of Forests, to raise awareness of the importance of forests for people and their livelihoods and thus the need for conservation and sustainable management. Policy issues are covered in detail in the chapter 2, but a brief summary appears below.

**A. Trade-related policies**

7. Efforts to combat illegal logging have continued. The EU Timber Regulation, which will enter into force in 2013, requires anyone introducing wood for the first time into the EU to exercise due diligence in verifying its legality. This new legislation, operating in conjunction with FLEGT (Forest Law Enforcement, Governance and Trade) legislation should help to ensure that only legally-sourced wood is traded within the EU. For the first time, action is being taken under the Lacey Act<sup>2</sup> against a company alleged to have

<sup>1</sup> We have not been able to source reliable data for the CIS and have therefore excluded it from this graph. Last year's *Review* estimated starts in the region of 0.7 million (Russian Federation and Ukraine only).

<sup>2</sup> [http://www.aphis.usda.gov/plant\\_health/lacey\\_act/index.shtml](http://www.aphis.usda.gov/plant_health/lacey_act/index.shtml).

imported illegally-sourced ebony into the US. A Chatham House report of July 2010<sup>3</sup> indicates that this legislation may be having some impact because it shows a decrease in illegal logging.

**B. Climate and energy-related policies**

8. Negotiations to develop a legally binding successor agreement or an alternative trading mechanism to the Kyoto Protocol, which expires in 2012, continued in Cancún, Mexico but without agreement. They will continue at the COP-17 (Conference of the Parties) meeting in Durban, South Africa, to be held from 29 November to 9 December 2011. One of the nine objectives agreed by governments in Cancún<sup>4</sup> was, “to protect the world’s forests, which are a major repository of carbon.”

9. A new European energy policy to counteract Europe’s increasing dependence on imports of fossil fuels will have at its core, the pillars of competitiveness, sustainable development and security of supply. The European Union is leading the way in terms of energy policy, having set targets to help achieve the goal of supplying a 20% share of total energy use from renewable energy by 2020. Currently, woody biomass accounts for around half of all renewable energy in the EU-27.

10. The European pulp and paper industry faces competitive auctions of EU Allowances and binding emission benchmarks against reference emission levels when the EU-Emission Trading System enters Phase III, starting in 2013.

**C. Environment-related policies**

11. Ministers from 42 countries meeting at the Forest Europe Ministerial Conference on the Protection of Forests in Europe, in Oslo from 14-16 June 2011 adopted two documents; the Oslo Ministerial Mandate for Negotiating a Legally-Binding Instrument on Forests in Europe, and the Oslo Ministerial Decision: European Forests 2020.

12. The Ministerial Mandate established an Intergovernmental Negotiating Committee charged with producing a legally-binding framework agreement to ensure the protection and sustainable management of Europe’s forests. The Committee is expected to start its work in 2011 and have it finished by June 2013.

13. The Ministerial Decision on European Forests 2020, outlines a shared vision, goals and targets for 2020, among which are to have:

- (a) Developed and implemented national forest programmes and strategies that take into account climate change adaptation and mitigation;
- (b) Substantially increased the supply of wood and other forest products from sustainably-managed forests;
- (c) Increasingly reflected the full value of ecosystem services in national policies and market-based instruments;
- (d) Halved the rate of loss of forest biodiversity;
- (e) Taken effective measures to eliminate illegal logging and associated trade.

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<sup>3</sup> <http://www.chathamhouse.org.uk/publications/papers/view/-/id/911/>

<sup>4</sup> <http://cancun.unfccc.int/cancun-agreements/main-objectives-of-the-agreements/#c33>

#### **D. Green building policies**

14. Green building is gaining momentum throughout the UNECE region and beyond. Several governments, recognising the major contribution that wood can make in both energy efficiency and a reduced carbon footprint when compared to competing materials, such as concrete and steel, are promoting policies and actions that favour wood.

15. Canada took a major lead in promoting wood in construction. The British Columbia Provincial Government's "Wood First Act", passed in 2009 requires wood to be considered as the primary building material in all new publicly-funded buildings, such as schools, libraries or sports complexes. In this way, it is hoped it will encourage a cultural shift towards viewing wood as the first choice for construction, as well as for interior design. Other provinces have now adopted Wood First initiatives.

16. This movement has spread across the border to the United States where the US Forest Service has adopted a strategy to use wood preferentially in new buildings, to expand research into green building materials, and to explore opportunities to demonstrate wood as a green building material in all new structures larger than 900m<sup>2</sup>.

17. The European Union is looking to develop significantly more energy-efficient construction. While not singling out wood specifically, its aim of reducing the energy use and carbon footprint of the construction sector (currently 40% of all energy in the EU is used in construction, which also produces 36 % of CO<sub>2</sub> emissions), the emphasis on lightweight materials and recyclability, should lend an advantage to wood.

### **III. Forest products – contributing to a green economy**

18. The world is waking up to the possibilities offered by wood. When most people think of forest products they probably call to mind the more obvious ones such as sawnwood, wood panels and perhaps paper. Few would imagine the extent to which forest products have extended into many different areas of life – textiles, food additives (based on cellulose), optical screens for laptops, casings for televisions, computers and mobile telephones (<http://www.arboform.org/>) and even computer keyboards (<http://www.europeanplasticsnews.com/subscriber/newscat2.html?channel=620&id=1277195376>).

19. In construction, wood can often replace steel beams and concrete. The lower carbon footprint of wood in comparison with "energy-hungry" building materials, such as concrete and steel reinforces wood's credentials as a natural, renewable material.

20. New techniques, or sometimes a re-examination of processes from yesteryear, allow wood to be modified and to become even more versatile. For example, Wood Plastic Composites, which have the appearance of wood, but are even more stable and durable, are ideal for external uses.

21. The pulp and paper sector, in particular, is exploring how it may become more efficient and cost-effective and contribute even more strongly to the green economy. One such route is the exploration of new pathways such as integrated bio-refining.

22. Forest products markets are global: wood and wood products are traded globally. Manufacturing may take place in lower-cost countries distant from the market for their end products. While some consumers are influenced in their buying by "green credentials" and look for evidence that their purchase is derived from forests that are managed sustainably, a great many others may be more strongly influenced by value for money, or simply price.

23. There are several outstanding examples of how wood products can substitute for more carbon-intensive materials, for instance, in construction. However, there are still

problems of perception to overcome among architects, engineers and consumers, who may be hard to convince of the merits or the suitability and durability of wood. Many countries in the UNECE region are increasingly aware of the benefits of wood as a green material. Sweden, for instance, makes significant use of wood in single-family and multi-storey housing.

24. While many countries are taking a lead in promoting wood in construction, in some others, it seems that the reverse may be happening. The Russian Federation, for instance, has a fine tradition of building in wood, but timber's role is slowly being eroded by what may be seen, by some, as "more modern" materials, which may be marketed as more durable.

25. Until the eighteenth century, wood was in common use for building but over time, in many countries, stone and brick took the place of wood. Even where the external finish may not be wood, there are some regions which use timber-framed construction at the core of a building, such as Scotland and the United States, a system that is less common in England and much of western Europe. Through innovation and better marketing, the forest products sector is working to promote fully the potential that wood offers to expand the Green Economy. There are some striking examples of structures made of wood and many architects recognise that wood is an effective substitute for concrete and steel, in many circumstances.

26. Life cycle analysis of timber in construction confirms its green credentials with low impact in extraction and processing, as well as good energy performance, in association with good design, of course: Additionally, buildings constructed in wood "store" carbon. A recently published study<sup>5</sup> highlights the benefits that would accrue, if architects and others specified wood in construction rather than steel or concrete, which have much higher carbon footprints

27. A major contribution of forests to the Green Economy is the sheer amount of carbon that is absorbed from the atmosphere and then stored in trees, as well as in the wood products that are made from them. A study released in July 2011, by the Institute of Arctic Biology<sup>6</sup>, confirms the key role that forests and forest products play as stores of carbon. It estimates that between 1990 and 2007, the world's forests have stored about 2.4 gigatonnes of carbon every year.

28. Throughout Europe, forestry and forest industries support about four million jobs, many of which are in rural or socially fragile areas. As well as offering resources for industry, and a source of clean renewable energy, forests are a vibrant habitat, teeming with life, and provide additional sources of income as well as places to relax and unwind.

29. Though the *Review* focuses primarily on industrial products and the energy that can be derived from forests, forests provide a much wider range of opportunities for generating income, such as hunting, the collecting of mushrooms, wild fruit, herbs and medicinal plants, teas and honeys, which together represent an important source of income for many countries. Recreation, too, can generate extra income, if not directly for the forest owner, for the many businesses that benefit from having a forest on their doorstep.

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<sup>5</sup> Lippke, B, et al Carbon Management, June 2011, Vol. 2, No. 3, Pages 303-333, available at: <http://www.future-science.com/doi/full/10.4155/cmt.11.24?prevSearch=allfield%253A%2528Bruce%2BLippke%2529&searchHistoryKey=&>

<sup>6</sup> <http://www.iab.uaf.edu/news/index.php?newsrel=92>.

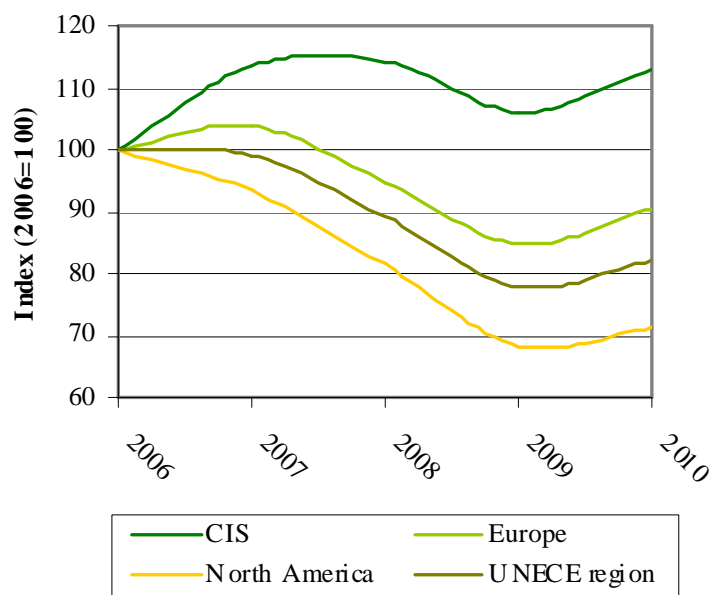
#### IV. Regional and subregional markets

30. Although economic conditions are still difficult in many parts of the UNECE region, there is at last moderate optimism that the recovery in forest products markets has begun. The situation differs across the product sectors, but most are showing signs of improvement. Perhaps the wood-based panels sector is the one which continues to face the most difficult trading conditions, although even here, there are brighter prospects, especially in Europe. It is apparent that until the housing markets begin to show a stronger recovery than has been seen so far, the continuation of recovery may not be as strong as the industry would like. The risk of a “double-dip” recession cannot be entirely dismissed and the consequences would be severe.

31. As reported in last year’s *Review*, the production of industrial roundwood in 2009 fell to its lowest level since UNECE/FAO began collecting statistics in 1964. Fortunately, overall consumption of forest products recovered in 2010 across the UNECE region (graph 2).

#### **GRAPH 2**

**Consumption of forest products in the UNECE region, 2006-2010**



**Note:** Based on roundwood equivalent for sawnwood, panels and paper and paperboard.

**Source:** UNECE/FAO TIMBER database, 2011.

32. Consumption of the principal forest products has risen, with 2010 totals showing gains, mostly in the range 3% - 10% (table 1). Consumption of wood-based panels in North America is the one sector that stands out as strikingly different: although consumption did show an increase, it was only 0.5%.

TABLE 1

Apparent consumption of sawnwood, wood-based panels and paper and paperboard in the UNECE region and by subregion, 2006 - 2010

	Thousand	2006	2007	2008	2009	2010	Change 2009 to 2010	
							Volume	%
<b>Europe</b>								
Sawnwood	m <sup>3</sup>	119 855	127 327	101 895	90 737	101 466	<b>10 729</b>	<b>11.8</b>
Wood-based panels	m <sup>3</sup>	71 038	74 548	67 892	59 585	63 134	<b>3 550</b>	<b>6.0</b>
Paper and paperboard	tonnes	98 720	101 067	99 693	90 020	93 907	<b>3 887</b>	<b>4.3</b>
<b>Total</b>	m <sup>3</sup> EQ <sup>c</sup>	698 418	726 749	662 820	593 282	633 377	<b>40 094</b>	<b>6.8</b>
of which: EU27								
Sawnwood	m <sup>3</sup>	105 580	113 230	88 315	78 263	88 554	<b>10 291</b>	<b>13.1</b>
Wood-based panels	m <sup>3</sup>	63 000	65 487	58 478	51 623	53 594	<b>1 971</b>	<b>3.8</b>
Paper and paperboard	tonnes	91 021	92 070	88 024	78 604	81 688	<b>3 085</b>	<b>3.9</b>
<b>Total</b>	m <sup>3</sup> EQ <sup>c</sup>	630 542	652 856	579 705	515 552	549 339	<b>33 787</b>	<b>6.6</b>
<b>CIS</b>								
Sawnwood	m <sup>3</sup>	15 192	17 421	16 304	17 843	17 561	<b>-282</b>	<b>-1.6</b>
Wood-based panels	m <sup>3</sup>	11 654	13 720	15 561	11 045	12 897	<b>1 852</b>	<b>16.8</b>
Paper and paperboard	tonnes	8 337	9 176	9 099	8 572	9 329	<b>757</b>	<b>8.8</b>
<b>Total</b>	m <sup>3</sup> EQ <sup>c</sup>	77 838	88 461	89 091	82 695	87 925	<b>5 230</b>	<b>6.3</b>
<b>North America</b>								
Sawnwood	m <sup>3</sup>	149 677	134 146	110 386	83 456	89 023	<b>5 567</b>	<b>6.7</b>
Wood-based panels	m <sup>3</sup>	69 033	61 639	51 454	47 196	47 453	<b>257</b>	<b>0.5</b>
Paper and paperboard	tonnes	98 080	96 187	88 296	77 232	80 009	<b>2 777</b>	<b>3.6</b>
<b>Total</b>	m <sup>3</sup> EQ <sup>c</sup>	749 193	700 898	610 879	513 167	534 109	<b>20 942</b>	<b>4.1</b>
<b>UNECE region</b>								
Sawnwood	m <sup>3</sup>	284 725	278 895	228 585	192 036	208 051	<b>16 014</b>	<b>8.3</b>
Wood-based panels	m <sup>3</sup>	151 725	149 907	134 907	117 825	123 484	<b>5 659</b>	<b>4.8</b>
Paper and paperboard	tonnes	205 136	206 430	197 089	175 823	183 245	<b>7 422</b>	<b>4.2</b>
<b>Total</b>	m <sup>3</sup> EQ <sup>c</sup>	1 525 449	1 516 108	1 362 791	1 189 145	1 255 411	<b>66 266</b>	<b>5.6</b>

Notes: a/ Excluding sleepers, b/ Excluding veneer sheets, c/ Equivalent of wood in the rough.

Roundwood equivalent has been assumed, as follows: 1 m<sup>3</sup> of sawnwood = 1.89; 1 m<sup>3</sup> wood-based panels = 1.64; 1 tonne paper = 3.60 m<sup>3</sup>, based on UNECE/FAO Discussion Paper 49. CIS sawnwood consumption is based on secretariat estimates, explained in detail in chapter 5, section 5.3.

Sources: UNECE/FAO TIMBER Database and secretariat estimates, 2010.



**A. Wood raw materials markets - increased demand leads to higher timber harvests**

33. Timber harvests rose by 8% in 2010 as the UNECE region recovered from the record low of 2009, reflecting higher demand for sawnwood, wood-based panels and paper products. Despite this, timber harvests were the second lowest recorded since 1966.

34. Consumption of softwood industrial roundwood in 2010 was almost 9% higher compared with last year, but still 16% lower than in 2006. North American consumption was 30% lower in 2010 than in 2006.

35. Wood raw-material costs, the highest cost component when manufacturing forest products, have gone up for both the sawmilling sector and for pulp manufacturers. Sawlog prices at the end of March 2011 were at an all-time high<sup>7</sup>, having risen by 33% in the past two years. It may seem odd that prices have risen, even though industrial roundwood production, and the consumption of forest products in North America and Europe, remain well below their pre-crisis levels. Some of the price increases must simply reflect the cost increases in wages, energy and transport that forest growers and producers have had to bear. In addition, forest owners may have been reluctant to place wood on the market until prices improved. Added to this, a reduction in sawnwood production has resulted in lower availability of co-products, such as chips and sawdust.

36. The strong pulp market and tight supply of sawmill chips pushed pulpwood and wood chip prices higher in most regions around the world, with softwood and hardwood fibre ending close to record levels in many markets. The use of woody biomass for energy has increased competition for small logs, wood chips and sawdust and is another factor putting pressure on wood-fibre prices..

**B. Sawn softwood markets –evidence of a slow but cautious recovery across the region**

37. Recovering trends in consumption of sawn softwood (+9.8%) occurred in most UNECE subregions, and were replicated in terms of production and trade. Consumption in North America and Europe increased by 8.8% and 12.6%, respectively, while CIS consumption was unchanged from 2009. The positive development of demand for sawn softwood directly affected production and trade with increases in output in North America (+11.8%), Europe (+9.1%) and the CIS subregion (+4.2%).

38. While demand and prices continued to pick up in the first half of 2011, soaring raw material costs posed a threat to the profitability of sawmills in many parts of central and eastern Europe regions. Strong Chinese demand has also pushed up log prices along the US west coast.

39. Unstable demand in the CIS subregion resulted in flat consumption trends in 2010. However, exported volumes drove production higher and both showed an improvement of 7.7%. Exports were led by the Russian Federation, where Asian and particularly Chinese demand, drove total exports higher by 8.2%, leading to an estimated 4.0% increase in output.

40. North American mills struggled with uneven consumption and sluggish housing starts. Cost pressures continued to keep mills from adding extra capacity, and scheduled curtailments were an ongoing feature in the market. A major bright spot was soaring demand from China, which allowed west coast producers to take advantage of large volume orders and often favourable prices.

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<sup>7</sup> Based on the Global Sawlog Price Index, which is a weighted average of sawlogs traded on the open market in 19 key regions worldwide.

**C. Sawn hardwood markets – the beginning of a hesitant recovery**

41. The sawn hardwood industry took its first tentative steps on the road to recovery in 2010, as overall production across the UNECE region increased by 3.3% to 33.2 million m<sup>3</sup>. However, production continues to be constrained by the permanent loss of processing capacity and low harvesting levels. Over the past decade, harvesting of the large US resource has been falling steadily, owing to declining levels of domestic consumption and a major reduction in the number of logging professionals.

42. After several years of turmoil, supply and demand for sawn hardwood in the UNECE region are now finely balanced at relatively low levels and prices are more stable. Across the region, consumption of sawn hardwood in 2010 increased by 0.7% to 31.7 million m<sup>3</sup>, in line with a slow improvement in the broader economy. Gains in consumption in northern and central Europe and in Turkey were offset by static or declining consumption in southern Europe, North America and the CIS. There were also rising exports of sawn hardwood from all UNECE subregions to China.

43. Globalization in the furniture sector, combined with weakness in the construction and housing sectors, has led to a decline in demand for appearance grade sawnwood within the UNECE region but to increasing exports of these grades to other markets, particularly China. Tropical hardwoods have continued to lose market share to temperate hardwoods as a result of limited availability of tropical hardwood as well as the development of innovative new products for external applications, based on temperate hardwoods. Oak has continued to consolidate its dominant market position in Europe.

**D. Panel markets – continuing difficult trading conditions**

44. Consumption of wood-based panels in North America, which had bottomed out in 2009 as a result of the near collapse of the US housing market, showed a modest gain in 2010. However, this trend was due more to an increase in exports than to any increase in domestic demand. With no immediate signs of a significant lift in US house starts, the main market outlet for structural panels, domestic consumption, is likely to decline again in 2011. Certainly, there is nothing to suggest any widespread re-opening of the many mills that were reported to have closed in last year's *Review*. With North American structural panel manufacturers increasingly looking offshore for new markets, overall production of structural panels in the region are expected to increase slightly in 2011. As the US economy continues to recover, demand for non-structural panels is projected to increase steadily throughout 2011 and 2012, particularly within the furniture, cabinet and moulding sectors of the industry.

45. In Europe, the picture is brighter: production capacity had increased by 6.4% by the end of December 2010, compared with one year earlier. An issue that has surfaced during 2010-2011 is the impact of subsidies offered to electricity generators who are switching to biomass. This seems to be a particular issue in the United Kingdom, where sawmills and panel producers have combined forces to launch a campaign, "Make Wood Work", to highlight fears about future supplies of raw material.

46. New investment is taking place in the panel sector, with the Russian Federation, Turkey and Ukraine being the principal beneficiaries. The wood-based panel sector is likely to face continuing difficult trading conditions until there is a wider revival in the construction sector.

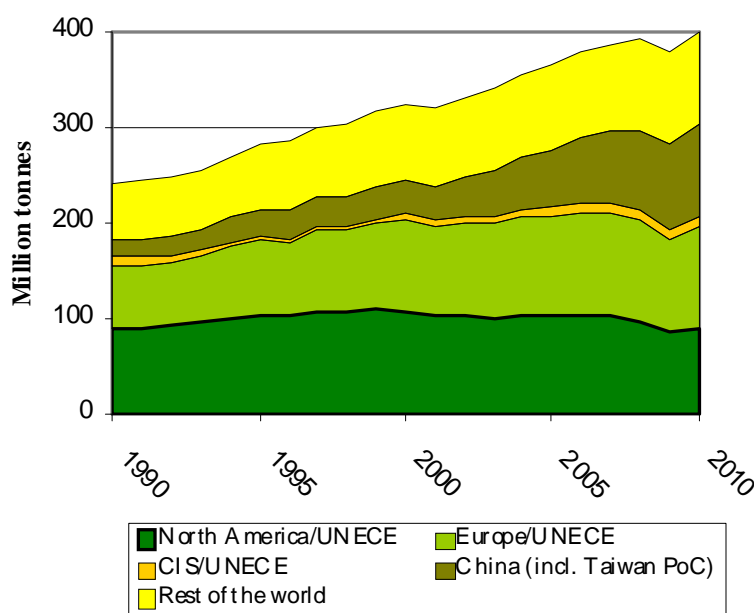
**E. Paper, paperboard and woodpulp – markets looking more robust**

47. A global rebound in pulp, paper and paperboard markets began soon after the global financial crisis of 2008-2010, leading to more robust market conditions in 2010 and early 2011, with higher consumption and prices for most pulp, paper and paperboard

commodities. European and North American output rebounded in 2010 but still lie below pre-crisis production levels. In the Russian Federation, output almost completely recovered to levels that preceded the global financial crisis, though Russian production remains less than 4% of global production. However, global growth in paper and paperboard production has been gradually shifting over the past decade from the UNECE region to other world regions, most notably to Asia, and China in particular (Graph 3).

**GRAPH 3**

**Production of paper and paperboard in UNECE regions, China and rest of the world, 1990-2010**



*Note: Data for rest of world is preliminary in 2010.*

*Source: UNECE/FAO, China Paper Association, 2010.*

48. Marketing strategies evolved as the pulp and paper producers of the UNECE region faced the dual challenge of limited growth, or declining European and North American consumption, and expanded global competition. One such strategy is evident in the increasing emphasis on exploring how the industry can become more efficient and cost-effective and, by such means, contribute even more strongly to the green economy.

49. Green and sustainable features of paper and paperboard, such as the use of renewable resources and product recyclability, have helped support industry sustainability initiatives and an evolving symbiotic relationship between pulp and paper market development and the green economy. The pulp and paper industry is exploring new pathways to a greener economy, such as integrated bio-refining with production of biofuels and wood-based chemicals, or development of nano-crystalline cellulose technology. More symbiotic partnerships are needed among industries to fully develop green pathways, such as between forest industries and energy, chemical, textile, food, and agricultural industries.

**F. Wood energy markets – accelerated growth**

50. Demand for woody feedstock for renewable energy generation has fostered the emergence of a true global trading market. International trade has formalized into the

creation of a wood-energy commodity contract exchange market in a joint effort between APX-ENDEX and the Port of Rotterdam. Large investments in industrial pellet production capacity in North America and the Russian Federation have been made under expectations of a continuously growing demand. Investments in wood-energy feedstock manufacturing in other parts of the world may follow. Nonetheless, demand is still dependent on public policy commitments in the form of renewable energy mandates, financial support to energy production and consumption, among other policy tools.

51. The EU remains the major driver of wood energy consumption, due to its ambitious renewable energy commitment and reduction in greenhouse gas emission targets. International wood energy markets are dominated by industrial pellets, while regional and local markets rely on chips and forest industry co-products. In the coming years, public efforts are expected to further pursue the use of woody materials to produce liquid motor fuels, to reduce the transport sector's dependence on fossil fuels. Over the next couple of years, the sustainability of wood energy utilization will be further examined, evaluating net greenhouse gas emission levels as well as the impact of woody biomass removal on the forest resource. Wood energy public policy might be revised in the light of findings of sustainability assessments as well as how such policies affect other wood product markets.

52. In Europe, there is general acceptance that using wood to produce energy is carbon neutral, in that any CO<sub>2</sub> released in the process will be quickly reabsorbed by growing trees with no net addition of CO<sub>2</sub> to the atmosphere. However, this view does not seem to be universally accepted. In the United States, the US Environmental Protection Agency (EPA) intends to thoroughly assess greenhouse gas emissions from different biomass sources and energy generating technologies after which it will rule whether biomass energy generation will require CO<sub>2</sub> emission permits.

53. Some environmental groups are also raising concerns about the use of wood, related primarily to its use for the generation of electricity, without heat recovery.

#### **G. Certified forest products markets**

54. By May 2011, the global area of certified forest was 375 million hectares, a 7% increase from May 2010. Almost all the recent growth in certified area has taken place in the Russian Federation and North America. Almost 90% of certified forests are in the northern hemisphere, which is rather different from the original goal of certification where tropical forests were intended to be the main beneficiaries. Currently, less than 2% of tropical forest is certified, compared with almost 33% of North American forests and more than half of forests in western Europe.

55. There has been a 20% growth in Chain-of Custody certificates issued worldwide in 2010, which now number close to 30,000, a six-fold increase since 2005. Even so, the volume of global trade in wood products that this represents is negligible. While consumer awareness of certification appears to be growing, it seems that the producers of certificated timber are not receiving a price premium for their produce over non-certificated produce and that, consequently, certification represents an added cost for growers.

56. However, the development of Green Building codes throughout the UNECE region and beyond, which place stress on the use of sustainably-produced low-carbon-footprint materials, could favour timber products and provide a stimulus for certification and chain of custody tracking.

#### **H. Carbon markets**

57. The United Nations led negotiations continued in 2010-2011 working towards an international climate change agreement, to formulate a successor to the Kyoto Protocol, and agree the operational details of REDD+. Negotiations on the LULUCF rules under the

Kyoto Protocol, and Monitoring Reporting and Verification (MRV) of REDD+ are vital for engaging the forestry sector in climate change mitigation.

58. The European pulp and paper industry faces competitive auctions of European Union Allowances and binding emission benchmarks against reference emission levels when EU-ETS enters Phase 3, starting 2013.

59. So far the impact of carbon markets on forestry's contribution to the green economy has been small. The voluntary carbon market has seen the main growth in forest carbon projects, albeit on a small scale. The outlook is positive for a wider inclusion of forest-based emission reductions, which are coveted by corporate compliance buyers. The main opportunity would come if the EU-ETS decided to accept afforestation/reforestation projects, which currently are excluded.

60. Thirteen new Clean Development Mechanism afforestation/reforestation projects were under review or registration between June 2010-June 2011 with a mitigation prospect of 654,000 tonnes of CO<sub>2</sub>e from a total area of 73,000 hectares. There are four on-going wood-waste to energy and biomass utilization Joint Implementation projects in the Russian Federation's pulp and paper mills, and several biomass retrofit and cogeneration projects in eastern Europe.

#### **I. Value-added wood products markets**

61. Global furniture production was estimated at \$376 billion in 2009 while global trade stood at \$92 billion after a severe 20% contraction in 2009. The US was by far the largest importer of furniture with a total import value of \$10.7 billion. The market experienced a 26.4% drop in furniture imports in 2009; over a two-year period the drop was 34.9% compared with 2007. The latest statistics from February 2010 reported an increase of 13% in US furniture orders compared with 2009.

62. The rapid erosion of the builders' joinery and carpentry import market continued, with the value of imports into the five largest importing countries falling by 20% (\$1 billion) in 2009: the decline in profiled wood imports was also 20%: French and UK imports declined 30%, US imports by 25% and German imports by 20%. An increase in house construction may reverse this trend as any increased demand seems likely to be satisfied by imports, rather than domestic production. The effects of the downturn in construction have been tangible. The exporting countries, mostly in Asia, have lost thousands of jobs as hundreds of production facilities have been closed.

63. Engineered wood products allow the forest sector to compete in markets traditionally dominated by concrete and steel. New products and processes are being developed to efficiently use small-diameter logs to produce structural and decorative materials. These innovations enable wood to maintain and extend its market share, especially now that architects and specifiers increasingly recognize that wood is a renewable resource that can easily be recycled.

#### **J. Tropical timber markets**

64. Trade in tropical primary wood products continued to be affected by the downturn in global markets, although there were signs of recovery in 2010. There has been a decline in the importance of traditional tropical wood product markets, the EU, the USA and Japan, where housing and construction markets remain depressed: China and India have become more dominant with China's tropical log imports returning to pre-crisis levels in 2010, following a recovery in China's housing sector and the recovery in demand for China's exports of secondary processed products.

65. Imports of tropical sawnwood (the major tropical primary wood product import) into the European Union were expected to remain at a low level in 2010, with many EU member

countries facing government austerity measures, sluggish construction activity, a continuing tendency for importers to maintain low stocks. There are clear signs of a declining market share for tropical sawnwood in the external joinery and furniture sectors as tropical sawnwood faced stiff competition from modified wood products, based in temperate hardwoods.

**K. China market development**

66. China is the main country outside the UNECE region which impacts the region's markets. It is the major trading partner with the region: its imports of raw materials benefit the region's exporters, while its exports provide increasingly tough competition for wood processors and manufacturers within the UNECE region. In the case of wooden furniture and plywood, there are ongoing trade disputes as UNECE-based producers allege that subsidies in China have resulted in unfair competition.

67. The growth of China's forest sector in the past 10 years has been remarkable. In 2005, it overtook Italy to become the major world furniture producer. In only 10 years, China has more than doubled its production of paper, pulp and paperboard, which now accounts for almost 25% of global production. It is now also the largest producer of wood-based panels, production of which has doubled in only four years.

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