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Forest Products

Annual Market Review

2009-2010




Innovation for structural change recovery

100th EDITION

UNITED NATIONS

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FOREST PRODUCTS ANNUAL MARKET REVIEW 2009-2010

Project Manager

Ed Pepke

UNITED NATIONS
New York and Geneva, 2010

NOTE

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ABSTRACT

The UNECE/FAO *Forest Products Annual Market Review, 2009-2010* provides general and statistical information on forest products markets and related policies in the UN Economic Commission for Europe region (Europe, North America and the Commonwealth of Independent States). The *Review* begins with an overview chapter, followed by description of the macro-economic situation. Next it includes an analysis of government and industry policies affecting forest products markets. Five chapters are based on annual country-supplied statistics, describing: wood raw materials, sawn softwood, sawn hardwood, wood-based panels, and paper, paperboard and woodpulp. Additional chapters discuss markets for wood energy, certified forest products, value-added wood products, forest carbon and tropical timber. In each chapter, production, trade and consumption are analysed and relevant material on specific markets is included. Tables and graphs provided throughout the text present summary information. Supplementary statistical tables may be found on the Market Information Service website within the UNECE Timber Committee and FAO European Forestry Commission website at www.unece.org/timber.

KEYWORDS

Forest products markets, wood markets, market analysis, forest policy, consumption, production, imports, exports, forestry industry, forestry trade, forestry statistics, Europe, North America, Commonwealth of Independent States, climate change, housing market, construction, timber, wood industry, pulp and paper industry, wood fuels, certification, wood products, tropical timber, forestry trade, sustainable forestry, sawnwood, sawn softwood, sawn hardwood, lumber, wood-based panels, particle board, particleboard, fiberboard, fibreboard, OSB, MDF, plywood, paperboard, cardboard, woodpulp, pulpwood, sawlogs, pulplogs, roundwood, industrial roundwood, wood energy, bioenergy, biomass, fuelwood, certified forest products, furniture, builders joinery, carpentry, wood profiles, engineered wood products, EWP, REDD and carbon.

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FOREWORD

The forest sector in the UNECE region faces an unprecedented period of change. Society's expectations of the region's forests have never been so high. Forests produce an unequalled range of benefits: helping to mitigate climate change; protecting a rich biodiversity; giving employment and contributing to economic development in socially fragile rural areas especially; offering a source of renewable energy; providing space for recreation and leisure as well as a highly versatile raw material. In addition to the external challenges over which the sector has little control, balancing these various demands can itself present a challenge.

Among the external challenges, climate change and the global economic crisis represent the two most immediate. Forests 'lock up' vast quantities of carbon that is stored in wood, as growing trees and in manufactured wood products. By laying down wood every year, trees continue to remove carbon from the atmosphere and to slow the effects of global warming. This has enormous benefits for society but currently there is no universal mechanism by which this 'value' can be realized in a way that contributes to the cost of sustainable management. While forests lessen the impact of climate change, it also threatens the delicate balance which supports these important ecosystems.

The UNECE region consumes 1.2 billion cubic metres of wood every year for construction, paper and other wood products and increasingly for clean energy. The demand for all these products drives the entire sector. The fall in consumption of wood products in 2009 has been the largest ever since UNECE/FAO began recording data in 1964. This has reduced the gains for the forest sector, hitting investment, employment and resulting in the major structural change that features in the theme of this edition of the *Forest Products Review*, "Innovation for structural change recovery." The sector is undergoing rationalization of production capacity in line with reduced consumption, mergers and acquisitions, transfer of manufacturing to countries with lower costs, changing patterns of trade, and developing new products and processes. In short, the forest sector is innovating and adapting with the expectation that it will emerge from the crisis stronger.

The *Review* is written for a wide audience, not only for industry analysts and marketing specialists from the forest sector but also to provide policymakers and those in related sectors, such as energy, with the background for informed decision-making.

Through the *Review*, UNECE and FAO present the first comprehensive analysis of this year's forest products markets and policies for the UNECE region. The different chapters focus on the various sectors of the industry, presenting market data along with the policy and economic factors that lie behind them and aid an understanding of the market changes that have been occurring.

The *Review* has reached a milestone of this 100th edition, for which we are proud. I trust it achieves its objectives of providing a factual, up-to-date and neutral analysis of market and policy developments and providing a stimulus for meaningful policy discussion in international forums.

I take this occasion to express my sincere appreciation to our partner for this publication, FAO. I also wish to thank the 175 experts, partners, information suppliers and secretariat who have worked to produce this Review.

Ján Kubiš

Executive Secretary

United Nations Economic Commission for Europe

PREFACE

By the Leader of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing

This 100th edition of the *Forest Products Market Review* prepared for the Timber Committee marks a milestone achievement for the Committee, its secretariat, and our contributors. Although the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing is only ten years old, since its inception its members have provided significant input into the content and production of the *Review*. Many of the *Review's* authors are Team members, and many more provide valuable information and statistical data.

As the UNECE region begins to emerge from the 2008 economic and financial crisis that continues into 2010, the forest sector is slowly recovering. Weak demand for forest products, especially in 2009, had serious consequences for the industry. Restructuring, rationalization of production capacity and mill closures severely affected the sector's workforce and profitability. Throughout the global recession, the use of wood for energy continued to grow, primarily through promotion of alternative bio-based fuels and energy by government economic stimulus programmes, often targeting climate change mitigation. Overall, these segments of the forest sector benefited from strong demand for wood-based energy during this difficult economic period. However, the rapid growth in wood energy demand and woody biomass production has created concern about competition for raw material from existing forest products sectors, primarily the pulp and paper and composite panel sectors.

This *Forest Products Annual Market Review, 2009-2010*, focuses on the markets as they begin to recover from the global economic crisis. While not evident in the 2009 statistics, improvement in most market sectors was forecast by the Timber Committee at its October 2009 session. Market indicators in 2010 suggest that recovery is taking place but in some countries the trends are neither strong nor steady.

As was the case with all previous *Reviews*, the analysis of market and policy developments is based on "first-available" statistics supplied by official country correspondents. It is the first comprehensive analysis each year for the UNECE region covering all primary wood-processing and secondary, value-added wood-products sectors.

In addition to providing information to participants at the Timber Committee Market Discussions, the *Review* is a valuable resource for government policymakers, industry representatives, academics and other forest-sector stakeholders. The *Review* supports UNECE and FAO priorities by providing an objective analysis of current market and policy developments.

The *Review* highlights market developments such as: wood raw materials, wood energy, forest sector carbon, sawn softwood and sawn hardwood, panels, paper, paperboard, and woodpulp, certified forest products. value-added wood products and tropical timber.

The *Review* also highlights policy developments for: economic stimulus policies and forest products markets, forests, wood products, REDD and carbon market policies, green building and market – impacting policies, developments within China forest industries, Russian forest sector reform and its domestic and export market effects, China's wood products policies and potential impacts on UNECE region countries, illegal logging and corporate social responsibility.

The UNECE/FAO Team of Specialists on Forest Products Markets and Marketing is mandated by the UNECE Timber Committee and the FAO European Forestry Commission to advise them on forest products market developments, policies and opportunities in the UNECE region and with its trading partners. The Team supports capacity-building, training and information dissemination in social, economic and environmental aspects of forest products markets, marketing and forest-sector development.

I wish to express my deep appreciation to the Team members, the secretariat production team and to all the other people who contributed information and statistics to make the *Forest Products Annual Market Review* a unique and valuable resource for the global forest products community.

Finally, if you have found this publication of value in your work, please let us know. If you have suggestions as to how we could enhance its value, please send any proposals to info.timber@unece.org

Dr. Richard Vlosky
Leader of the UNECE/FAO Team of Specialists
on Forest Products Markets and Marketing

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ACKNOWLEDGEMENTS

With this 100th edition of the UNECE/FAO *Forest Products Annual Market Review*, we thank the thousands of people who have contributed to it over its lifetime. In 2010 we have the pleasure to thank the Geneva-based Review Team and its extended network of authors, statistical correspondents and contributors on behalf of the UNECE Timber Committee and the FAO European Forestry Commission. There are many people to thank as well as their companies, institutions, organizations and associations that enabled them to contribute both time and travel. In the following pages we list all those who have given information and support, i.e. loaned expertise. Together they provide an unrivalled source of expertise and knowledge, which enhances the *Review*. We greatly appreciate their contributions and sincerely thank everyone who has played a part in the production of this 100th *Review*.

The *Review's* analysis is based on statistics received from official country correspondents (listed separately) and without whose wholehearted support it would be impossible to produce the *Review*.

The external authors and collaborators, many of whom have contributed regularly but others for whom this is a first time, are acknowledged in the order in which the chapters appear. Full contact information is in each chapter. Many are active members of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing.

The overview of market and policy developments in chapter 1 was written primarily by Dr. Ed Pepke, Forest Products Marketing Specialist in the UNECE/FAO Forestry and Timber Section secretariat (along with two other team members, Ms. Outi Marin and Mr. Douglas Clark, Forest Products Marketing Specialists). It draws heavily on the wealth of information contributed by the experts whose names appear below. Additionally, Ms. Xiaoou Han, PhD student, Oregon State University, US, wrote the China section of the overview. In a departure from previous *Reviews*, the chapter includes the section on construction developments, prepared by Dr. Delton Alderman, Forest Products Technologist, Northeast Forest Experiment Station, USDA Forest Service.

Dr. Robert Shelburne, Senior Economic Affairs Officer, UNECE wrote chapter 2, on economic developments including an analysis of the economic framework for market developments.

Dr. Jim Bowyer, Director of Responsible Materials Program, Dovetail Partners, and Professor Emeritus, Department of Bio-based Products, University of Minnesota, US, coordinated and wrote part of the policy chapter (chapter 3) together with Dr. Helmuth Resch, Professor Emeritus, University of Natural Resources, Austria and Dr. Eric Hansen, Professor, Oregon State University, US.

Chapter 4, analysing wood raw materials markets, benefits greatly from the perspective and experience of Mr. Håkan Ekström, President, Wood Resources International who is Editor-in-Chief of *Wood Resource Quarterly* and the *North American Wood Fiber Review*, two publications tracking worldwide wood fibre markets and prices.

Preparation of chapter 5 on sawn softwood was coordinated by Mr. Russell E. Taylor, President, International Wood Markets Group, Canada, who wrote the North American analysis. Dr. Nikolai Burdin, Director, OAO NIPIEIlesprom, Russia, wrote the Russian analysis, as he did for several chapters. Messrs. Thorsten Leicht, Senior Consultant, and Mathias Lundt, Analyst, both from Pöyry Forest Industry Consulting, Germany, returned to analyse the European markets.

Production of chapter 6, on sawn hardwood, was possible with the support of the American Hardwood Export Council (AHEC), and especially through collaboration with Mr. David Venables, its European Director. The analysis was undertaken by Mr. Rupert Oliver, Forest Industries Intelligence Limited, UK.

Dr. Ivan Eastin, Director, Center for International Trade in Forest Products, University of Washington, US, coordinated chapter 7, on the panels market and undertook the North American analysis. Ms. Bénédicte Hendrickx, Economic Advisor, European Panel Federation, analysed the European panel markets. Dr. Burdin, provided information on the market in the Russian Federation.

Four authors analysed the paperboard and woodpulp markets, chapter 8. The coordinator, Dr. Peter J. Ince, Research Forester, Forest Products Laboratory, USDA Forest Service worked with Professor Eduard L. Akim, PhD, of the Saint Petersburg State Technological University of Plant Polymers, Russia, and the All-Russian Research Institute of Pulp and Paper Industry; Mr. Bernard Lombard, Trade and Competitiveness Director, Confederation of European Paper Industries and Mr. Tomás Parik, Managing Director, Wood & Paper a.s., Czech Republic.

Chapter 9, on wood energy markets represents a collaborative effort. Mr. Olle Olsson, PhD student, coordinated the chapter working with his supervisor, Dr. Bengt Hillring, Professor, both from the Swedish University of Agricultural Sciences. Canadian developments were analysed by Ms. Antje Wahl, scientist, and Dr. Christopher Gaston, both from FPInnovations–Forintek Division and by Dr. Warren Mabee, Assistant Professor, Energy & Environmental Policy, Queen's University, Canada. Dr. Kenneth Skog, Project Leader, and Mr. Henry Spelter, Research Scientist, both from the

Forest Products Laboratory, USDA Forest Service, analysed the US markets for wood-energy developments. Dr. Rens Hartkamp, Consultant, UNECE, analysed the Russian markets.

The certified-forest-products markets analysis in chapter 10 was led by Mr. Rupert Oliver, Forest Industries Intelligence, and who was supported again by AHEC. He was assisted by Ms. Kathryn Fernholz, Executive Director, Dovetail Associates, US and Mr. Florian Kraxner, Research Associate, International Institute for Applied Systems Analysis, Austria.

An analysis of forest carbon markets appears in chapter 11, contributed by our colleague Mr. Jukka Tissari, Forestry Officer, Forest Products Trade and Marketing, FAO.

The value-added products section of chapter 12 was written by Mr. Tapani Pahkasalo, Forest Economist, Indufor Oy, Finland. Mr. Craig Adair, APA – The Engineered Wood Association and Dr. Gaston analysed engineered wood products markets.

Ms. Frances Maplesden, Consultant, formerly with the International Tropical Timber Organization, with statistical assistance from Mr. Jean-Christophe Claudon, ITTO, undertook the tropical timber analysis, in chapter 13.

Thanks to a longstanding and productive partnership with the Department of Forest Sciences, University of Helsinki, we have benefited from the services of two marketing assistants during the production of the *Review*. This year, Messrs. Jussi Posio and Kalle Taari conducted market research and produced all the graphics as well as revising our Graphics Production System, Review Production Manual, Review Planning System and websites associated with the *Review*. Their input has been critical to the quality and timeliness of the publication. Dr. Anne Toppinen, Professor, and Mr. Lei Wang, Researcher, at the Department facilitated these annual internships: we thank them and look forward to continuing this mutually beneficial arrangement.

Co-Project Leaders were Ms. Marin, on loan from Metsaliitto Group, Finland and Mr. Clark, International Forestry Consultant, Scotland. Dr. Pepke was the overall Project Manager.

From the UNECE/FAO Forestry and Timber Section, Mr. Alex McCusker collected, validated and produced the statistics. Mr. Matt Fonseca ably undertook the publication layout while Ms. Karen Taylor dealt with administrative matters. Ms. Sefora Kifle prepared price data and Ms. Eve Charles translated the press release into French. Technical reviews were done by Dr. Pepke, Ms. Marin, Mr. Clark , Dr. Paola Deda, Dr. Roman Michalak, Mr. Cédric Pene, Mr. David Ellul and Ms. Marion Briens. Messrs. Tissari and Adrian Whiteman, from FAO, Rome, also undertook technical reviews.

Editors were Ms. Faye Haun and Ms. Karen Sturges-Vera. Ms. Christina O'Shaughnessy, Editor, UNECE, assisted with proofreading.

This year's *Review* is enhanced by a new cover design, produced again by Mr. Yves Clopt, Graphic Designer, UNECE, for which we thank him.

In all, 57 people worked directly in preparing this publication, not including the additional contributors and statistical correspondents listed separately on the next pages.

This manuscript was completed on 23 July 2009. Thank you to all members of the Team, and the many other contributors, for their good work in producing this, the 100th *Forest Products Annual Market Review*.

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The secretariat would like to express our sincere appreciation for the information and assistance received from the following people in preparation of the *Forest Products Annual Market Review*. The base data for the *Review* were supplied by country statistical correspondents, who are acknowledged in a separate listing. We regret any omissions.

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The national statistical correspondents listed below are the key suppliers of data for this publication. We are grateful for their essential contribution and their significant efforts in collecting and preparing the data. Complete contact information for the correspondents is provided in the publication *Forest Products Statistics*.[1]

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[1] *Forest Products Statistics* is available at: http://timber.unece.org/index.php?id=207

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DATA SOURCES

The data on which the *Forest Products Annual Market Review* is based are collected from official national correspondents[2] through the FAO/UNECE/Eurostat/ITTO Joint Forest Sector Questionnaire, distributed in April 2010. Within the 56-country UNECE region, data for the 31 EU and EFTA countries are collected and validated by Eurostat, and for other UNECE countries by UNECE/FAO Geneva.

The statistics for this *Review* are from the TIMBER database system. As the database is continually being updated, any one publication's analysis is only a snapshot of the database at that particular time. The database and questionnaires are in a state of permanent development. Data quality differs between countries, products and years. Improvement of data quality is a continuing task of the secretariat, paying special attention to the CIS and south eastern European countries. With our partner organizations and national correspondents, we strongly believe that the quality of the international statistical base for analysis of the forest products sector is steadily improving. Our goal is to have a single, complete, current database, validated by national correspondents, with the same figures available from FAO in Rome, Eurostat in Luxembourg, ITTO in Yokohama and UNECE/FAO in Geneva. We are convinced that the data set used in the *Review* is the best available anywhere as of July 2010. The data appearing in this publication form only a small part of the total data available. *Forest Products Statistics* will include all of the data available for the years 2005-2009. The TIMBER database is available on the website of the joint Timber Committee and European Forestry Commission at http://timber.unece.org/index.php?id=207

The secretariat is grateful that correspondents provided actual statistics for 2009 and, in the absence of formal statistics, their best estimates. Therefore all statistics for 2009 are provisional and subject to confirmation next year. The responsibility for national data lies with the national correspondents. The official data supplied by the correspondents account for the great majority of records. Particular difficulty occurred this year when some major producer countries were not able to supply information in time to meet publication deadlines. This resulted in the statistics showing a less-pronounced decline than was known to occur. In some cases, where no data were supplied, or when data were confidential, the secretariat estimated figures to keep region and product aggregations comparable and to maintain comparability over time. Estimations are flagged within this publication, but only for products at the lowest level of aggregation.

Despite the best efforts of all concerned, a number of significant problems remain. Chief among these problems are differing definitions, especially when these are not mentioned, and unrecorded removals and production. In certain cases, for example woodfuel removals, the officially reported data can be only 20% of actual figures. Conversions into the standard units used here are also not necessarily done in a consistent manner. The Joint FAO/UNECE Working Party on Forest Economics and Statistics is currently carrying out work to increase awareness of problems in measurement and how to deal with these. Intra-EU trade is less reliable than extra-EU trade.

In addition to the official statistics received by questionnaire, trade association and government statistics are used to complete the analysis for 2009 and early 2010. Supplementary information came from experts, including national statistical correspondents, trade journals and internet sites. Most of these sources are cited where they occur in the text, at the end of the chapters, on the list of contributors and in the annex reference list.

[2] Correspondents are listed with their complete contact details at http://timber.unece.org/index.php?id=207

EXPLANATORY NOTES

"Apparent consumption" is calculated by adding a country's production to imports and subtracting exports. Apparent consumption volumes are not adjusted for levels of stocks. It is synonymous with "demand".

"Net trade" is the balance of exports and imports and is positive for net exports, i.e. when exports exceed imports, and is negative for net imports, i.e. when imports exceed exports. Trade data for the twenty-seven European Union countries include intra-EU trade, which is often estimated by the countries. Export data usually include re-exports. Subregional trade aggregates in tables include trade occurring between countries of the sub-region.

For a breakdown of the regions please see the map in the annex. References to EU refer to the 27 countries members of the EU in 2010. The term Commonwealth of Independent States (CIS) is composed of 12 countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan), and is used solely for the reader's convenience.

The term "softwood" is used synonymously with "coniferous". "Hardwood" is used synonymously with "non-coniferous" or "broadleaved". More definitions appear in the electronic annex.

All references to "ton" or "tons" in this text represent the metric unit of 1,000 kilograms (kg).

Please note that all US and Canadian softwood lumber production and trade are in solid m^3, converted from nominal m^3. An explanation of this is provided in the Forest Products Annual Market Review, 2001-2002, page 84.

The use of the term "oven-dry" in this text is used in relation to the weight of a product in a completely dry state, e.g. an oven-dry metric ton of wood fibre means 1,000 kg of wood fibre containing no moisture at all.

SYMBOLS AND ABBREVIATIONS USED

(Infrequently used abbreviations spelled out in the text may not be listed again here.)

…	not available
€	euro
$	United States dollar unless otherwise specified
ATFS	American Tree Farm System
B.C.	British Columbia, Canada
BJC	builders' joinery and carpentry
CAN	Canadian dollar
CFP	certified forest product
CIF	cost, insurance and frieght
CIS	Commonwealth of Independent States
CO_2	carbon dioxide
CoC	chain-of-custody
CSA	Canadian Standards Association
EFI	European Forest Institute
EFTA	European Free Trade Association
EQ	equivalent of wood in the rough
EU	European Union
EWPs	engineered wood products
FSC	Forest Stewardship Council
FOB	free on board
GDP	gross domestic product
GHG	greenhouse gas
Gj	gigajoule
GWh	gigawatt hour
ha	hectare
IMF	International Monetary Fund
ITTO	International Tropical Timber Organization
kWh	kilowatt hour
LVL	laminated veneer lumber
m.t.	metric ton
m^2	square metre
m^3	cubic metre
MBF	one thousand board feet
MDF	medium density fibreboard
MSF	one thousand square feet
MWe	megawatt electrical
MWth	megawatt thermal
NGO	non governmental organization
OSB	oriented strand board
PEFC	Programme for the Endorsement of Forest Certification
PJ	petajoule
PoC	Province of China
REDD	Reducing Emissions from Deforestation and Forest Degradation
SAR	Hong Kong Special Administrative Region of China
SFI	Sustainable Forestry Initiative
SFM	sustainable forest management
STEM	Swedish Energy Agency
SWE	the equivalent volume to what it was in the solid green roundwood
VAWPs	value-added wood products

Chapter 1
Innovation for structural change recovery: Overview of forest products markets and policies, 2009-2010[3]

Highlights

- The UNECE region forest sector is experiencing a structural change, for which the wood-based industries are innovating and adapting for short-term survival and long-term growth.
- Consumption of wood and paper products fell sharply in 2009 by 12%, the greatest percentage recorded as the global economic and financial crisis continued; production of industrial roundwood for manufacturing those products hit a record low.
- Wood energy markets did not succumb to the downturn, as government and industry policies drove demand throughout the UNECE region for renewable energy; competition exists for wood raw materials across all sectors, with increased costs for manufacturers that benefit forest owners.
- The export taxes imposed by the Russian Federation on roundwood continued in 2010, resulting in sharply reduced roundwood exports, but not the foreign investment anticipated.
- The trade of illegally harvested wood and wood products became more difficult in 2009 and 2010 with new European Union and United States legislation which shift the burden of responsibility to importers, and even to buyers.
- The ongoing global economic and financial crisis that started in late 2008 has negatively impacted the sawn softwood industry in all UNECE subregions with overall demand falling sharply, weak prices and lower production.
- The downturn in the sawn hardwood industry deepened further in 2009, but by mid-2010 there were indications of improvement; however, the long-term decline in sawn hardwood production in North America is raising concerns that the hardwood forest resource is seriously under-utilised.
- The decline of consumption of paper, paperboard and woodpulp continued in the UNECE region in 2009, resulting in production capacity reductions; as a balance was established, slightly positive results were made in the end of 2009 and early 2010.
- Consumption of wood-based panels fell by 10.7% in 2009 as the sector was hard hit because of flagging new home construction, and reduced demand in the related home furnishings sector.

[3] By Dr. Ed Pepke, Ms. Outi Marin, Mr. Douglas Clark, UNECE/FAO Forestry and Timber Section, Switzerland, Ms. Xiaoou Han, Oregon State University, US and Dr. Delton Alderman, USDA Forest Service, US.

1.1 Introduction to the publication

This 100th edition of the UNECE/FAO *Forest Products Annual Market Review* is a first comprehensive analysis published in 2010 of forest products market developments, and the policies driving them in the UNECE region, comprising three subregions: Europe, North America and the Commonwealth of Independent States (CIS). It is a background document for the annual UNECE Timber Committee Market Discussions, which will be held at the 68th Timber Committee session in October 2010.[4] Readers familiar with the *Review* will find the construction sector developments in this chapter, rather than in the economic chapter as before.

The *Review's* theme is the "Innovation for structural change recovery". Record levels of consumption, production and trade of forest products occurred in the UNECE region in 2006, but by 2008 and 2009, the market downturn left the region with overcapacity to produce wood and paper products. In combination with other factors discussed below, a structural change is taking place – change which, upon reflection, will be clearer in a few years.

The *Review's* theme fits with the theme of the annual UNECE Timber Committee Market Discussions to be held on 11-12 October 2010: "Forest products markets rebound in the UNECE region: Innovative wood products lead the way." For the first time the Timber Committee meets with the Society of Wood Science and Technology, and the theme links with their interest in new and improved wood and paper products and processing methods. Several chapter authors will present their analyses along with updates and forecasts for 2010 and 2011. Following the Market Discussions, on 13 October these two groups will hold a one-day policy forum titled "Building codes and standards: Influence on material use and construction practices." Information on all events is available from the homepage of the Timber Committee.[5]

This chapter, the executive summary of the entire publication, provides an overview of the twelve following chapters and combines them into a comprehensive market analysis. The policy chapter issues are individually summarized. Details on issues raised in this chapter can be found in the following chapters. The *Review* is structured by market sectors, but there is considerable inter-dependency and interaction among the sectors, which in combination with the influence of government and industry association policies, affects the market.

Country-specific forest sector policies and market developments are included within this chapter for China and the Russian Federation. China is the main country outside the UNECE region which is impacting the markets within the region. China is the major trading partner with the region and its imports of raw materials benefit the region's exporters. Similarly, China's exports have effects on producers, importers and consumers within the UNECE region.

The *Review* starts with two chapters, economic developments and policy developments, which provide an essential basis for the other ten chapters' sector-by-sector analyses. The *Review* analysis period of 2009-2010 is based on the first available statistics collected by the UNECE/FAO Forestry and Timber Section from official country statistical correspondents.

A standard chapter in the *Review* covers engineered wood product market developments. These innovative wood products are the wood sector's means to not only survive the current downturn, but to be better placed when demand returns.

The 2009 statistics are augmented by developments and initial indicators for 2010 through mid-year when the *Review* went to press. The chapters in the *Review* are:

1. Overview of forest products markets and policies;
2. Economic developments affecting forest products markets;
3. Policies related to forest products markets;
4. Wood raw materials markets;
5. Sawn softwood markets;
6. Sawn hardwood markets;
7. Panel markets;
8. Paper, paperboard and woodpulp markets;
9. Wood energy markets;
10. Certified forest products markets;
11. Forest sector carbon markets;
12. Value-added wood products markets; and
13. Tropical timber markets.

The third chapter of this *Review*, "Policy issues related to forest products markets in 2009-2010", analyses the following policy areas, which are also summarized mainly in the third section of this chapter:

- Economic stimulus policies and forest products markets
- Forests, wood products, Reduced Emissions from Deforestation and Degradation of Forests (REDD) and carbon market policies
- Green building and market–impacting policies

[4] In the Committee's early years, beginning in 1948, market reviews were published four times per year.

[5] www.unece.org/timber

- The Russian Federation forest sector reform and domestic and export market effects
- China's wood products policies and potential impacts on UNECE region countries
- Illegal logging
- Corporate social responsibility

Readers can find additional statistical information in the *Review's* electronic annexes[6]. The entire TIMBER Database, which was updated with timely submissions of statistics from national correspondents in May 2010, is also available on the website. The comprehensive statistics which are the basis of many of the chapters are provided for a transparent background to the *Review*. References at the end of each chapter not only substantiate and give credit to the ideas within the chapter, but provide a wealth of information for further reading.

The secretariat would like to express its appreciation for the other analysts, contributors and production team that made this *Review* possible. The *Review* is a critical background document for participants at the Timber Committee Market Discussions. It was recognized in the 2008 Strategic Review of the Integrated Programme of Work of the Timber Committee and the FAO European Forestry Commission as their annual flagship publication. Reproduction of parts of the *Review*, its executive summary and its press release in many countries outside the UNECE region is recognition of its international value.

1.2 Market developments

1.2.1 Innovation for structural change recovery

This chapter and the *Review* have the theme of a structural change in the forest sector. While difficult to recognize in the midst of such a change, it appears that a major shift is occurring, or has occurred, in the forest sector—which will eventually be determined with hindsight.

Innovation and adaptation are the means by which the forest sector is overcoming the structural change. New wood and paper products are enabling the industries to maintain market shares.

This *Review* is a background document for the joint Timber Committee and Society of Wood Science and Technology Market Discussions to be held on 11-12 October 2010. The Society is composed of research institutions and companies with research and development (R&D) programmes that continually design and commercialize new products, and develop and adopt more efficient production methods for traditional products.

Four reasons behind the structural change include:

- The downturn in demand that is forcing rationalization of production capacity;
- Climate change related policies and the rapid increase in production, consumption and trade of wood energy;
- Globalization of forest products markets including China's rise as a major provider of forest products in the global markets; and
- International control of origins of wood to ensure sustainable and legal production.

The extreme decline in consumption, production and trade of forest products is reflected in mergers, acquisitions and closures, both indefinite and permanent. The rate of these changes is beyond normal business cycles. They started before the 2008-2009 economic and financial crisis, but the pace accelerated during the crisis. The effects are serious for traditional trade channels. In addition, mill closures have been disastrous for owners, employees and economies dependent upon them, especially in rural communities. As an example, in the pulp and paper sector, digital "printing" has eroded one source of demand for paper, resulting in decreased pulp and paper capacity.

Source: Metsäliitto, 2010.

Global energy concerns are another cause of the structural change. Brought on by governments' awareness of the need to mitigate climate change, combined with the need for energy security, UNECE region governments have implemented policies to promote renewable energy sources. In the short term the competition for wood raw material supplies, exacerbated in part by biomass subsidies for energy use, are one reason for higher wood prices. Rising costs have led to solvency problems for some manufacturers but benefits for forest owners. Today, the major source of renewable energy is from woody biomass. Over the longer term wood could continue to be a major

[6] http://timber.unece.org/index.php?id=136

source of renewable energy. UNECE forests have the potential over the medium to long term to support significantly higher harvests and still continue to supply the wood needed for wood and paper product manufacturing, without compromising the principles of sustainable management.

Forest products markets are global. It is no longer necessary to have a forest to produce forest products. This reality has come into greater focus through the developments by one country outside the UNECE region – China. Previously considered a low-cost producer, China is now recognized as a major consumer of wood and paper products. To meet its domestic and export needs, most of China's imports of roundwood and sawnwood are from UNECE countries, with additional volumes originating in tropical forests. And the main destinations of China's exports are back to UNECE countries. However, the majority of China's wood and paper products are produced from domestically grown roundwood and consumed domestically. Many other countries have low manufacturing costs, including some within the UNECE region. Thus paper and wood products manufacturing has shifted, and continues to shift, to where it is economically advantageous, and where good logistics exist, e.g. modern port facilities.

Allegations of unsustainable harvesting led to the development of systems to certify sustainable forest management in the 1990s. The next step was chain-of-custody tracking from forests to manufacturers. Despite these advances, illegal logging and trade of illegal products still exists, and it casts a dark shadow on the forest sector, often due to misunderstandings and generalizations. Corporate responsibility programmes were the industry and governments attempt to show clients that they attempted to avoid these problems. Now governments are placing stricter requirements on the forest industry to demonstrate due diligence in their wood purchases. The new laws described below mean that the forest sector will operate in a new manner to prove that wood comes from legal and sustainable sources.

1.2.2 *Regional and subregional markets*

As reported in the *Forest Products Annual Market Review, 2008-2009*, the consumption of wood and paper products in 2008 had fallen by the greatest percentage since the oil crisis of the 1970s. In 2009 it fell even more, by 11.6% for the primary products of sawnwood, wood-based panels and pulp and paper (table 1.2.1). In the UNECE region, consumption had increased to a record level in 2006, stagnated in 2007, and then declined considerably. Without the demand from forest products industries, production of industrial roundwood fell to the lowest level since the UNECE/FAO began its TIMBER Database in 1964. These developments are directly related to the global economic and financial crisis of 2008-2009.

The 20% drop in UNECE region forest products consumption in 2009 from the peak in 2006 is rooted in the United States (US) housing crash. From over 2.2 million houses built in 2005, housing starts fell to 790,000 in 2009 and are forecast at 649,000 in 2010 (NAHB, 2010). From 2005, this is a 64% collapse. The former 2.2 million starts may never be reached again as analysts predict that 1.5 to 1.7 million starts is more sustainable. The collapse was due to a combination of factors including low, entry level interest rates for mortgages (e.g. sub-prime mortgages), reckless lending standards, and speculation. When the US housing bubble burst, house values sank, and loan values exceeded house values. As the recession hit, many homeowners were unable to make their mortgage payments. Approximately 2.8 million homes were foreclosed on in 2009, and it could be that many again in 2010. The stock of new and used homes was at 9 and 11 months, respectively, in mid-2010. Weighing heavier is an inventory of 7 million foreclosed homes which are not listed for sale. Therefore, the optimism expressed at the October 2009 UNECE Timber Committee session for a bottoming out of the US housing market in 2009 now applies to 2010. (See section 1.4 for more construction details.)

The global economic and financial crisis started with the US housing market – global economic recovery is partly dependent on that same market sector and all of its related demand. Housing directly contributes 5% of the US Gross Domestic Product (GDP) and indirectly, with multiplier effects, its contribution approaches 20%. Forecasts for housing to bottom out in 2009 and spring back in 2010 have not been realized as of mid-2010. In May 2010 the US housing construction market was still weak, with total housing starts at an annual rate of 593,000. Of the total, the annual rate of single-family housing starts was 468,000. The single-family housing starts were down 17.2% from April, primarily due to the end of a homebuyer tax credit. This credit was one of a number of government stimulus programmes designed to boost housing construction and purchasing, along with affiliated demand for goods such as furniture. Other US Government stimulus policies were creating new employment in mid-2010, as evidenced by 400,000 new jobs in May. However, when most of those new jobs were for temporary government workers, the strength of the recovery is dependent on continued government stimulus. According to some housing market analysts, house prices and starts are bolstered by government stimulus programmes which will delay a meaningful and sustainable housing recovery (Schuler, 2010).

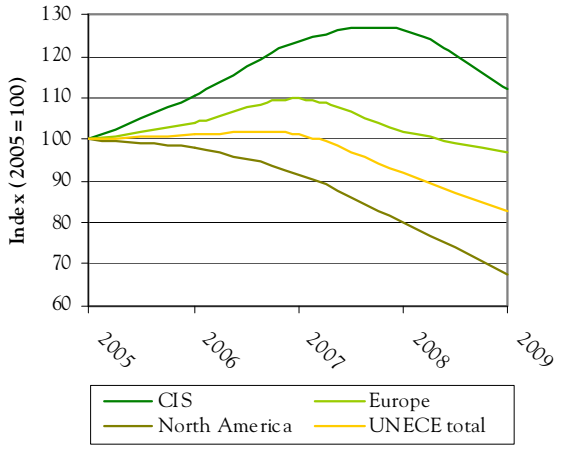
Normally in a downturn in housing starts, homeowners make improvements rather than move.

However, with the weakness in the US economy in 2008-2009, the Do-It-Yourself (DIY) market was negatively affected too. The forecasts are for a bottoming out of DIY in early 2010, and an upswing later in the year (Harvard Joint Center for Housing Research, 2010).

Unfortunately, forest products markets in the other subregions, Europe and the CIS, were victims of the economic and financial crisis (graph 1.2.1). In Europe the consumption of sawnwood, panels and pulp and paper fell by 8.2%, after a similar drop in 2008. From the record consumption in 2007, there has been a sharp decline of 14.8%. In response, major restructuring has also occurred in the European wood and paper industries. Most mills severely reduced production, leaving the question of whether the idled capacity would be brought back on stream, and if so, when?

GRAPH 1.2.1

Consumption of forest products in the UNECE region, 2005-2009



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

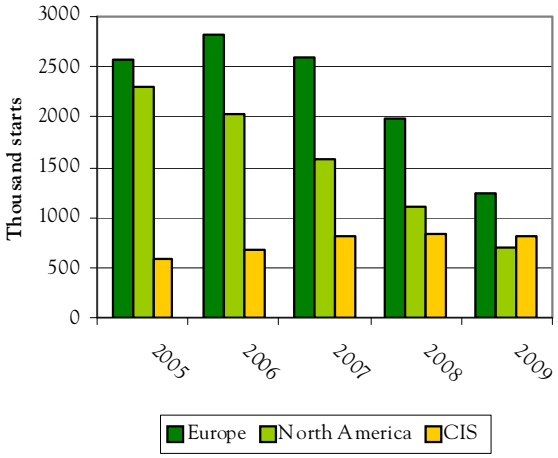
Source: UNECE/FAO TIMBER database, 2010.

The CIS suffered the most economically in 2009 as GDP fell by 6.9%, much greater than the falls of 4.0% in Europe and 2.5% in North America. All three subregions were forecast to have positive growth for 2010 though some individual countries would still be in recession. The drop in GDP in the CIS was almost equivalent to the 7.2% decline in residential housing construction in Russia in 2009. UNECE/FAO estimates that Russian sawn softwood declined by a similar amount. In the CIS, consumption of primary wood products fell 11.4%.

Housing starts fell for the first time in the CIS in 2009, and continued to fall in Europe, both with direct effects on forest products consumption (graph 1.2.2).

GRAPH 1.2.2

Housing starts in the UNECE region, 2005-2009



Notes: For European countries outside Euroconstruct's 19 country region and CIS, 2009 is a forecast. Europe: Euroconstruct 19 countries plus Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, Serbia, Slovenia and Turkey. North America: Canada and the US. CIS: Russian Federation and Ukraine.

Sources: US Census Bureau, Canada Mortgage and Housing Corporation, Euroconstruct, 2010.

Tied to the housing crisis in Canada and especially the US, consumption of forest products has been falling since the spike in housing starts in 2005. Consumption peaked in 2005, fell slightly by 2.2% in 2006, and then fell sharply by 6.4% in 2007, by 12.8% in 2008 and 15.4% in 2009. From 2005 consumption of the three primary forest products has declined by nearly 250 million m^3 or by almost 50%. The impact on the North American forest-based industries has been pronounced with serious social and economic consequences for mill owners, their employees and the communities dependent upon them.

Source: M. Fonseca, 2010.

TABLE 1.2.1

Apparent consumption of sawnwood [a], wood-based panels [b] and paper and paperboard in UNECE region, 2005-2009

							Change 2008 to 2009	
	Thousand	*2005*	*2006*	*2007*	*2008*	*2009*	*Volume*	*%*
Europe								
Sawnwood	m^3	116 362	119 468	128 687	109 047	99 182	-9 864	-9.0
Wood-based panels	m^3	65 236	69 181	74 368	67 289	65 045	-2 244	-3.3
Paper and paperboard	m.t.	94 806	98 729	102 296	101 152	91 936	-9 216	-9.1
Total	m^3 EQ[c]	668 213	694 677	733 449	680 597	625 097	-55 500	-8.2
of which: EU27								
Sawnwood	m^3	102 477	105 193	114 590	95 459	86 733	-8 726	-9.1
Wood-based panels	m^3	57 260	61 143	65 306	58 420	57 075	-1 346	-2.3
Paper and paperboard	m.t.	86 790	91 031	93 300	89 656	80 787	-8 869	-9.9
Total	m^3 EQ[c]	600 029	626 801	659 555	598 987	548 360	-50 627	-8.5
CIS								
Sawnwood	m^3	13 379	14 194	15 586	16 105	14 967	-1 138	-7.1
Wood-based panels	m^3	10 251	11 661	13 721	14 391	11 400	-2 991	-20.8
Paper and paperboard	m.t.	7 450	8 374	9 212	9 170	8 368	-802	-8.7
Total	m^3 EQ[c]	68 919	76 098	85 124	87 053	77 110	-9 943	-11.4
North America								
Sawnwood	m^3	157 372	149 677	134 146	110 386	89 430	-20 956	-19.0
Wood-based panels	m^3	69 070	69 033	61 639	51 454	42 494	-8 960	-17.4
Paper and paperboard	m.t.	98 603	98 080	96 187	88 296	77 221	-11 075	-12.5
Total	m^3 EQ[c]	765 678	749 193	700 898	610 879	516 711	-94 168	-15.4
UNECE region								
Sawnwood	m^3	287 113	283 339	278 419	235 537	203 580	-31 958	-13.6
Wood-based panels	m^3	144 557	149 875	149 727	133 134	118 939	-14 195	-10.7
Paper and paperboard	m.t.	200 859	205 184	207 696	198 618	177 526	-21 092	-10.6
Total	m^3 EQ[c]	1 502 810	1 519 968	1 519 470	1 378 529	1 218 918	-159 611	-11.6

Notes: [a] Excluding sleepers, [b] Excluding veneer sheets, [c] Equivalent of wood in the rough. 1 m^3 of sawnwood =1.89, wood-based panels = 1.64, 1 m.t. paper = 3.60 m^3 of roundwood equivalent, based on UNECE/FAO Discussion Paper 49. CIS sawnwood consumption is based on secretariat estimates, explained in detail in chapter 5, section 5.3. Total m^3 EQ is not an indicator of total wood usage owing to wood residues from one product being raw material for another.

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

1.2.3 Wood raw materials markets

Record low timber harvests in the UNECE region put pressure on wood raw material prices. The continued global financial crisis affected demand for all forest products, with consumption in 2009 of wood raw material, including roundwood and wood chips, falling for the second consecutive year, to a record low since UNECE/FAO began collecting statistics in 1964.

In line with reductions in wood and paper product manufacturing, the harvest of industrial roundwood in the UNECE region was 880 million m^3 in 2009, which was 245 million m^3 lower than 2007. The greatest reductions were in North America and the CIS where removals in each were 14% lower than 2008.

Prices for sawlog and pulpwood increased during 2009 and 2010, which has been good news for forest owners, compensating them for the higher costs of bringing wood to the market. Between the first quarter of 2009 and the same quarter of 2010, the global average conifer sawlog price increased 17%, mostly in the Nordic countries while North America saw only minor price rises. The strong pulp market has pushed pulpwood and wood chip costs upward in most regions around the world. Both softwood and hardwood fibre costs have risen about 11% in 2010 as compared to 2009.

1.2.4 Sawn softwood markets

The ongoing global economic and financial crisis that started in late 2008 negatively impacted sawn softwood markets in all UNECE subregions through 2009 and into the first half of 2010. With overall demand falling sharply, the result has been weak prices, lower production and devastating effects on many segments of the sawnwood

industry. The net result was that overall UNECE sawn softwood consumption dropped by 13.8% to 164.0 million m^3 in 2009 as compared to 2008.

The European softwood sawmilling industry was characterized by reduced output (-12.5%) in 2009 as companies took strategic measures to adjust their businesses to the fluctuating markets and to safeguard their future competitiveness. Aside from traditional markets, European shippers continued to develop other non-UNECE region export markets, mainly in North Africa, Asia and the Middle East, to compensate for losses in the US market. With an increase of almost 24%, Sweden became the leading European exporter to Japan, followed by Finland and Austria, which both sustained major declines in exports to Japan.

The financial crisis adversely affected the development of the sawmilling industry in the CIS countries with consumption being on a downward path in 2009 (-7.3%). In addition, persistent uncertainty about the future regulatory framework (Russian log export tax) led to significant reductions of forest sector-related investment.

North American output fell sharply again in 2009, by 20.3% to 71.6 million m^3 after a previous drop of 18.8% in 2008, with the devastating supply effects felt almost evenly in both the US and Canada. The good news was that the housing market slump in the US bottomed out in mid-2009, signalling that the four-year slide might be over soon. However, the rebound into 2010 has been slight with only marginal gains being achieved as demand remains subdued. The other bright spots included surging exports to China and the rapid expansion of the wood pellet and bio-fuels industries.

The rebuilding of market demand in North America and Europe will take considerable time and will present challenges to sawmilling companies until more stable conditions occur, most likely after 2011.

1.2.5 *Sawn hardwood markets*

The downturn in the sawn hardwood industry deepened further throughout the course of 2009 as the economic and financial crisis reduced demand for hardwood products. Overall consumption across the UNECE region fell 7.2% to 38.5 million m^3 in 2009 while production declined 5.9% to 39.2 million m^3. Unlike 2008 when North America experienced the most significant downturn, larger declines in production and consumption were recorded in Europe and the CIS during 2009. Emerging markets, notably China, are playing a more critical role in the sawn hardwood trade, particularly now that declining availability of logs in east Asia is helping generate new demand for imported sawn hardwood products.

Source: T. Pahkasalo, 2009.

In Europe, signs of recovery in sawn hardwood demand began to emerge in early 2010, reflected in rising prices for certain species and grades, but it is too early to judge whether this resulted from short-term restocking or was driven by a sustained increase in consumption. Oak has been consolidating its dominant market position in the flooring and joinery sectors during the recession while tropical hardwoods have been losing share due to limited availability and development of innovative new products for external applications.

There are indications that in North America both consumption and exports of sawn hardwood bottomed out by mid-2009 and began to improve in the second half of 2009. However, a long-term decline in sawn hardwood production in North America is raising concerns that the hardwood forest resource is now seriously under-utilised.

1.2.6 *Panel markets*

The on-going global economic crisis continued to batter the wood industry and, with housing starts down across Europe and North America, consumption of wood-based panels continued declining in 2009. The decline was particularly strong within the CIS region, where the economic crisis was delayed in arriving. Consumption of wood-based panels was down by 20.5% in the CIS region, by 17.2% in North America and by 6.7% in Europe. The wood-based panel sector was particularly hard hit because structural panel products are used in the framing of new homes (e.g., exterior sheathing, sub-flooring and sub-roofing), in the finishing stage of homes (e.g., laminated flooring, cabinets, moulding and millwork) and in home finishings (e.g., wooden furniture). With new home starts at new lows, demand for structural and decorative panels fell and production capacity utilization was cut accordingly, causing 17 panel manufacturing plants to close in the UNECE region.

The panel manufacturers faced not only lower demand but also rising manufacturing costs. The industry claims

that subsidies to promote wood energy have increased both competition and costs for their raw material. Trade disputes continued between countries within the UNECE region, particularly the US and EU, and exporters from Asia and South America. The market indicators in early 2010 were showing improvement in international trade of panels; however, demand was weak by historical standards.

1.2.7 *Paper, paperboard and woodpulp markets*

The consumption of paper, paperboard and woodpulp continued to decline in the entire UNECE region in 2009. Reductions of the production capacity continued during 2009 as a reaction to the weak demand and included the permanent closure of pulp and paper mills. Markets started to become balanced throughout the region in the latter half of 2009 and, in some areas, slightly positive results were seen by the end of 2009. This did not include North America, where the economic crisis affected the industry the most. The CIS subregion was the least affected by the crisis, but this simply reflected the scale of capacity loss that had already taken place during the 1990s.

Currency exchange rates play an important role in the global paper and pulp trade. In 2008 the weak dollar made US production relatively affordable, but due to the economic stimulus policies in the US, the dollar strengthened, offering a long awaited reprieve to the countries trading in euros.

1.2.8 *Wood energy markets*

The Copenhagen conference on Climate Change in December 2009 did not fully meet its expectations. Nevertheless, the demand for renewable energy in general and wood energy in particular has continued to increase. The wood energy market has been expanding rapidly, in market volume as well as geographical extent. To a large degree, Europe continues to be the centre of the global wood energy market in that the EU "20:20:20" target lies at the heart of current and future growth in wood energy demand. An important development in recent years is the policy of the United Kingdom (UK) to implement a major increase in wood energy utilization, in particular for power production. The strong growth in demand for wood energy has led to concerns about how to ensure the sustainability of wood fuels. The EU held discussions about whether to implement EU-wide sustainability criteria but decided in spring 2010 that the issue should be determined at the individual member state level.

European imports of wood energy continued to grow, and a large part of this growth was from North America. The south-eastern US in particular became a key transatlantic wood energy exporter to Europe in 2009; pulpwood costs rose with the competition with pulp manufacturers (Wood Resources International, 2010). Canada also has been expanding its wood fuel sector, both in the hitherto central wood pellet export region of British Columbia and in the eastern part of the country where more and more wood pellet plants are being built. An important development in the North American wood pellet sector has been its growing reliance on untraditional raw materials that are not made up of sawmill co-products but rather of different assortments of low-quality roundwood. It should be emphasized that there are developments pointing towards an increased domestic use of wood energy in both Canada and the US, but with the current discrepancies in public policy between the two sides of the North Atlantic, the export-orientation of the North American wood fuel sector continues to grow in importance.

Source: M. Fonseca, 2010.

The Russian Federation wood energy market managed to develop throughout the wood and paper production crisis. Over the years, domestic wood energy use increased, as did pellet production. The Russian pellet market is currently characterized by continuously rising production capacities per individual enterprise, and some large plants are under construction. In the first quarter of 2010, production levels of all branches of the Russian forest and woodworking sector increased considerably. Since 2009, government policies on increasing energy-efficiency and use of Renewable Energy Sources (RES) have been implemented actively, resulting in a growing number of reconstruction and building projects throughout the country, e.g. on pellet production and modernization of district heating plants (Combined Heat and Power) based on wood-energy. Therefore, the Russian wood-energy market can be expected to develop steadily in the coming years.

1.2.9 Certified forest products markets

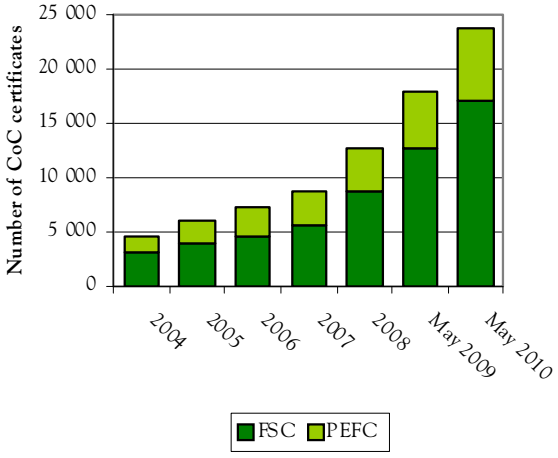
In mid-2010 the global area of certified forest was 355 million hectares, up 8% from 2009, with most of the recent growth in North America and the Russian Federation. Chain of custody (CoC) certification accelerated over the past year indicating strong trade interest in certification as a tool to demonstrate high environmental performance and to differentiate products in a depressed marketplace (graph 1.2.3).

Despite this progress, obstacles to forest certification have continued to exist for non-industrial ownerships which, to be overcome, necessitate increased levels of government and industry support and the emergence of more consistent demand for certified products. Increased forest certification also has been constrained by the 2009 credit crunch and associated economic downturn as well as by current and future public sector support which could be constrained by governments' record budget deficits.

To date the commitment of large publishers and other customers of the paper and packaging sectors has been the most significant factor driving increases in forest and CoC certification. However public sector procurement policies, green building initiatives and legislation in the US and EU to prevent illegal logging are becoming more significant demand drivers. Rising interest in Reduced Emissions from Deforestation and forest Degradation (REDD) programmes also implies an important role for independent certification mechanisms that not only monitor forest carbon sequestration but also ensure that other environmental and social values are safeguarded through sustainable forest management.

GRAPH 1.2.3

Chain-of-custody certificates trends worldwide, 2004-2010



Notes: The numbers denote CoC certificates irrespective of the size of the individual companies or of volume of production or trade. Information valid as of May 2010.

Sources: FSC and PEFC, 2010.

1.2.10 Carbon markets

The political architecture of the global carbon market failed to take a grand new design in 2009. The hopes for a global binding agreement evaporated in COP-15 in December. Forestry was raised high on the climate policy stage, as Reduced Emissions from Deforestation and Degradation of Forests (REDD+) was formally endorsed and funding was pledged to fast-track work on the needed institutional capacities, methodologies and pilot activities. A progressive financing mechanism aimed at up to $100 billion per year by 2020 attracted 50 countries to sign the REDD+ Partnership Agreement in Oslo in May 2010.

The forest carbon market shows a bright prospect from a modest beginning. REDD+ comes with an extended scope – not only avoided deforestation and forest degradation, but also conservation, sustainable management of forests and enhancement of forest carbon stocks – and brings much larger forest areas eligible for carbon trade. Voluntary carbon market harbours innovative forest activities and is currently the only platform to trade embryonic REDD+ credits. The Clean Development Mechanism (CDM) has doubled the number of forest carbon projects, but new methodologies need to be considered to expand its scope dramatically. At least 434 forest carbon projects have been identified to date across the carbon markets.

Global carbon market transactions moved 80% more carbon in volume in 2009 (8.7 billion tons CO_2 equivalent) than in 2008, but the severity of the economic situation suppressed carbon prices throughout the year. As a result, the value of carbon trade grew just 6% (to $144 billion). Trade in EU-Emission Trading System was again the mainstay of the carbon market, where cash-strapped heavy industries sold their allowances at low prices to power companies. Industry's emissions fell below their regulatory caps, so their carbon transactions did little to mitigate climate change.

Recently proposed cap-and-trade legislation, which includes provision for conditional use of forestry offsets, including improved forest management and REDD against industrial emissions, has raised expectations around forest carbon projects in the US. The bill would permit recognition of 'early action credits' under regulatory or voluntary GHG emission offset programmes that require credited emissions reductions to be permanent, additional, verifiable and enforceable, and to meet transparency, third-party verification, and registration requirements. In Europe, activities to preserve or expand forests do not translate into forestry offsets, because most forests are publicly-owned and their sequestration may already have been factored into national greenhouse gas inventories under the Kyoto

Protocol. Furthermore, forest carbon is so far excluded from the EU Emission Trading Scheme. Currently, Europe has a small share of forest carbon markets and few registered projects, though the potential for growth is significant.

1.2.11 Value-added wood products markets

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 to year 2007.The latest statistics from February 2010 reported a welcome increase of 13% in US furniture orders compared to 2009.

Since the exports markets collapsed, the number of furniture factories in China has been reduced as many manufacturers have not survived the extended downturn and large numbers of workers have shifted to other sectors of the economy. China was able to maintain economic growth through the economic crisis, thanks in part to government stimulus measures. In addition, Chinese consumers have been buying increasing amounts of furniture which has helped some furniture manufacturers to survive. Strong domestic demand coupled with rapidly growing exports has been putting the furniture factories' supply chains under pressure. Uncertainty related to economic recovery and energy costs (and other oil-derived factors of production) restricted interest in expanding production.

The rapid erosion of the builders' joinery and carpentry import markets continued and the import value of five of the largest importers fell by 20% or by US$ 1 billion in 2009. Also the steep decline in the profiled wood markets continued in 2009with an overall decline of 20%; French and UK imports declined 30%, US imports declined 25% and German imports too declined 20%. Increased housing construction activity is expected to quickly reverse the trend of declining imports; the principal trend is that production is increasingly separated from consumption. During the downturn in the exporter countries, the effects have been tangible as thousands of jobs have been lost and hundreds of producing facilities have been closed.

Engineered wood products are a solution to the wood sector's needs to adapt to the structural change. 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 recognize the renewability and recyclability of wood.

1.2.12 Tropical timber markets

Tropical markets experienced difficult years in 2008-2009 following difficult trading conditions in 2007. While there were signs that the situation might slowly improve, production and consumption figures did not yet indicate optimism that markets would recover quickly. In fact, for tropical sawnwood, export volumes from the key producer countries to the EU fell in 2009 to their lowest level since the International Tropical Timber Organization (ITTO) began collecting data. The primary driver for this was subdued demand reflecting the impact of the global economic crisis and worsening economic conditions in the EU.

Source: M. Mielke, 2010.

Log production volumes for ITTO producer countries were little changed between 2007 and 2009, standing at 140 million m^3, of which about 75% came from the four major producer countries: in order of output, Indonesia, Brazil, India and Malaysia. Among this group, only Malaysia has recorded a sizable drop in production, 10% between 2007 and 2008. China remained the largest single importer of tropical logs (5.5 million m^3 in 2009) by a significant margin over India (3 million m^3) in spite of having recorded a sharp drop in imports from 8 million m^3 in 2007, to just less than 7 million m^3 in 2008. One reason for the sharp decline in China's imports may be that its production costs were rising faster than among its competitors in southeast Asia, causing China to lose market share for some of its products manufactured from tropical timber.

Plywood, the other major tropical wood product, has experienced especially difficult market conditions. Japan and the US import about half of all the plywood manufactured by ITTO producer countries. The difficult economic conditions faced by both countries and especially the severe reductions in new housing and remodelling meant that all the major plywood producers witnessed falling export volumes. Exports in 2008 were

17% lower than in 2007 at 7.3 million m^3, the lowest figure since ITTO began collecting data.

1.3 Policy developments

The forest sector has had to adapt to a changing operational environment in recent years. Among the changing market environment, environmental policies especially have influenced the sector. These changes have had both positive and negative effects on the sector.

In 2009, the sector prepared for the UN Climate Change Conference in Copenhagen. The result was good from the forest sector's point of view as forestry became the only sector specifically addressed in the Copenhagen Accord.

Environmental and social initiatives continued to be pursued by the forest sector, including steps to curb illegal logging and the trade of illegally sourced wood, advancements to improve the safety and performance of wood products, and actions to raise the level of environmental and social responsibility of manufacturers and distributors.

1.3.1 Economic stimulus policies and forest products markets

Throughout the UNECE region, governments adopted several stimulus policies to support the forest sector to start curbing the economic crisis. In EU countries and Japan, support for export financing were taken into action with potentially positive impacts. In North America, both the US and Canada introduced initiatives to spur home-buying and British Columbia, Canada, introduced a unique Wood-First initiative. China's efforts to stimulate its economy included a considerable focus on its forest sector.

1.3.2 Forests, wood products, REDD and carbon market policies

Forestry is the only sector specifically addressed in the Copenhagen Accord. The conference recognized the importance of reducing emissions from deforestation and forest degradation enhancing forest carbon sequestration in developing countries (REDD+) and of mobilizing financial resources from the developed countries to support such actions. In the industrialized countries (Annex I), the focus was on development of carbon accounting protocols linked to land use, land use change and forestry (LULUCF). This is important because without recognition of sustainable forest management in carbon protocols, the policies are likely to shift away from wood in construction and other long-term uses as well as wood use for energy production. This may also lead to new uses of forests such as forest owners' voluntary carbon credit markets.

One topic in discussions of post-2012 carbon protocols was whether and how to include carbon storage in harvested wood products (HWP). The forest sector and heavily forested countries supported this, yet the environmental organizations feared that this might lead to acceleration of forest harvesting. Though many issues did not get resolved, it was decided in Copenhagen that carbon contained in HWP in landfills will not be counted.

Source: M. Mielke, 2010.

Pellet fuels and biomass-to-electricity were beginning to compete not only with the developing liquid fuels industry but with established wood-using industries as well.

1.3.3 Green building and market-impacting policies

Green building continued to be a driver for building with wood. European countries were setting new policies to promote green building and were reviewing their building regulations in order to remove barriers to the use of renewable building materials. One means for this was prioritizing wood for buildings in green public procurement policies.

In the EU, the Commission in April 2010 made a call for eco-innovation projects to be funded under the Competitiveness and Innovation Program, with possible significant implications for wood.

In the US, development of green building standardization development proceeded in several states. All of these standards are comprehensive and include language related to the use of certified wood, wood products associated with low emissions, and the use of life cycle assessment to inform building design and selection of construction materials.

In Canada, the British Columbia implemented a Wood First Act, which requires provincially-funded projects to use wood as the primary construction material. The legislation is intended to support forest-dependent communities while promoting climate-friendly construction.

1.3.4 *Illegal logging*

Efforts to contain illegal logging through limitations on trade of the products of such activity continued to intensify over the past years as one contributor to the forest sector's structural change. These efforts intensified in 2009-2010. In the US, phased elements of an amendment in 2008 of the Lacey Act came into force, and the EU continued to consider legislation regarding obligations of operators who place timber and timber products on the market to prevent illegal logging.

In the US, implementation of a 2008 amendment to the Lacey Act continued in 2009-2010. Phase IV began on 1 April 2010, requiring documentation for complex wood products such as pianos and sculptures. The amended act makes it unlawful to trade in any plant that is taken, possessed, transported, or sold in violation of the laws of the US, a state, Indian Tribe, or any foreign law (APHIS 2010). Extensive education has been offered to the forest products industry regarding how to meet the provisions of the Act.

Meanwhile, the EU continued development of the Forest Law Enforcement Governance and Trade (FLEGT) process. The first Voluntary Partnership Agreements (VPA) with Ghana and the Republic of Congo went into effect in 2009. This means that the first licensed timber could arrive on the market as early as 2011. Negotiations were concluded in May 2010 with Cameroon and were ongoing with Malaysia, Indonesia, Liberia and Central African Republic. A working group on FLEGT was launched in March 2010 in Vietnam. Contacts have also been made with several other countries.

New legislation preventing illegal timber trade in the EU is expected to come into force in 2012. This means that the EU would follow the US Lacey Act Amendment executed in 2008. The European Parliament estimates that 20 to 40% of global timber is illegal, of which one fifth ends up in the EU (EuroPar, 2010).

The signed provisional agreement between the European Council and the Parliament contains two key provisions: 1. the prohibition against bringing illegally logged timber into the European market, and 2. the obligation that timber and timber products must be traceable throughout the supply chain (EuroPar, 2010). Timber and wood products are covered by the new legislation, but paper products are exempt for five years, because of the lack of a unified EU system of sanctions, which could reduce the effectiveness of the legislation (EU Observer, 2010).

The document issued by the custom's agent in the exporting country had certified the import's legality. The new legislation is aimed at companies to find sufficient guarantees that the timber products they sell have been harvested according to the law. Therefore, companies are now required to perform due diligence, which includes gathering information about the timber's supply and source, conducting risk assessments, and attempting to reduce those risks. Retailers are required to know the origin of their wood products and they will be obligated to present that information upon request (CEU, 2010).

1.3.5 *Corporate social responsibility*

As the global economic and financial crisis brought public attention to the economy, it was feared that corporate social responsibility would suffer from the crisis. It seems that, quite to the contrary, the financial crisis may provide a catalyst to increase attention on the part of business to broader measures of performance by the financers. Also companies that had corporate responsibility programmes were experiencing a market advantage during the buyers' market.

Corporate social responsibility mainly has focused so far on environmental responsibility. However, as the International Organization for Standardisation (ISO) publishes the Guidance on Social Responsibility, ISO 26000, it is expected that the focus will be more balanced between environmental and social responsibility.

1.4 Country-specific forest sector policies and market developments

Two countries, the Russian Federation and China, are singled out in the policy chapter, but because their market developments merit discussion, they are in this market developments section of the chapter, rather than the preceding policy developments section.

1.4.1 *Developments in the Russian Federation*

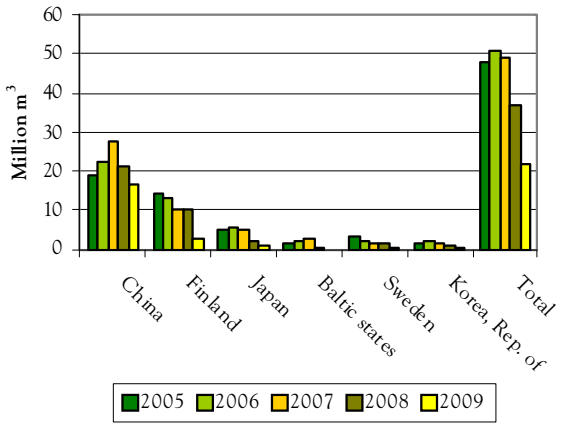
With one-fifth of the world's forest, it would be natural to expect the Russian Federation to play a major role in global wood markets, certainly within the bounds of the UNECE region. In fact, the Russian Federation's contribution to UNECE wood supply is much lower than the potential of its forest to produce wood sustainably. Given its vast spread of territory, the climate extremes and lack of infrastructure in many of its remote regions, it is perhaps not surprising that much of the Russian Federation's forest remains untapped.

Roundwood removals in 2009 were 151 million m^3 (about 14% of UNECE-region removals), 30 million m^3 lower than 2008 totals. About half of this figure is explained by the sharp drop in log exports since export taxes were introduced in 2008. Export markets are critical for the Russian industry because processing capacity lags far behind log supply. About 23% of softwood and 13% of hardwood roundwood removals were exported in the years up to 2007: China was the

principal outlet for softwood logs and Finland for hardwood logs. Since the export taxes were introduced, exports have fallen dramatically, from 55 million m^3 in 2006 to only 27 million m^3in 2009 (graph 1.4.1). Hardest hit have been hardwood roundwood exports, which were down by 72% between 2008 and 2009. Such sudden reductions have inevitably resulted in a sharp rise in unemployment, especially in the north-western part of the Russian Federation, which relied heavily on the Finnish market for its hardwood exports. The situation has not been helped by the drop in demand for wood as a result of the 2008-2009 economic crisis, which lingered in mid-2010.

GRAPH 1.4.1

Russian Federation roundwood exports by major importing countries and in total, 2005-2009



Source: OAO, 2010.

Despite the decreased export revenues and lack of anticipated foreign investment, the Government has indicated that the export taxes will remain in place, though a planned increase from 25% to 80% of the export value has been deferred again. There is also a suggestion in the short-term that the Government may relax export duties on some of the smaller hardwood pulplogs that have been exported to Finland. In the meantime, however, roundwood buyers have either found new suppliers or reduced capacity, both courses of action being taken in the case of Finland. There is a high risk that buyers will not look again to the Russian Federation for supplies.

The ethos behind the export taxes was laudable: to encourage companies to invest in primary processing capacity in the Russian Federation so that value would be added and additional employment generated. Unfortunately, the results have been damaging for the isolated rural communities that depended on the export market and have seen their means of livelihood disappear. While the export taxes have stifled demand from abroad, there is also an impact from continuing uncertainty over the implementation of the Forest Code, introduced in 2007. Issues such as how the costs of replanting harvested forests will be shared and who will be expected to bear the costs of infrastructure investment have not been resolved completely, and this may well be affecting confidence among potential investors.

Source: H. Inhaizer, 2010.

Production and consumption of most forest products has been seriously affected by the economic downturn. Softwood sawnwood is perhaps an exception, as production remained roughly constant between 2008 and 2009. There was a 7.2% drop in consumption, partly the result of a decline in residential construction. Compared with Europe and North America, Russian panel production is small but the industry relies heavily on exports, with up to 63% of its entire production being exported. Wood pulp exports fell by almost 16% in 2009. In spite of a modest increase in exports of paper and paperboard, the Russian Federation's trade balance in such products widened because the exports are mainly lower quality paper grades and the Russian Federation has been importing increasing amounts of higher quality paper. In line with developments throughout the UNECE region, the federal and regional Governments are actively implementing policies to increase energy efficiency and to stimulate increased use of renewable energy, which may see demand for wood rise sharply in the future.

1.4.2 Chinese forest sector development[7]

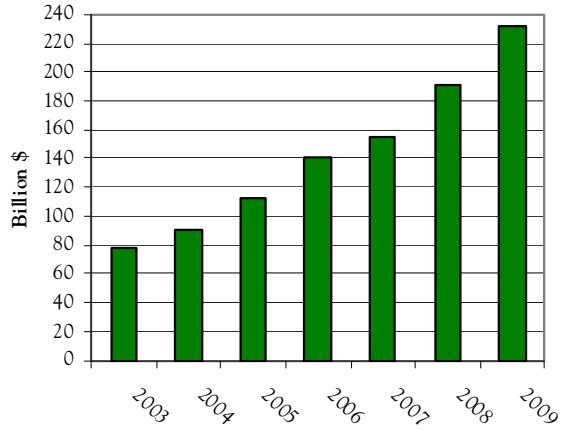
The global financial crisis continued to greatly impact the Chinese forest sector in 2009. Global demand shrank

[7] This section was written by Ms. Xiaoou Han, PhD student, Oregon State University, Corvallis, Oregon, USA, 97331-4501, e-mail: Xiaoou.Han@oregonstate.edu, website: http://forestry.oregonstate.edu.. She uses a variety of sources of which the main source was her UNECE/FAO *Geneva Timber and Forest Discussion Paper*, "The importance of China's forest products industry to the UNECE region", published in 2009 and available at: http://timber.unece.org/fileadmin/DAM/publications/dp-57.pdf

tremendously, including the demand for China's forest products exports. As exports are important to its economy, China's forest sector faced great challenges. To energize the sector and improve its performance, the Chinese government carried out a series of stimulus policies in order to encourage China's forest products exports. These policies were to some extent effective. Starting in March 2009, China's monthly export of forest products increased gradually, although at lower levels than in 2008. Nevertheless, China's output of forest products reached $232 billion in 2009, an increase of 9.8% compared with 2008 (graph 1.4.2). The production of most forest products increased largely due to the stable development of domestic demand.

GRAPH 1.4.2

Chinese forest products output, 2003-2009



Note: Includes roundwood, sawnwood, panels, paper and pulp.
Source: International WOOD MARKETS Group, 2010.

Wooden furniture still maintained its position as China's most important forest product export. In 2010, the total value of China's wooden furniture exports was $7.6 billion. It increased by 11.2% compared with 2008 (graph 1.4.3).

China's forest product exports were greatly impacted by the global financial crisis. Other than a lack of demand, this was mainly due to the lack of differentiation and limited marketing channels. As opposed to other forest products, the exports of wooden furniture continued to increase because, in addition to being low-cost, wooden furniture began to be exported relatively early compared to other commodities, and therefore has developed market channels. Another reason for continued furniture export strength is successful brand strategies. However, because of the increasing cost of raw materials, auxiliaries, labour and environmental protection, as well as the pressure that China has been receiving to appreciate its currency, China is losing its advantage as a low-cost country to some other developing countries, including Indonesia, Malaysia and Viet Nam.

GRAPH 1.4.3

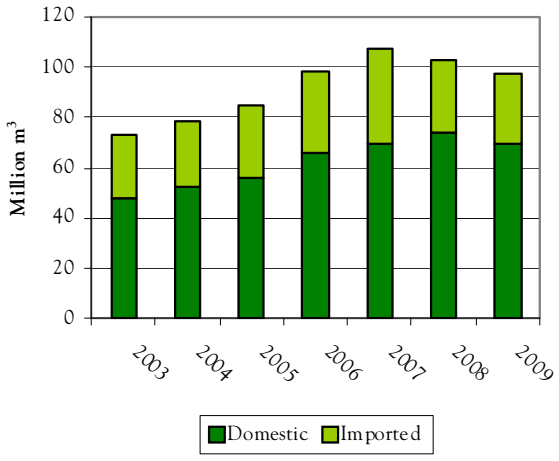
Chinese furniture exports, 2003-2009

Source: China National Furniture Association, 2010.

China's production of roundwood in 2009 (69.4 million m^3) decreased by 5.7% compared with 2008 and was almost equal to the 2007 roundwood production (graph 1.4.4). This comparison can be misleading, however, as the high level of production in 2008 was the result of untypical conditions. The increased roundwood production in 2008 was partly due to the higher harvests in forests damaged by the snow disaster during the winter and the start of reconstruction following the severe earthquake in May 2008.

GRAPH 1.4.4

Chinese roundwood consumption, 2003-2009



Sources: FAOSTATS and secretariat estimates, 2010.

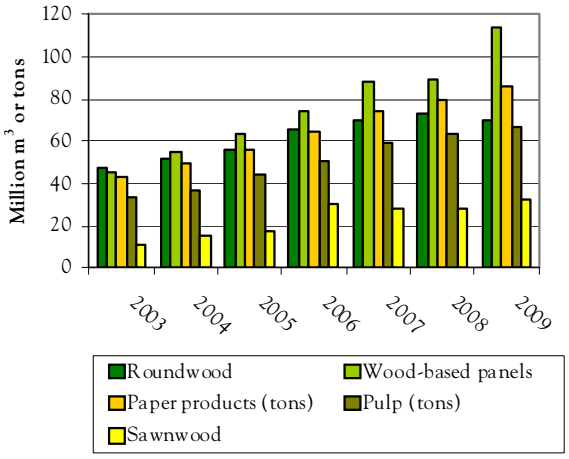
China's dramatic increase in roundwood imports is well known and has been covered in previous *Reviews*. What is less well known is that in 2009, 71.2% of roundwood consumption came from the vast Chinese forests. Consumption of domestically grown roundwood has been increasing gradually according to the official statistics, rising by 65.2% since 2003.

China's imports of roundwood in 2009 were still considerable, standing at 28 million m^3, a decrease of 5.1% in terms of volume compared to 2008. Of the total volume of roundwood imports, 28% was tropical wood. The largest single exporter of roundwood to China was the Russian Federation. In 2009, the Russian Federation accounted for 52.8% of China's total roundwood imports, a decrease of 63.1% from 2008. Other important sources of roundwood for China were New Zealand, Papua New Guinea, the Solomon Islands, Gabon and the US.

The production of major forest products, except wooden floors, increased in 2009 (graph 1.4.5).

GRAPH 1.4.5

Chinese forest products production, 2003-2009

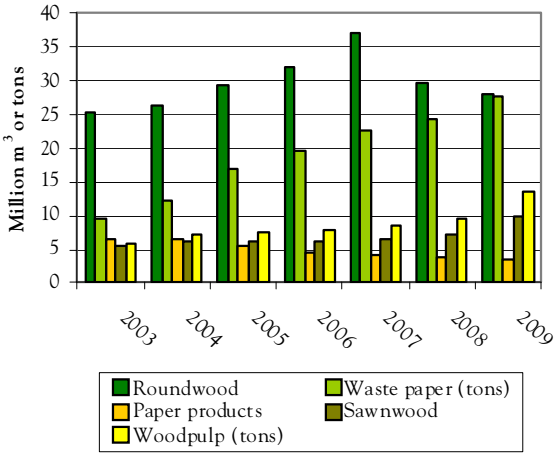


Sources: China Paper Association, State Forestry Administration, P.R. China, secretariat estimates, 2010.

China's forest products trade decreased by 5.6% compared with 2008, as a direct result of the global financial crisis. Both forest products exports and imports decreased in terms of value. Nevertheless, China's forest products exports decreased more slowly than the imports, so the massive forest products trade surplus still increased by around $900 million compared with 2008. While imports of roundwood dominate, China is importing greater volumes of sawnwood (graph 1.4.6). Sawnwood imports are rising as roundwood availability decreases due to tropical log export bans, and prices rise due to Russian log export taxes. In 2009 the total volume of China's sawnwood imports were 9.7 million m^3, an increase of 39.8% compared with 2008. For example, the volume of sawnwood that China imported from the Russian Federation was 3.1 million m^3, representing an increase of 58.6% compared with 2008. This trend is expected to continue.

GRAPH 1.4.6

Chinese forest product imports, 2003-2009



Sources: Green times, China Paper Association and secretariat estimates, 2010.

China's forest products exports were $34.6 billion in 2009, down by 3.7% compared with 2008. In early 2009 exports were continuing to fall, but they turned around in March and generally rose for the remainder of the year, although there were several deviations in the trend.

China's forest products exports increased strongly in July and September on a month-on-month basis compared to 2008. In general, China's forest products trade market started showing signs of recovery.

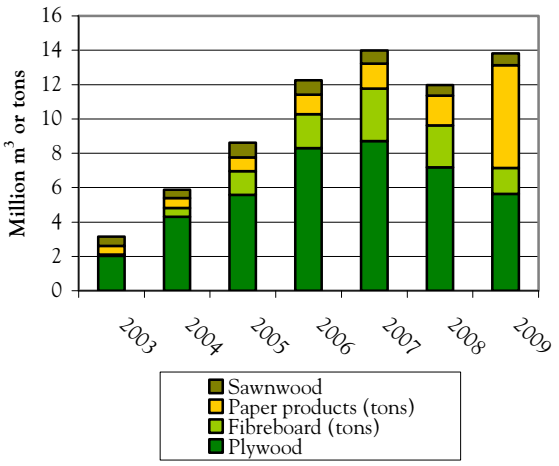
Source: T. Pahkasalo, 2009.

Second to furniture, the export value of paper and paper products was $7.6 billion in 2009, with a slight decrease compared with 2008 (graph 1.4.7). The exports of wood-

based panels continued to fall. This was especially true for plywood. Some small- to medium-sized plywood firms which were export-oriented were forced to shut down. The main reasons for this include unstable quality, under-developed branding strategy and, of course, weak demand.

GRAPH 1.4.7

Chinese forest product exports, 2003-2009



Sources: Green times, China Paper Association and secretariat estimates, 2010.

1.5 Construction sector developments

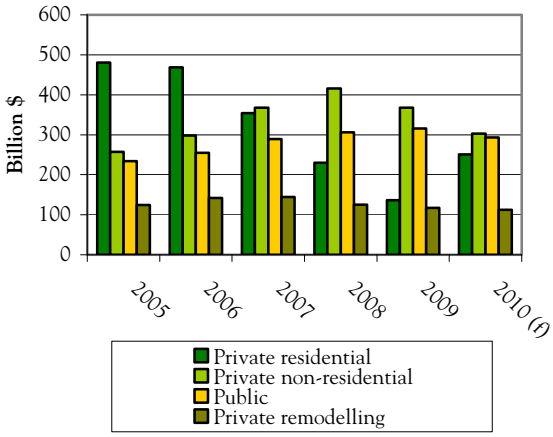
1.5.1 US construction market review[8]

In mid-2010, the US housing market was still in the doldrums, with February 2010 recording the lowest sales since record-keeping began in 1963. The housing market was still in a correction that began in 2008, and most estimates are that any projected housing recovery will be some years away. Spending on housing construction continued to trend lower (graph 1.5.1).

There are several reasons for the housing collapse. Historically low interest rates for mortgages (including sub-prime mortgages), neglect of or careless lending standards, and speculation all contributed to the US housing bubble. The mortgage and credit crisis was a consequence of the increase in adjustable interest rates that resulted in the inability of many homeowners to make their mortgage payment. Thus, sales and valuations declined precipitously, which led to the collapse in the value of a large portion of US mortgage-backed securities. The end result was that the housing market was still reeling from the recession in mid-2010.

GRAPH 1.5.1

US housing spending trends, 2005-2010



Note: Annual rates. f = forecast

Source: US Census and The Joint Center for Housing Studies, 2010.

US new home sales fell in February 2010 to an annual rate of 308,000; this was a decrease of 78% from the housing peak in July 2005. Further, the inventory of new homes reached 9.2 months at current sales rates and was about 50% greater than historical rates. In addition, there were nearly 7 million "shadow homes or shadow inventory" that remained unsold in the market. Shadow homes have been foreclosed on but have not been listed for sale. Throughout 2008 and 2009, the percentage of mortgage defaults continued to increase, reaching nearly 10% by the end of 2009; even prime loans experienced increasing delinquency rates, which approached 7%. About 2.8 million homes were foreclosed on in 2009. Home foreclosures set a record in April 2010, up by 45% from April 2009 (92,432 units), and the forecast was that foreclosures could reach three million in 2010 (Levy 2010). In the spring of 2010, roughly 12 million loans, representing nearly one-quarter of all mortgage debt, exceeded appraised value. Echoing this, Simonson (2009) reported that total residential spending (single and multi-family combined) was down 12% in 2009 as compared to 2008 and spending in the single family home sector decreased by 28%.

US home prices had declined approximately 30% from the peak in 2006. In the April Case-Shiller Index, 11 of the 20 cities presented were in a year-over-year price decline (Chandra 2010). New home sales increased 27% in March 2010 (year-over-year basis) to a seasonally adjusted annual rate of 411,000, which was an improvement but was still near historic lows. There are several factors that may hinder a housing recovery. These include the elimination of the first-time home buyer tax credit in April 2010 and a continuing high-level of foreclosures. Strategic defaults occur when homeowners,

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who are financially able to make payments, voluntarily choose to stop making payments and in many instances walk away from their homes (25% of 2009's foreclosures) (Lowenstein 2010). In addition to this, a large stock of unsold homes and shadow inventory, marginal consumer confidence (important since consumer spending is 70% of the US economy), high-levels of unemployment and under-employment, and a lethargic economy suggest that sales, starts, and prices may be weak for some time. Finally, no one is certain about the effect of adjustable-rate mortgage (ARM) resets on the housing market or the US economy; Credit Suisse estimated that $1trillion of ARMs would be reset through 2012 (Fox 2010).

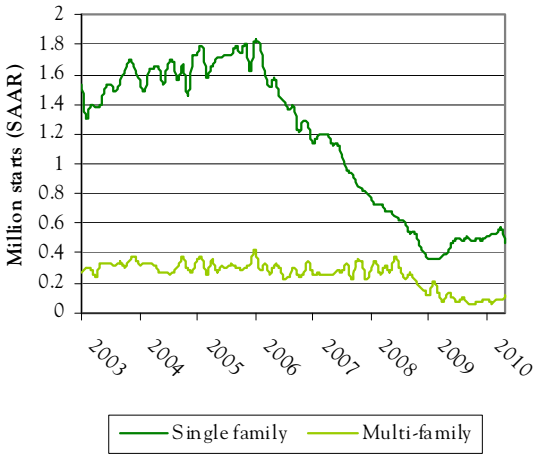
1.5.2 US construction outlook

Continuing foreclosures are a strong deterrent to new home starts. Foreclosures drive resale prices down significantly; thus, new home sales suffer due to a highly competitive market. The result is that builders reduce production i.e. housing starts (Schuler 2010). The April 2010 data for new housing starts were disappointing, although starts increased by 1.6%; this only projects to an annual rate of 626,000 units (NAHB, 2010). Simonson (2009) projected that single-family starts and housing permits would rise slightly throughout 2010, with no significant increase until 2011, at the earliest. Hindering both single- and multi-family demand are job losses among first-time homebuyers and would-be renters; a housing supply that is swelled by both owners and banks who are trying to rent repossessed houses and condominiums, and banks that remain unwilling to lend to developers.

The National Association of Homebuilders (NAHB) projects 649,000 units (523,000 single-family and 126,000 multifamily) starts in 2010, representing a reduction of 141,000 units from 2009 (NAHB 2010, Webb 2010) (graph 1.5.2). This also is nearly 28% below the 900,000 housing starts in 2008. Harvard University's housing project, The Leading Indicator of Remodelling Activity (LIRA) unit, estimated that spending on remodelling should increase, with nearly 5% growth in 2010. This equates to about $121 billion by the fourth quarter of 2010 (Gourd 2010).

GRAPH 1.5.2

United States housing starts, 2003-2010



Note: SAAR = Seasonally adjusted annual rate.
Source: US Census Bureau, 2010.

1.5.3 US building material markets

North American building material prices improved dramatically from their lows in 2009. Sawn softwood and panel prices historically follow housing starts (graph 1.5.3). However, the recent upsurge in demand and material prices appears to be driven by replenishing of stocks and hope for a turnaround in the housing market. North American homes historically have been the primary market for sawn softwood and structural panels – some estimates are that 65% of wood building materials are directed to this market.

US sawnwood (softwood) consumption is still well below the highs of 2005; an estimated 16.9 million cubic metres (m^3) of sawnwood was used in new construction in 2009, roughly a quarter of the quantity used in 2005. Western sawnwood output is expected to decrease by 21% to 24.1 million m^3, the lowest level since the 1930s. Southern pine production has declined to 27.4 million m^3 and sawnwood imports from Canada have fallen 32% to 7.9 million m^3. Random-length dimension sawnwood has rallied from a low of $205 (in April 2009) and averaged $340 in early April 2010 (Random Lengths, 2010).

US structural panel consumption fell 20.8% in 2009. Accordingly, US production decreased nearly 22% and Canadian production fell 18%. Similar to sawnwood prices, composite panel prices have come off their lows of $241 (in April 2009) and averaged $436 in early April 2010 (Random Lengths, 2010).

1.5.4 Canadian housing market

The Canadian housing market continues to rebound from the effects of the recent recessions in the US and Canada. Housing starts decreased from 212,000 units in 2008 to nearly 149,000 in 2009. Starts in the second half

of 2009 indicated an increase; however, projections range from 152,000 to 189,000 unit starts in 2010 (Canada Housing and Mortgage Corporation [CHMC] 2010). The CHMC predicts the housing market to become stronger by the end of 2010 and forecasts 175,000 unit starts in 2011 (range: 156,000 to 205,000 units). Mortgage rates are expected to average 4% in 2010 and about 5% in both 2011 and 2012. Additionally, they expect employment to increase by 0.9% in 2010 and nearly 2% in 2011, thus reducing unemployment from 8.4 to 8.1%.

1.5.5 *European construction market*[9]

1.5.5.1 *Review and outlook*

While the global economy is still recovering, the overall value of the European construction market is relatively steady; however, there are countries where the housing prospects are problematic. The overall housing numbers suggest little change, but housing growth is stagnant, and housing start volumes may be reduced (in a two-year time-frame) to 1998 levels. Of notable concern to the overall European market is the deterioration of the housing market in Spain – where one-fifth of Europe's home construction occurred during the housing peak -- which has greatly affected European housing (Euroconstruct 2009). One obstacle, and there are a number of hindrances, is the housing bubble. In the US and Europe, housing bubbles were concentrated, and in Europe, Spain and Ireland are most notable (Just and Mayer 2010). European home prices (in certain countries) appreciated even more than those in the US, but have decreased much less since the housing crisis began (Euroconstruct 2009). In regards to housing valuations, the correction in the US is far more advanced than in Europe. Spain, Ireland, and The Netherlands will likely experience further price adjustments; Italy, France, and possibly the UK also will require adjustments as current valuations pose a threat to the banking sector and economic growth. Also, as in the US, housing affordability, sales, and starts in countries with variable mortgage rates (e.g., Spain, Ireland, UK, and Sweden) may weaken rapidly if interest rates rise (Just and Mayer 2010).

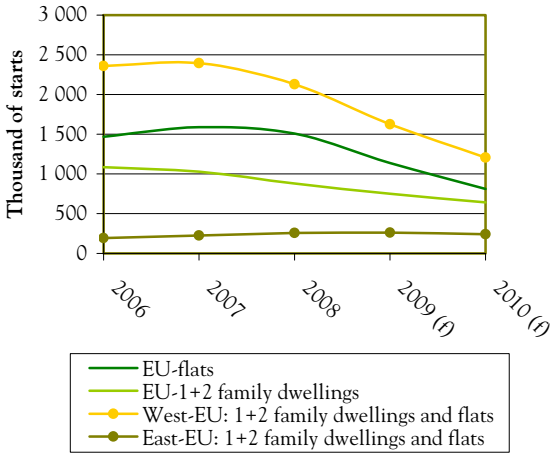
Another threat to a European housing recovery is the recent fiscal austerity moves by the governments of Ireland, Greece, Portugal, and Spain. All are reducing spending by freezing wages, eliminating and curtailing some social programs, slashing government worker salaries, and extending retirement ages, among other measures. The net result is less money flowing through a particular economy, from the government, businesses, and the public. These reductions ultimately may prolong and deepen a recession. In spite of the economic threats, a thin housing recovery is forecast for 2011 (about a 2% gain) and somewhat higher for 2012 (a 3% gain). In absolute terms, the housing market in 2012 is expected to be $777 billion (€609 billion), nearly 11% less than in 2008 (Euroconstruct 2009).

1.5.5.2 *European construction trends*

The new housing situation in the Euroconstruct region[10] is similar to what is occurring in the US; both the number of starts and money spent on new housing are trending downwards (graph 1.5.4). Economic conditions, which include a tepid European economy, unemployment, consumer uncertainty, and rising interest rates, are delaying a recovery in new home starts. Less than one million units are expected to be built in 2010. Reviewing 2007 data, a record 2.62 million homes were completed: 1.59 million were multi-family (flats) and 1.03 million were 1+2 family houses. In 2010, it is projected that about 780,000 (51% decline) fewer multi-family units and 390,000 (approximately 25% decline) fewer 1+2 family dwellings are to be built as compared to 2007. Projections for 1+2 family dwellings and flats are not expected to approach 2007 and 2008 levels in the foreseeable future (Euroconstruct 2009).

GRAPH 1.5.4

Euroconstruct region housing starts, 2006-2010



Notes: f = forecast.

Source: Euroconstruct, 2009.

[9] A main source of information for this section is Euroconstruct, www.euroconstruct.org.

[10] This section is based on Euroconstruct reports and its 19-country region. The western region includes 17 EU Member States (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Slovakia, Spain, Sweden and the United Kingdom), together with Norway and Switzerland. Euroconstruct's western European countries are not the EU27, but the first 17 countries listed above. Euroconstruct's analysis of eastern European construction is based on the Czech Republic, Hungary, Slovakia, and Poland.

There are several factors for the decline. This decline did not result from an extraordinary increase in housing values (e.g., as in Spain, the UK, France, Ireland, and Sweden). Rather, home prices continually increased, resulting in homeowners using their homes as a source of cash (e.g., borrowing money and using the house as collateral), homebuyers purchasing property beyond their ability to make payments, and speculators "flipping" houses (i.e., buying and selling houses fast for a profit). Once the real estate bubble burst in the US and Europe, many homeowners were stressed financially. As in the US, the housing overproduction of the past few years will have a negative impact on new construction for the immediate future (Euroconstruct 2009).

For non-residential building in 2010, construction values are predicted to decrease by nearly 10% ($648.1 billion [€440.6 billion] on a 2008 basis). Growth in the non-residential sector is predicted to begin in 2012, although further declines in output in 2010 and 2011 also are forecasted. In total, non-residential value production (in 2012) is predicted to decrease 3.5% from the 2009 level (Euroconstruct, 2009).

Demand for most construction services weakened as a result of the 2008 recession, and future work orders are projected to decrease or be minimal in all sectors. This is clearly evidenced in the comparison of new residential and non-residential building in contrast to civil engineering and residential remodelling (graph 1.5.5). Obviously, the overall economy plays a large role in new housing and non-residential building construction starts. In the non-residential sector, office, commercial, industrial, and storage markets are expected to decline while the educational and health markets are projected to increase – albeit minimally. In regards to remodelling and civil engineering, both sectors' forecasts are being revised downward.

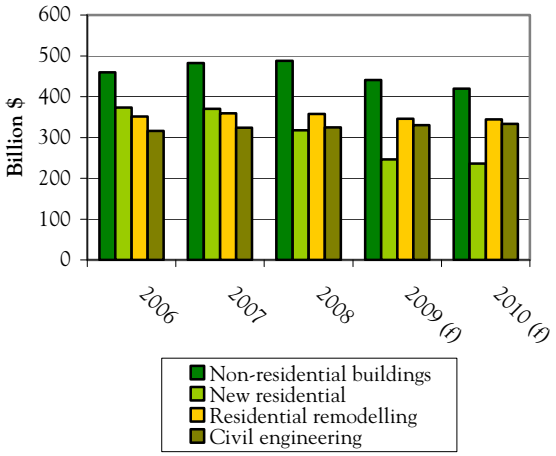
By 2012 the civil engineering sector is expected to become the driving force in the construction sector in the Euroconstruct region. Residential renovation, in both the residential and the non-residential sectors, has increased, from a share of 24% to above 25% in all construction markets. Nevertheless, the projections are for slow growth, if at all. By 2012, all sectors are projected to improve, with the exception of the education and health segments, which are expected to be subject to budget reductions in several countries (Euroconstruct 2009).

1.5.5.3 Construction sector shares and growth: Contrasting western and eastern Europe

Projections are that in the western European countries of the Euroconstruct region, residential construction will contract from $963.5 billion (€655 billion) in 2008 to $863.5 billion (€587 billion) in 2012; in contrast, the four eastern European countries are projected to increase slightly from $30.8 to 30.9 billion (€21 to €22 billion) (2008 basis). It is estimated that the residential construction share, of all construction investments, will be 46% in western Europe and 5% in eastern Europe by 2012 (Euroconstruct 2009).

GRAPH 1.5.5

European construction spending trends, 2006-2010



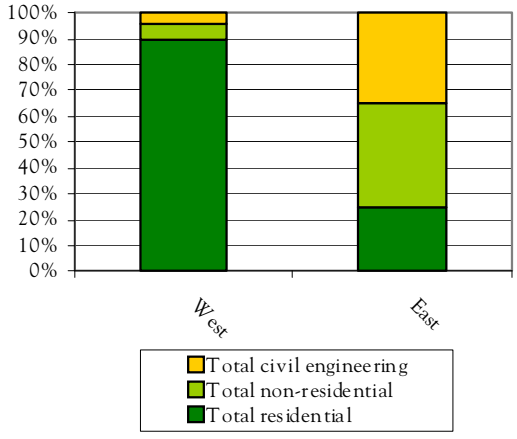
Notes: f = forecast.

Source: Euroconstruct, 2009.

The construction sector shares have changed dramatically in the West, with more euros being directed to the civil engineering sector. This is due to three factors: 1) continued sluggishness in the housing markets, 2) a need for civil engineering projects, and 3) a need for a stimulus to revive the economy. Eastern Europe's spending is somewhat more balanced; however, the emphasis still is directed towards civil engineering and non-residential projects (graph 1.5.6) (Euroconstruct 2009).

GRAPH 1.5.6

Construction in Western Europe vs. Eastern Europe, 2009



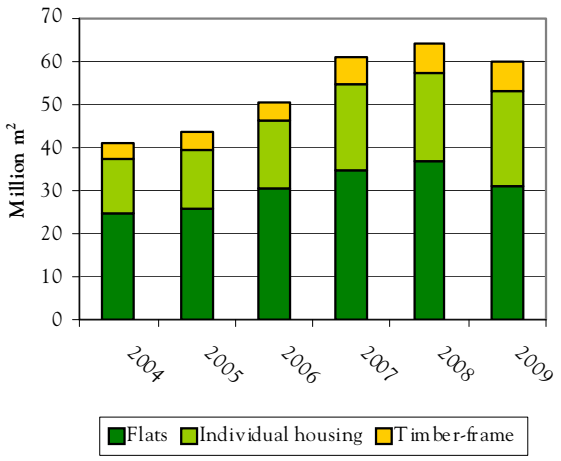
Source: Euroconstruct, 2009.

1.5.6 *Wooden house construction in the Russian Federation*

The Russian Federation's principal construction material for hundreds of years was wood from their vast forests. But in the 20th century, brick, steel and concrete were used for whole cities. Wooden houses were considered "provincial" and were for small, private residences such as dachas. At present the share of wooden dwelling houses of the total housing stock in the Russian Federation is 10.7% (graph 1.5.7).

GRAPH 1.5.7

Residential construction in the Russian Federation, 2004-2009



Source: Rosstat via Pöyry Consulting, 2010.

During the financial crisis there was a decline in wooden house construction. Construction permits declined by 4.7% in 2008. In 2009, housing starts permits, mainly for non-wood construction, accounted for 59.8 million m^2 of floor space, down by 7.2% from 2008. With the weak economy and sustained demand for housing, less expensive wooden construction is a solution. In the Russian Federation, wooden houses are often built by the private homeowners (table 1.5.1).

TABLE 1.5.1

Housing permits for private homeowners, 2007-2009
(1000 m^2 of floor area)

	2007	*2008*	*2009*	*% change 2007-2009*
Owner-built houses *of which:*	26 074	27 367	28 546	9.5
- Cement and brick	19 848	20 752	21 225	6.9
- Wooden	6 226	6 615	7 321	17.6

Source: OAO, 2010.

In the Russian Federation the share of prefabricated wooden houses accounts only for 0.2% of the total area of newly commissioned dwellings. In 2009 production of such houses by Russian house building factories accounted for 127,000 m^2 of floor space. At present the possible solution of the housing problem in Russia is stimulating the demand for economical residential property. However, during the mid-2010 financial crisis, raising demand for private property has been difficult. For example, during 2009 mortgage lending decreased six-fold, as interest rates increased considerably. To attempt to resolve this problem the Russian Government, at its expense, reduced the interest rate by the Mortgage Housing Credit Agency of the Russian Development Bank from 9.5% to 6.5%.

Furthermore, the Russian Ministry of Regional Development in 2010 established the "Strategy of development of construction materials industry up to 2020". Production of prefabricated wooden houses in the Russian Federation is intended to reach 1.4 million m^2 by 2012 and 2.9 million m^2 by 2020.

In mid-2010 a number of federal projects for the development of wooden houses construction were underway in the Russian Federation. One of the most successful was near St. Petersburg where 285 ha of land had been allocated for construction of 5000 wooden houses with total floor space of 500,000 m^2.

1.6 References

Canada Housing and Mortgage Corporation. 2010. Housing market outlook – Canada: Housing starts up for 2010. Available at: www03.cmhc-schl.gc.ca/catalog/productDetail.cfm?lang=en&cat=129&itm=1&sid=a82a01c896c74c2ab4b1c397c2d8d00e&fr=1273776242109. Ottawa, Canada.

Chandra, S. 2010. Home prices in 20 US cities rose 0.3% in January (Update3). Available at: www.bloomberg.com/apps/news?pid=20601068&sid=aaeVqOFzQ4u4>. Bloomberg L.P.

CEU, Council of the European Union, 2010. Available at: register.consilium.europa.**eu**/pdf/en/10/st05/st05688.en10.pdf

China National Furniture Association. 2010. Available at: www.clii.com.cn/english/Associations/26.htm

China Paper Association. 2010. Available at: www.clii.com.cn/english/Associations/02.htm

Chinese Customs. 2010. Available at: http://english.customs.gov.cn/publish/portal191/

DREuropa. 2010. Available at: http://ec.europa.eu/development/icenter/repository/Signed_Agreement_EC-Ghana_FLEGT_EN.pdf

EuroPar, European Parliament. 2010. Available at: http://www.europarl.europa.eu/news/public/story_page/064-74282-127-05-19-911-20100507STO74261-2010-07-05-2010/default_en.htm

Euroconstruct. 2009. Summary Report. 68th Euroconstruct Conference. Zurich, Switzerland. November 26–27.

Ewood. 2010. Available at: www.ewood.cn (In Chinese)

Fox, Z. 2010. Credit Suisse: $1 trillion worth of ARMs still face resets. Available at: www.snl.com/interactivex/article.aspx?CDID=A-10770380-12086>. SNL Financial

Green Times. 2010. Available at: www.greentimes.com.

Gourd, L. 2010. Healthy rebound for remodeling expected in 2010. Available at: www.jchs.harvard.edu/media/lira/lira_10_1.html>. LIRA-Joint Center for Housing Studies of Harvard U

International WOOD Markets Group. 2010. Available at: www.woodmarkets.com

Just, T. and T. Mayer. 2010. Housing markets in OECD countries - Risks remain in Europe. Deutsche Bank Research. Frankfurt, Germany. Available at: http://www.dbresearch.eu/PROD/DBR_INTERNET_EN-PROD/PROD0000000000254693.pdf

Levy, D. 2010. US home seizures reach record as recovery delayed (Update1). Available at: www.bloomberg.com/apps/news?pid=20603037&sid=akVDiuetiH5I. Bloomberg L.P

Lowenstein, R. 2010. Walk away from your mortgage! Available at: http://www.nytimes.com/2010/01/10/magazine/10FOB-wwln-t.html

OAO. 2010. OAO NIPIEIlesprom. Available via: http://www.nipieilesprom.ru/eng_connections.htm

Random Lengths. 2010. Monthly composite prices. Available at: http://randomlengths.com/base.asp?s1=In_Depth&s2=Useful_Data&s3=Monthly_Composite_Prices#revised%20panel

Schuler, A. 2010. The future of US home ownership-Implications for the wood products industry. Canadian Wood Council-Annual General Meeting. Ottawa, CA. 6 May.

Simonson. K. 2009. Construction & materials outlook. AGC of America. Available at: http://newsletters.agc.org/datadigest/files/2010/01/construction-materials-outlook.pdf

State Forestry Administration, P.R.China. 2010. Available at: www.forestry.gov.cn/

US Census. 2010. New privately owned housing units started in the US by purpose and design. Available at: www.census.gov/const/www/newresconstindex.html

US Bureau of Labor Statistics. 2010. Producer price index-Commodities. Available at: http://data.bls.gov/PDQ/servlet/SurveyOutputServlet.

UNECE/FAO Discussion Paper 49. 2010. Available at: www.unece.org/timber

UNECE/FAO TIMBER Database. 2010. Available at: www.unece.org/timber

VPA, Voluntary Partnership Agreement. 2009. Available at: http://ec.europa.eu/development/icenter/repository/Flegt_efi_policy_brief_3_eng.pdf

Webb, C. 2010. NAHB cuts '09, '10 starts forecasts by 25%. Available at: www.builderonline.com/housing-starts/nahb-cuts-09-10-starts-forecasts-by-25-percent.aspx. Builder.

WM.org. 2010. Wild Madagascar. Available at: http://news.mongabay.com/2010/0404-madagascar_moratorium.html

Chapter 2
Economic developments affecting the UNECE region in 2009-2010[11]

Highlights

- In 2010, the world economy is recovering from the most severe financial shock since the Great Depression of the 1930s and the deepest economic downturn since the Second World War.
- In mid-2010, an escalating debt crisis in the euro zone cast doubt on the strength of the recovery in the European Union.
- United States recovery is forecast to be more rapid, in part because the economic downturn was smaller than some other advanced economies, and in part because of the much more aggressive response of the US on both the monetary- and fiscal-policy fronts.
- Financial institutions in both the US and Europe owned sizeable amounts of the US subprime mortgage-backed assets that collapsed in value and as a result both subregions experienced a severe financial shock in 2008-2009 necessitating government aid to limit the crisis.
- The fall in house prices has severely curtailed activity and employment in the construction industry in the US and western Europe and the mid-2010 debt crisis is hindering a housing recovery.
- The concerns of heavily indebted countries' sovereign debt sustainability have been reflected in the interest rates that they must pay on their debt; this has led to a crisis in Greece and there are growing concerns about the current and future debt levels of many of the advanced UNECE region economies.
- Significant exchange rate movements occurred in 2009-2010: the US dollar rose during the height of the crisis, then declined as the recovery began to take hold, and then strengthened again as the European debt crisis unfolded.
- The euro declined significantly in early 2010 as the severity of the Greek debt crisis cast doubt on other EU economies, however, for forest products exporters trading in euros, this could be an advantage.
- The 2008-2009 economic crisis was particularly acute in many of the former transition economies and, for them, was greater than during Russian Federation debt and currency crisis of 1998-1999.
- A slow-to-moderate recovery is forecast for 2010, but most of the UNECE region's economies will not return to their 2008 income levels until 2011; despite the forecast positive trend for the entire UNECE region, one sixth of the region's economies are expected to experience negative growth again in 2010.

[11] By Dr. Robert C. Shelburne, UNECE, Switzerland.

Secretariat introduction

The macroeconomic developments during the global economic and financial crisis of 2008-2009 had extraordinarily negative effects on forest-based industries. With the information in this chapter, readers can better understand the subsequent impacts on consumption, production and trade of forest products, as well as the restructuring of forest industries. Because many manufacturing sites are located near forest resources, for rural communities dependent on wood and paper manufacturing, the mill closures have been devastating. Even though the economic indicators for 2010 are generally positive, it will take time to regain strength throughout the forest sector.

The *Forest Products Annual Market Review* is produced in Geneva where the UNECE/FAO Forestry and Timber Section benefits from the expertise of economists from the UN Economic Commission for Europe. The secretariat thanks Dr. Robert Shelburne[12], Senior Economist, UNECE, author of this chapter. He picks up the story from the last *Review* and carries it forward with forecasts for 2010. In his text, economic "recovery" refers to economies that are in the process of improving, but at the end of 2010, they will still be far from "recovered" to their previous levels. Dr. Shelburne is scheduled to present this chapter to the UNECE Timber Committee Market Discussions on 11-12 October 2010.

2.1 The economic situation in the UNECE region, 2009-2010

2.1.1 The global overview

The world economy in 2010 is recovering from the most severe financial shock since the Great Depression of the 1930s. Despite the severity of the shock, the aggressive use of monetary and fiscal policy, a relatively high level of economic cooperation among national governments and assistance from international and regional financial institutions helped contain the crisis. Without these unprecedented and quite extraordinary policy responses, in all likelihood the world economy would have experienced another depression.

Nevertheless, this crisis will have long-term implications for living standards in much of the world and for the design and operation of both domestic and international institutions. For example, the G20[13] has effectively replaced the G7[14] as the main global body for promoting macroeconomic coordination, the resources of the International Monetary Fund (IMF) have been quadrupled (including the Special Drawing Rights increase), and the whole monetary and regulatory framework in the euro zone is undergoing a major rethinking.

During 2009, world GDP declined by 0.6%, the first such decline in half a century. The last two years have rightly been labelled as a global financial and economic crisis; however, many parts of the world largely avoided the worst of the crisis and were able to maintain reasonable although slower economic growth. This happened in much of the developing world, especially China and India, with serious humanitarian consequences, since over half of the world's poor live in these two countries. The rate of progress towards attaining the United Nations Millennium Development Goals has therefore been set back and in some cases reversed.

Given the severity of the shock, it was an important policy achievement that the world avoided a second Great Depression. There were four main reasons for this. First, the macroeconomic expansionary policy responses from around the world were impressive. Interest rates in the advanced economies were lowered to 1% or less through most of 2009 and the first half of 2010. Central banks implemented extraordinary measures or some variation of what is referred to as "quantitative easing" to ensure sufficient levels of liquidity. Interest rates were also lowered in many of the emerging markets but generally had to be kept higher than in the advanced economies to minimize an inevitable "flight to safety". Fiscal expansions were also quite large, in both the advanced and emerging world. The United Nations has estimated that the world's fiscal expansion was about 4.3% of global GDP. If, as is reasonable to assume, the multiplier for a fiscal expenditure is close to one, these fiscal expansions might have kept global GDP from falling by an additional four percentage points. Increased government spending served to maintain private-sector confidence and further mitigated the degree of the decline in private investment and consumption.

The second factor in containing the crisis was that governments on the whole protected depositors in the financial system instead of allowing them to lose their wealth, as had occurred in the Great Depression. European governments stepped in to protect bank depositors even though they did not have a legal obligation to do so. The US did the same for its money market funds. Without this government support,

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[13] All the G7 plus Argentina, Australia, Brazil, China, India, Indonesia, Republic of Korea, Mexico, Russian Federation, Saudi Arabia, South Africa, Turkey, and the EU as the twentieth member.

[14] Canada, France, Germany, Italy, Japan, United Kingdom and United States.

depositors would have quickly drained liquidity from the international financial system, thus causing it to collapse.

The third factor that contained this crisis was the existence of a strong safety net in most of the advanced economies. In the 1930s, the economic crisis produced a humanitarian crisis as the unemployed quickly became hungry and often homeless. This led to social and political instability and contributed to the rise of extremism that ultimately resulted in the Second World War. Despite the severe economic downturn during this crisis, the well-developed social safety nets minimized the negative personal repercussions and as a result political and social stability were maintained.

Finally, the policy response of the world was by and large coordinated and there were limited "beggar thy neighbour"[15] conflicts, i.e. policies seeking benefits for one country at the expense of others. This level of cooperation was the result of the strong presence of international organizations, most of which were created after the war for this very reason. In summary, the world does appear to have learned valuable lessons from the chaos of the 1930s in terms of domestic economic policymaking and creating international institutions that can maintain cooperation even during difficult times.

In the first quarter of 2010, the world economy was well into a solid recovery; however, its strength varies considerably from one region to another. Growth has returned much faster to the developing world than to the advanced economies. Among the advanced economies, North America is growing more rapidly than Europe. Recessions and recoveries are often described by a letter that best describes the shape of the income changes. Given the great differences among the economies of the world, this rebound is being described by three letters and termed the "LUV" recovery. The letter L represents the stagnant growth in western Europe, U for the moderate recovery in North America and the European emerging economies, and V for the fast rebound in the developing world, especially Asia.

Despite the modest recovery that has taken place in the advanced economies, countries remain dependent on government life-support. In 2010, governments are experiencing market pressures to cut back their stimulus programme; but to do so could risk creating a "double-dip" recession. This is exactly what occurred during the depression of the 1930s and again in Japan in the 1990s. To cut back prematurely on the stimulus might in the end actually worsen the debt situation, since slower growth would decrease government revenue. Although large deficits and projected large debts are a problem, this is a medium- to long-term problem largely due to demographic causes and should ideally be addressed in the future. To address market concerns about the long-run viability of government finances, governments need to prepare an exit strategy from their monetary and fiscal stimulus programmes. However, it would be optimal not to begin fiscal retrenchment until the recovery is fully under way. An exception exists if capital markets became sceptical about the ability of a particular government to address these problems; in such a case that government could find itself no longer able to finance its fiscal stimulus programme and therefore having no choice but to prematurely reduce it. Unfortunately, this is the situation that Greece and a few other southern euro zone members find themselves in mid-2010. In a worst-case scenario, this problem would become widespread and with many governments implementing cutbacks there could be a global double-dip recession.

2.1.2 *Macroeconomic trends in the UNECE region*

Of the five United Nations regions as defined by the regional commissions, the UNECE region was the most negatively affected by the financial crisis. Real growth for the region declined from 3.2% in 2007 to 1.1% in 2008 to -3.6% in 2009 (table 2.1.1). A slow-to-moderate recovery is forecast for 2010, but most of the region's economies will not return to their 2008 income levels until 2011. The current forecast is for growth of 2.3% in 2010 and 2.5% in 2011. However, about one sixth of the region's economies (9) are expected to have negative growth again in 2010. Unemployment, which reached 10% in much of the region, may remain above trend through 2014. The fiscal situation of the region's advanced economies has deteriorated considerably. So far during this crisis, 15 of the region's economies have been forced to turn to the IMF for some form of assistance.

Source: K. Taari, 2010.

[15] A protectionist policy involving the devaluation of one's currency and the construction of tariff barriers on other countries.

TABLE 2.1.1

UNECE region real GDP growth rates, 2008-2010

Country	*2008*	*2009*	*2010f*	*Country*	*2008*	*2009*	*2010f*
Albania	7.8	2.8	2.3	Spain	0.9	-3.6	-0.4
Bosnia and Herzegovina	5.4	-3.4	0.5	Slovakia	6.2	-4.7	4.1
Croatia	2.4	-5.8	0.2	Slovenia	3.5	-7.3	1.1
Montenegro	6.9	-7	-1.7	Euro zone	0.6	-4.1	1
Serbia	5.5	-2.9	2				
TfYR of Macedonia	4.8	-0.7	2	Denmark	-0.9	-5.1	1.2
Turkey	0.7	-4.7	5.2	Sweden	-0.2	-4.4	1.2
South-east Europe (non-EU)	1.5	-4.5	4.3	United Kingdom	0.5	-4.9	1.3
Armenia	6.8	-14.4	1.8	Bulgaria	6	-5	0.2
Azerbaijan	10.8	9.3	2.7	Czech Republic	2.5	-4.3	1.7
Belarus	10	0.2	2.4	Estonia	-3.6	-14.1	0.8
Georgia	2.3	-4	2	Hungary	0.6	-6.3	-0.2
Kazakhstan	3.2	1.2	2.4	Latvia	-4.6	-18	-4
Kyrgyzstan	8.4	2	4.5	Lithuania	2.8	-15	-1.6
Republic of Moldova	7.8	-6.5	2.5	Poland	5	1.7	2.7
Russian Federation	5.6	-7.9	4	Romania	7.4	-7.1	0.8
Tajikistan	7.9	3.4	4	EU – 27	0.9	-4.1	1
Turkmenistan	10.5	4.2	12				
Ukraine	2.1	-15.1	3.7	Iceland	1	-6.5	-3
Uzbekistan	9	8.1	8	Norway	1.8	-1.5	1.1
CIS	5.5	-6.9	3.9	Switzerland	1.8	-1.5	1.5
				Israel	4	0.8	3.2
Austria	2	-3.6	1.3	Europe – 31	1	-4	1.1
Belgium	0.8	-3	1.2				
Cyprus	3.6	-1.7	-0.7	Canada	0.4	-2.6	3.1
Finland	1.2	-7.8	1.3	United States	0.4	-2.4	3.2
France	0.3	-2.2	1.5	North America	0.4	-2.5	3.2
Germany	1.2	-5	1.2				
Greece	2	-2	-2	UNECE – 52*	1.1	-3.6	2.3
Ireland	-3	-7.1	-1.5				
Italy	-1.3	-5	0.8	Memorandum items			
Luxembourg	0	-4.2	2.1	CIS (less Russian Fed'n)	5.2	-4.3	3.8
Malta	2.1	-1.9	0.5	EU-pre 2004 - 15	0.5	-4.2	0.9
Netherlands	2	-4	1.3	EU NMS-10+2	4.3	-3	1
Portugal	0	-2.7	0.3	World	3	-0.6	4.2

Notes: f = forecast. *This total excludes four countries within the UNECE region: Andorra, Liechtenstein, Monaco, and San Marino which do not report GDP.

Source: UNECE secretariat, 2010.

The fact that world growth declined in 2009 even though many of the countries outside the UNECE experienced growth is evidence of the relative size of the UNECE region in the world economy. The UNECE region has accounted for more than half of world economic output (on a purchasing power parity basis) for over a century. In 2010, however, its share of world GDP is expected to fall below 50%, due to the more rapid growth in the developing economies. As recently as 2000, the EU-27 and North America each accounted for over a quarter of world output, and the European emerging economies (EEE) of eastern and southern Europe, the Caucasus and Central Asia accounted for another 5%. Both the EU and North America have each now declined to just over a fifth of world GDP, while the share of EEE has increased to 6%. The share of the region in world output is expected to continue to decline in the coming decades, as its population and per capita income grow at rates below world averages.

Of three subregions of the UNECE (i.e. North America, western Europe and EEE), the decline in GDP growth in 2009 was the largest in EEE, in terms of both its actual level (-6.2%) and relative to recent historical experience; the growth rate in 2009 was 13.5 percentage

points below the average rate from 2003 through 2007. Western and central Europe, including the EU new Member States (NMS), had a growth rate of -4.0% in 2009, representing a drop of 6.6 percentage points from the 2003-2007 average. North American GDP was the least affected, with growth of -2.5% in 2009 and a decline of 5.3 percentage points from the 2003-2007 average. Although the emerging economies were the most severely affected subregion, eight had positive growth in 2009; Poland and Israel were the only UNECE economies in the other two subregions to have positive growth in 2009.

It is somewhat paradoxical that North America, the UNECE subregion primarily responsible for the global crisis, was the least affected. Financial institutions in both the US and Europe owned sizeable amounts of the US subprime mortgage-backed assets that plummeted in value. As a result, both subregions experienced a severe financial shock, and the governments had to come to the aid of their financial institutions. Also, as of early 2010, US house prices have declined approximately 30% from their peak in 2006 and as a result, households have cut back on their spending.

The fall in house prices has severely curtailed activity and employment in the construction industry. Although it is difficult to quantify the size of this shock for comparative purposes, there is little doubt that the shock for the US was certainly equal to or greater than that for western Europe. In spite of that, the economic downturn was smaller in the US and the recovery has been more rapid. The main explanation for these differences is the much more aggressive response of the US on both the monetary- and fiscal-policy fronts. One of the key lessons to emerge from the crisis has been to emphasize the importance and effectiveness of discretionary macroeconomic policy. On the other hand, a more aggressive macroeconomic policy may have long-term implications for the rate of inflation and debt repayment, and only after several more years will it be possible to evaluate fully whether the response of the US was preferable to the more cautious European approach. In addition, some of the difference in policy may have resulted from differences in the structural characteristics of these two subregions.

Residents and financial institutions in the EEE owned few of the subprime assets at the heart of the global financial crisis. Instead they were vulnerable to large declines in exports related to the significant declines in GDP among their major trading partners, the rapid fall-off in remittances, the fall in commodity prices, and, most importantly, their dependence on external capital markets for financing their economic development. Many experienced a classic "sudden stop" once capital markets froze after the bankruptcy of Lehman Brothers in 2008, the largest in US history. A vulnerability that these economies did not have, one that is often associated with a sudden stop of this type, was a budget deficit; the external borrowing had been largely undertaken by the private financial sector.

Several of the emerging economies had large sovereign wealth funds that they were also able to use to mitigate the impact of the crisis. Azerbaijan, Kazakhstan and the Russian Federation had funds going into the crisis equal to 23.6%, 20.6% and 15.9% of GDP respectively, but uncertainty over the length and severity of the crisis led these countries to be conservative in using the funds. Although there was no legal obligation to commit the funds, the reluctance to help the private sector to service their external debts further increased uncertainty and reduced the private sector's ability to access funds on global capital markets.

The crisis was particularly acute in many of the former transition economies, including the new EU Member States. It was greater than that experienced in much of the Commonwealth of Independent States (CIS) after the Russian debt and currency crisis of 1998-1999. Nevertheless, the declines in GDP during this crisis were only a fraction of those suffered during the 1990s transition recession. Even in Latvia, whose economy has been the hardest hit in the region, the forecast decline of about 27% of GDP over the 2007-2010 period is only about half of the decline during the 1990s. Mild in comparison with the losses of that period, the economic decline is still serious – roughly similar to the decline of 29% experienced by the US during the Great Depression.

2.1.3 *Employment, inflation, trade and exchange rates*

Unemployment rose in most of the UNECE region throughout 2009 but appears to have stabilized in the early part of 2010. The rate peaked at slightly over 10% in the US and the EU and slightly below that in the largest emerging economies. In the first quarter of 2010, the unemployment rate remains above 15% in Estonia, Georgia, Latvia, Serbia, and Spain and above 30% in Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia. The forecast predicts that the unemployment rates in most of the UNECE will remain above trend for another three to four years.

Given the degrees of decline in GDP experienced in each of the region's economies, unemployment increased more than expected in the US and less than expected in western Europe and the emerging economies. Thus, although the decline in GDP was less in the US than in the euro zone or the emerging economies, the US had the biggest increase in unemployment. Differences in labour market flexibility among the subregions largely explain these results. In addition, however, some European

countries such as Germany, Italy and the Netherlands introduced emergency or short-term labour market policies to minimize job losses, and a number of these proved successful. For instance, Germany experienced little change in the rate of unemployment from the spring of 2008 to spring 2010. Although there were some significant increases in unemployment in some of the emerging economies, given the often extremely large declines in output, these increases appear to have been quite moderate. For example, while the unemployment rate in the US increased by five percentage points when GDP declined by 2.4%, unemployment increased in the Russian Federation by three percentage points, despite a much larger decline in GDP of 7.9%.

Inflation throughout the region has been subdued because of the economic slowdown. In the advanced economies it was considerably below their central banks' general targets of about 2% in 2009. Although it began to increase in early 2010, there is little current expectation that it will be problematic in the near future because money supply growth has been low in the US and western Europe. The forecast calls for inflation to be near central bank targets in 2010, although in the euro zone it may still be marginally below them.

Latvia is expected to experience deflation of several per cent during 2010 and the same may also happen in some of the highly indebted euro zone economies such as Greece. Inflation has been higher in the emerging economies, especially in the CIS, where it was about 11% in 2009 and is expected to be about 7% in 2010. Ukraine has had and is expected to continue to have inflation in the low double digits. In February 2010, inflation in Turkey reached a double digit rate of 10.1%, due to a steep increase in the food index.

The decline in national incomes and the absence of trade finance caused trade flows to fall dramatically throughout the region between the third quarter of 2008 and the first quarter of 2009. In 2009, world trade fell by 12.2%, the largest decline in over 70 years. The trade protectionism that characterized the crisis of the 1930s was largely avoided, although attempts by countries, especially in Europe, to capture the effects of their own fiscal expansions and industry subsidies proved controversial. Within the European Union restrictions on State aid were severely tested but appear to have worked reasonably well. Global governance of trade, primarily through the disciplines of the World Trade Organization (WTO), was fairly successful in containing protectionism.

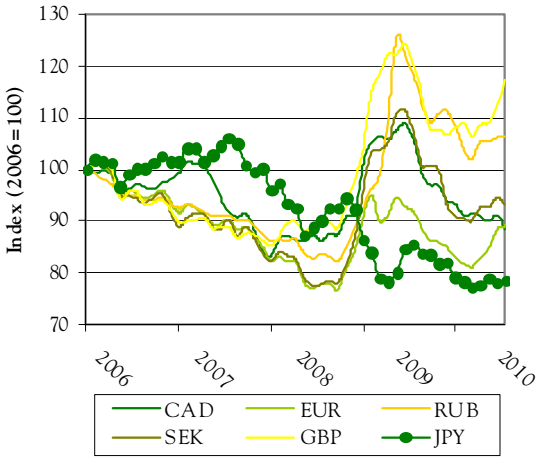
The issue of trade imbalances continues to draw controversy. Imbalances, i.e. large trade deficits and surpluses, were one of the root causes of the financial crisis. Although they have declined during the global slowdown, the expectation is that, unless corrective policies are implemented, large imbalances will return as soon as a global recovery is firmly in place. Particularly controversial has been the exchange-market intervention by China to keep the value of the national currency below the market-determined rate. Since depreciation of a currency is theoretically equivalent to a tariff on imports and a subsidy for exports, Chinese intervention can be characterized as a type of "beggar thy neighbour" policy.

The fundamental problem is that countries tend to believe that their exchange rate is their own business. However, an exchange rate is part of the global financial system and rates have to be set in a manner consistent with global financial stability. Economists refer to this as the "n-1 problem", which is a technical way of saying that there are more countries than exchange rates, and therefore each country cannot set its own rate. For example, if there were only two countries there would be only one exchange rate, which would have to be jointly agreed upon. How to set appropriate exchange rates remains a thorny issue that will remain on the global agenda for some time. In view of the expected economic recovery, the WTO is forecasting trade to expand by close to 10% in 2010.

Significant exchange-rate movements occurred over the last year, as the US dollar rose during the height of the crisis due to a flight to safety and then declined as the recovery began to take hold (graph 2.1.1).

GRAPH 2.1.1

Exchange rates of selected currencies vs. the US dollar, 2006-2010



Notes: National currency unit per dollar. JPY = Japanese yen, RUB = Russian ruble, SEK = Swedish krona, GBP = British pound Sterling and CAD = Canadian dollar.

Sources: International Monetary Fund and UNECE, 2010.

These currency fluctuations have had a direct effect on trade in wood and paper products. The experience of many of the emerging economies was the opposite: depreciations early in the crisis were followed by

appreciations after the recovery began. Generally, those countries whose currencies had the largest depreciations saw the smallest reductions in exports. Although a few countries actively used policies to depreciate their currencies, they largely avoided being labelled as protectionist. The euro suffered a major devaluation in early 2010 as the Greek debt crisis unfolded. In many ways, this was one positive effect of the crisis for the euro zone, because the strength of the euro had begun to harm euro zone exports towards the end of 2009.

2.1.4 Emerging debt problems

Throughout this financial crisis, in a number of countries both the government and the private sector found it hard to raise funds in international capital markets. Mostly, the need was not to raise new funds but simply to roll over existing loans. Borrowers who need long-term financing typically borrow for short maturities with the intention of continuously rolling over these loans, either because the short-term interest rates are lower or because no one is interested in lending them funds for the full period. In the autumn of 2008, these borrowers found after the bankruptcy of Lehman Brothers that they were unable to obtain funds in global capital markets. Faced with having either to default or to pay unsustainably high interest rates, the affected governments turned to official sources, primarily the IMF, to get the funds they needed. Over the last two years, 15 countries in the UNECE region turned to the IMF for some form of assistance. All the subregions were represented in the total, including two of the advanced economies, four of the EU new Member States, seven in the CIS and two in south-east Europe.

There had been some concern early in the crisis that the IMF would not have the funds available to lend to all those who would need to borrow. As a result, the G20, at its London meeting in April 2009, quadrupled the resources of the IMF. This proved to be the turning point in the crisis because afterwards, market participants realized that the Governments of the world were generally committed to doing whatever was necessary and, more specifically, that the IMF did have the necessary resources.

In the early part of the crisis during 2008 and 2009, countries were forced to turn to the IMF to roll over their debt because global financial markets had frozen; this was basically a problem of liquidity. However, since the beginning of 2010, with crisis-induced fiscal expansions having pushed up debt levels already projected to rise due to longer-run demographic developments, markets have become more concerned about the long-term ability of countries to service their debt. The need for official borrowing has fundamentally changed from being a question of liquidity during the first phase of the crisis to one of solvency in the second phase.

Concern about sovereign debt sustainability has been greatest for Greece. In mid-2010, the ratio of Greece's debt to GDP was approximately 114% (about the same as Italy's) with a forecast that this might reach 150% by 2012. Complicating matters is the fact that approximately 80% of Greek debt is foreign owned. Although the Greek situation is the most serious, there are also growing concerns about the debt levels of many of the advanced UNECE economies. In 2009, the debt level of 13 of the 27 EU members was above the Maastricht limit of 60% of GDP; these included the four largest economies – France, Germany, Italy and the United Kingdom. The only EU new Member State to have this level of debt was Hungary. The immediate cause of the increasing debt levels are the budget deficits. In 2009, only five of the 27 EU members had a deficit below the Maastricht limit of 3% of GDP; four had deficits above 10%, including Greece (12.7%), Ireland (12.5%), the UK (12.1%) and Spain (11.2%). The euro zone is projected to have a general government fiscal deficit of 7% of GDP in 2010. The US also has a sizeable deficit (12%) and a rapidly growing debt, which is currently about 84%.

Concerns about the future ability of heavily indebted countries to service their debts have been reflected in the interest rates they must pay on this debt. For example, yields on Greek 10-year bonds rose to 7.5% in early 2010, with a spread of 4% over equivalent German bonds. This was the largest spread for Greece since 1998, which was prior to joining the euro zone. At current interest rates, the annual cost just to service this debt would amount to 9% of the country's GDP. The interest spread has also been substantial in Hungary (over 3%), Poland (over 2%), Portugal and Ireland (approximately 1.5% each).

The implied probability of a default by Greece over the next five years based upon the price of its credit default swaps reached over 25% in the first quarter of 2010. A Greek default would be the largest sovereign default since the Second World War. In comparison with the current Greek debt of approximately $375 billion, Argentina defaulted on only $100 billion in 2001 and the Russian Federation on $70 billion in 1998. A default by Greece would likely create sovereign debt problems for other countries such as Spain and Portugal, and forecasting models estimate that it would lower the growth rate of the entire euro zone by one percentage point a year for the next three years. For that same period, it would also lower world growth by half a percentage point a year. It would further have a serious impact on the European emerging economies, which are especially dependent on capital inflows. Thus, a default by Greece would represent a serious European policy failure, with major ramifications not only for Europe but for the world economy.

To assist Greece and other euro zone economies experiencing exceptional debt difficulties, a programme has been designed jointly by the EU and the IMF to provide emergency funding of about $921 billion (€750 billion) if needed. Although this should allow it to continue to roll over its debt for the next several years, Greece and the other heavily indebted countries will have to implement a set of tough policies over the next years. As a result, these countries may face years of slow growth, high unemployment, wage cuts and perhaps even deflation. Thus, although there has been some recovery, the negative economic consequences of this recession will continue for many years to come.

Structural, institutional and regulatory reforms need to be made to avoid a repetition of the recent financial crisis. The regulatory oversight of the financial system was inadequate mainly due to regulatory arbitrage. Regulatory arbitrage can be defined as "financial engineering that uses differences between economic substance and regulatory position to evade unwelcome regulation."[16]

That same problem appears to be a major reason why progress towards reform has so far been disappointing. The solution to this situation is to harmonize stricter standards so that no single country has an advantage. However, as the economic situations of countries vary and even a common standard has a different impact on different countries, reaching an agreement on this could be difficult.

2.1.5 *Economic outlook*

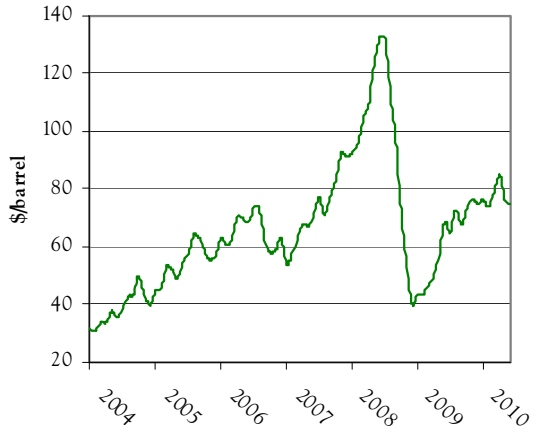
The economic recovery of the UNECE region in 2010 and 2011 is forecast to be moderate. It will be slowed by the effects of unemployment on consumer expenditures, the need of some governments to withdraw fiscal stimuli prematurely because of increasing debt levels, and because the financial systems in these economies remain partially impaired because of their need to recapitalize and de-leverage.

Within the UNECE region, growth is expected to be the lowest in western Europe, where it may only reach 1.0% in 2010 and 1.8% in 2011. However, even after these two years of recovery, income in many of these countries is expected to remain below the 2008 level. Over the next several years, in western Europe the need to limit or reduce the level of public debt and for the banking systems to de-leverage will certainly limit growth. A further potential obstacle is the extent of corporate debt, which is equivalent to almost 100% of GDP; this is almost twice the level of what the US has and up from less than 70% a decade earlier.

For the emerging economies, growth is likely to be stronger as they bounce back from steeper declines; the outlook for these countries will be especially sensitive to global economic developments. In the CIS, all of the economies are expected to have positive growth in 2010, although the average rate of 3.9% is likely to be much below the trend level obtained during 2002-2007. The banking sectors remain impaired in several of the larger economies and this will limit investment in the short term. Currency appreciation in 2010 in some of the energy-rich economies could limit growth and harm diversification efforts, although this will restrain inflationary pressure; the Russian rouble was at a 14-month high in March 2010. Growth should be similar in 2011 with a forecast rate of 3.6%. Further economic diversification and institutional reform will be needed to restore robust economic growth in the medium term. With the Russian Federation's recovery speed partly dependent on the export of oil and gas, the rising price of oil in mid-2010 will not only benefit the recovery but also provide additional incentive for wood-based energy (graph 2.1.2).

GRAPH 2.1.2

Brent crude oil price, 2004-2010



Source: US Department of Energy, 2010.

2.2 References

Fox, Z. 2010. Credit Suisse: $1 trillion worth of ARMs still face resets. SNL Financial. Available at: www.snl.com/interactivex/article.aspx?CDID=A-10770380-12086 >

US Bureau of Labor Statistics. 2010. Producer price index-Commodities. Available at: http://data.bls.gov/PDQ/servlet/SurveyOutputServle

[16] http://moneyterms.co.uk/regulatory-arbitrage/

Chapter 3
Policy issues related to forest products markets in 2009 and 2010[17]

Highlights

- Economic stimulus measures taken by governments throughout the UNECE region to reverse the financial and economic crisis of 2008-2009 had little measurable impact on the forest sector.
- China has taken significant actions to support its forest sector during the global economic crisis, with measures likely to have an impact on forest industries and wood markets throughout the UNECE region.
- The Russian log export tax has had a significant impact on global roundwood markets; the implementation of further tax increases has been delayed but not abandoned.
- Policy development and associated market actions continue to advance the use of bioenergy in the UNECE region as technologies for production of second-generation biofuels move closer to commercialization.
- Subsidies for biomass use in energy production continue to cause problems for established wood users; for instance, in the United States, a biomass harvest and delivery subsidy programme is adversely affecting wood panel and paper manufacturers.
- Support for green building initiatives is growing and is reflected in public funding of various green building projects and initiatives in the European Union and in the United States.
- The United Nations Climate Change Conference in Copenhagen further defined how carbon contained within harvested wood products might be accounted for in post-2012 carbon protocols, but the work needs to continue.
- Measures to halt trade of products from illegally sourced timber continue to be put in place in both Europe and North America, potentially making it much more difficult for illegal timber to enter world markets.
- Despite the economic crisis, corporate social responsibility programmes are seen as a competitive advantage in demanding forest products markets and are poised to have greater impact with the publication of ISO 26000 on social responsibility.

[17] By Dr. Jim L. Bowyer, Dovetail Partners, Inc., USA; Dr. Eric Hansen, Oregon State University, USA; and Dr. Helmuth Resch, University of Natural Resources and Applied Life Sciences, Austria.

Secretariat introduction

Forest products markets are not only affected by private sector strategies and actions but also by government policies. This chapter examines how various policy initiatives have affected the forest products marketplace in 2009 and early 2010. Some of the issues are new, while others are based on updates from last year's chapter. Additional sector-specific policies may be found in the following chapters. The focus of this year's chapter is linked to the theme of the *Forest Products Annual Market Review*, i.e., "Innovation for structural change recovery."

Initial market indications show an upturn in forest products markets following the 2008-2009 economic and financial crisis which significantly affected the UNECE region. Innovative products such as engineered wood products are the forest sector's means to meet new market needs. The Society of Wood Science and Technology focuses on new wood and paper products, which will complement the traditional Timber Committee Market Discussions. The authors are scheduled to present the chapter at the 11-12 October 2010 Joint Timber Committee and Society of Wood Science and Technology Market Discussions, which focus on the same theme.

We are fortunate again to have the chapter written by Dr. Jim Bowyer[18], Director of the Responsible Materials Program, Dovetail Partners, Inc., and Professor Emeritus, Department of Bioproducts and Biosystems Engineering, University of Minnesota, USA; Dr. Helmuth Resch[19] Emeritus Professor, University of Natural Resources and Applied Life Sciences, Vienna, Austria; and Dr. Eric Hansen[20], Professor, Department of Wood Science and Engineering, Oregon State University.

We are grateful for the contributions of Mr. Xiaozhi Cao, University of Washington; and Ms. Xiaoou Han, Dr. Chris Knowles, and Mr. David Smith of Oregon State University.

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3.1 Chapter overview

In recent years the forest sector has had to face several challenges. The global economic crisis has had a sharp impact on markets for forest products, leading to mill closures and curtailed production, with associated unemployment, and a marked decline in the trade of wood. Substantial reductions in sawnwood production have, in turn, reduced the availability of mill residues to, and accordingly increased costs for, industries dependent upon this source of wood as a raw material. At the same time, emphasis on bioenergy development throughout the UNECE region and elsewhere, largely driven by government policies, has increased competition for woody raw material for composite panel and paper manufacturers.

As the global economy seems to rebound, the forest sector is likely to improve, as suggested by the UNECE Timber Committee forecasts for 2010[21]. However, full recovery of the forest sector could take years. On a positive note, sector performance in both the near and longer terms is likely to benefit from the rising value of wood as a source of both energy and industrial chemicals and feedstocks, which is linked to wood's being a renewable resource.

Environmental and social initiatives continue to be pursued by the forest sector, including steps to curb illegal logging and the trade of illegally sourced wood, advancements to improve the safety and performance of wood products, and actions to raise the level of environmental and social responsibility of manufacturers and distributors. Within the near term, corporate social responsibility (CSR) is likely to become a more prominent issue for the forest products industry, as well as for all industries, with the pending release of the final ISO 26000 series standard on social responsibility by the end of 2010.

3.2 Economic stimulus policies and forest products markets

As reported in the *Review* in 2009, governments throughout the UNECE region implemented a wide range of economic stimulus policies to counteract the global recession. While information is available about the impact of stimulus efforts on a number of sectors, there is little information available about specific impacts on forest products markets.

Examples of measures that potentially had a positive impact on wood products manufacturers include support for export financing in European Union countries and in Japan, initiatives to spur home-buying in the United States and Canada, and a unique Wood-First initiative in

[21] http://timber.unece.org/index.php?id=42

British Columbia, Canada. China's efforts to stimulate its economy included a considerable focus on its forest sector; these are reported in section 2.6.

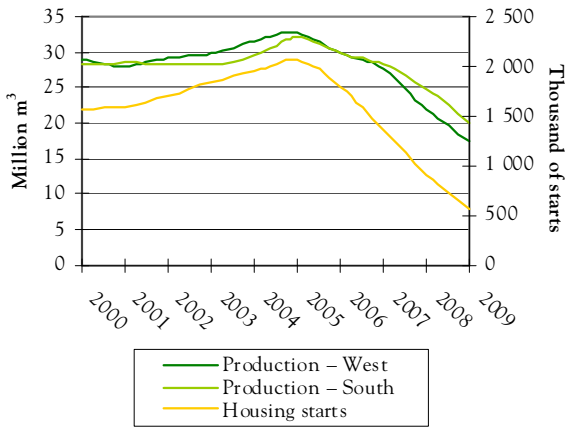
In Europe, several countries initiated action to address the problem of increasingly expensive export credit insurance, a particular challenge for small and medium-sized enterprises (SMEs). To soften the impact of the economic downturn, a number of countries supported their export industries, especially the SMEs, by arranging for official export credit agencies to guarantee and insure finance arrangements. A number of European countries that export wood products (including Austria, France, and Germany) offered bridge financing and shipping guarantees through state-backed export finance and insurance agencies. Funding for programmes and instruments for financing investment is being channelled through international financial institutions and through specialized programmes such as those targeted at SMEs and Trans-European Networks. Japan has implemented similar measures. Information regarding specific impacts of these measures is elusive but the impact is likely to be limited. In France in May 2009, President Sarkozy announced the establishment of a strategic fund with an initial budget of €20 million and a target of €100 million, to help increase the competitiveness of the timber sector and to boost French wood production capacity.

Similarly, there is a dearth of hard data as to the effects of US and Canadian economic stimulus efforts on the wood products industry, but data that are available suggest little impact, at least in the near term. For instance, Canada implemented stimulus measures in January 2009 that included provisions aimed at the construction industry, with funding to support a renovation tax credit, funding for energy retrofits, and investments in social housing to support low-income Canadians. As residential housing is dominated by wood framing, positive impacts on the forest industry are expected. In the US, the American Recovery and Reinvestment Act of 2009 contained a number of housing-related elements, which are important to both the US and Canadian wood products industries as home building and remodelling account for about three quarters of sawnwood consumption in the US, of which about one third is supplied by Canada. Despite these actions, sawnwood production and housing start statistics suggest little impact on the US wood products industry (graph 3.2.1). Since 2005 new home construction has been in sharp decline, from 2.1 million housing starts in 2005 to 554,000 in 2009. With a similar trend in Canadian housing starts, sawnwood production in both the US and Canada has fallen about 45% from the peak years of 2004-2005.

Source: APA-The Engineered Wood Association, 2010.

GRAPH 3.2.1

Sawn softwood production and housing starts in the United States, 2000-2009



Sources: Random Lengths, National Association of Home Builders, 2010.

3.3 Forests, wood products, REDD and carbon market policies

3.3.1 REDD and LULUCF

Forestry is the only sector specifically addressed in the Copenhagen Accord. The UNFCCC COP15 recognized the importance of reducing emissions from deforestation and forest degradation enhancing forest carbon sequestration in developing countries (REDD+) and of mobilizing financial resources from the developed countries to support such actions. Similarly, issues related to land use, land-use change, and forestry (LULUCF) in the industrialized (Annex I)[22] countries continued to receive attention; the focus here was on development of comprehensive carbon accounting protocols linked to LULUCF. Key areas in this regard include accounting for

[22] Annex I countries as defined under the Kyoto protocol are industrialized countries and economies in transition.

carbon flux in forest management activities and in production and use of harvested wood products. Proper accounting for carbon implications of responsible forest management and wood use is important, as a lack of such recognition in carbon protocols is likely to skew public policy away from wood use in construction and other long-term uses as well as wood use for energy production. This may also lead to new uses of forests such as forest owners' voluntary carbon credit markets[23].

On 1 March 2010, the European Commission (the Commission) adopted a Green Paper that describes options for an EU approach to the protection of forests and to information about forest resources and their condition. The Green Paper sets out the main challenges facing Europe's forests. It identifies existing forest information systems and the tools available to protect forests, and raises a series of questions relevant to the development of future policy options. The paper is part of the follow-up to the White Paper on adapting to climate change adopted by the Commission in April 2009. The Green Paper options may lead to major changes in the extent of the information on availability of forest resources, which may benefit the wood raw material supply but simultaneously have an impact on privacy protection of forest owners.

3.3.2 *Accounting for carbon in harvested wood products*

One of those topics discussed in Copenhagen was whether and how to include carbon storage in harvested wood products (HWP) in post-2012 carbon protocols. Several environmental organizations expressed opposition to inclusion of HWP, based on fears that inclusion would encourage an acceleration of forest harvesting, while forestry interests and national governments of heavily forested countries generally advocated for inclusion.

Source: K. Taari, 2010.

[23] Presentation of Mr. Sebastien Hetch at the FAO European Forestry Commission, April 2010. http://timber.unece.org/index.php?id=efc-lisbon

Despite the challenges, movement forward on the HWP issue did occur in Copenhagen. Emerging from the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol was a report that detailed specifics about HWP (UNFCCC, 2009). Included in a list of nine points of agreement were the following:

- Each party included in Annex I shall account for all changes in the following carbon pools: above-ground biomass, below-ground biomass, litter, deadwood, [and] soil organic carbon [and] harvested wood products.
- Emissions from carbon in wood removed from forests accounted for under Article 3[24] shall be accounted for by the producing country, as a default, on the basis of instantaneous oxidation [i.e. instant release of stored carbon], or on the basis of estimates of when emissions occur, provided that verifiable and transparent data are available. Accounting shall be confined to HWP (as defined by FAO), originating from forest stock for which emissions and removals have been included in the accounting of the Party.
- Emissions from carbon in wood removed from forests accounted for under Article 12[25] shall be accounted, as a default, on the basis of instantaneous oxidation, or on the basis of estimates of when emissions occur, provided that verifiable and transparent data are available. Accounting shall be confined to HWP originating from harvested forests for which emissions and removals have been included in the accounting of the afforestation/reforestation project activity.
- Emissions from HWP in solid waste disposal sites shall be accounted for on the basis of instantaneous oxidation. [This provision ends discussion about inclusion of carbon contained in landfilled HWP in carbon accounting protocols.]

What came out of Copenhagen, then, was resolution of at least one contentious issue – carbon contained in HWP in landfills will not be counted – and some

[24] Article 3 refers to net changes in greenhouse gas emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments under this Article of each Party included in Annex I.

[25] Article 12 focuses on the clean development mechanism and its purpose of assisting Parties not included in Annex I to achieve sustainable development and to contribute to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

agreement on reporting requirements. Some issues that did not get resolved include: whether HWP language will be part of the final agreement, what basic approach will be used in accounting for carbon if HWP language is included, and whether any kind of language will be considered to acknowledge the substitution effect.

The subject is discussed in more detail in chapter 11 on carbon markets.

3.3.3 *Biomass energy policies and markets*

The International Energy Agency's (IEA) bioenergy programme established a new 2010-2016 Strategic Plan with the vision, "to achieve a substantial bio-energy contribution to future global energy demands by accelerating the production and use of environmentally sound, socially accepted and cost-competitive bio-energy on a sustainable basis, thus providing increased security of supply while reducing greenhouse gas emissions from energy use." Areas of focus include woody biomass from conventional and short-rotation forestry, agricultural crops and residues, oil-bearing plants, municipal solid waste, and industrial wastes. This latest plan emphasizes security of energy supply, greenhouse gas (GHG) mitigation and the need to develop: sustainable, non-food biomass resources; new or improved large-scale bioenergy technologies; strategies for energy policy; and support of IEA bodies in implementing agreements established by its Committee on Energy Research and Technology. The Committee and its working parties provide support and guidance for the implementation of agreements in the specific technology areas (International Energy Agency 2009: Bio-energy Programme).

IEA planning meshes well with goals for renewable fuels production established as part of 2009 EU Climate Change legislation. The EU's Renewable Energy Directive set a binding goal to source 20% of the EU's energy from renewable sources by 2020. This included a target to provide 10% of transport energy from renewable sources, including biofuels. Biofuels per se are not specified (meaning that biomass-electricity powered vehicles would count toward the goal), but given present momentum in biofuels development, a significant portion of the renewable target is likely to be satisfied in this way.

The EU's 20/20/20 goals have been implemented in member countries and the work to achieve them has started. This has meant that the already growing wood energy industry has been given a boost within the Member States and new business and employment possibilities have been created. Wood energy is also included in many research and design projects.

In February 2010, the Commission published a report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling. The report acknowledged sustainability concerns surrounding biomass production in terms of protecting the biodiversity of ecosystems and carbon stocks, notably forests. It argued that biomass waste and wood-processing residues are by-products that would be produced anyway, regardless of the energy sector. Moreover, the paper argued that deforestation, mainly at the global level, and indirect land-use change resulting from the production of energy crops can lead to a loss of carbon in forests and soils. However, it considered that these issues are addressed most effectively at the international level and expressed hope that LULUCF rules will be agreed under a new international climate agreement.

Nevertheless, the Commission communicated that it would reassess the situation by the end of 2011 and consider introducing mandatory measures to address sustainability problems in the event that land-use change and deforestation issues are not dealt with at the international level. In the absence of an EU-wide sustainability scheme, the Commission proposed criteria that Member States could apply voluntarily. The report recommended that biomass should not be sourced from land converted from forest or other areas of high biodiversity or carbon stock. Member States were urged to retain records of the origin of biomass and communicate these to the Commission for the purpose of monitoring potentially vulnerable areas. The Commission also said it would propose minimum efficiency and air-quality requirements for small-scale solid-fuel boilers in 2010. Binding EU criteria might be reconsidered in 2011. The Commission will consider whether additional measures are necessary and will publish a report by 2011.

One factor that is likely to inhibit biofuels development in both the US and EU is the use of biomass for production of other forms of energy. In the EU-27 countries, production of pelletized fuels was about four times US production. Some of those pellets and other forms of biomass are likely to eventually provide direct competition to the developing biofuels industry, not only through consumption of a portion of the same raw material pool, but also through production of electricity that will be used to power vehicles.

Source: P. Corkery, 2010.

The US Environmental Protection Agency (EPA) announced finalized changes to the Renewable Fuel Standard Program in February 2010. Refiners, renewable fuel producers, and other stakeholders collaborated with EPA in developing the rule. The Renewable Fuel Standard Program is intended to ensure that transportation fuel sold in the US contains a minimum volume of renewable fuel. The revised statutory requirements establish new specific annual volume standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that must be used in transportation fuel. For 2010, cellulosic biofuels appear in the renewable fuel volume requirements target list for the first time, with a 100 million gallon (379 million litre) goal specified for the year; the target will rise to 16 billion gallons (61 billion litres) by 2022. The 2010 renewable fuels requirement use is 8.25% of transportation fuels overall (US EPA, 2010). In Canada, national goals specify 5% and 2% renewable content in gasoline and diesel fuel, respectively, for 2010.

In both the US and Canada, wood is expected to play a significant role in meeting bioenergy targets. The impact on the wood industry is viewed as both positive and negative. On the one hand, wood demand for biofuels production is providing wood markets in areas affected by the recent decline in paper and panels manufacturing. On the other hand, the emergence of wood fuels markets is increasing both costs and competition for wood raw materials.

At present there are several European and bilateral projects on the development of the wood energy sector and, for example, the UNECE Economic Cooperation and Integration Division is assisting Russian Federation regional governments with the development of biomass action plans.

Pellet fuels and biomass-to-electricity are beginning to compete not only with the developing liquid fuels industry but with established wood-using industries as well. First highlighted as a developing issue by the European Panel Federation a decade ago (EPF, 2010), the problem came into the spotlight in the US in 2009 with the launch of the Biomass Crop Assistance Program, an initiative intended to increase the supply of biomass for production of renewable energy.

Source: W. Gretz, 2010.

Under that Program, matching payments of $1 for each $1 per dry ton, limited to a maximum of $45 per dry ton and limited to a two-year payment duration, are provided for the sale and delivery of biomass to qualified biomass-to-energy conversion facilities. Initiation of the Program in the first quarter of 2010, funded at $517 million, triggered protests from manufacturers of pulp and composite panels who saw immediate government-subsidized competition for their raw-material supplies. Subsequently, the US Department of Agriculture (USDA), the federal agency that administers the programme, proposed revisions that would exempt traditional raw materials used by the forest products industry from subsidy eligibility.

Meanwhile, a similar issue is developing in the UK, where the Government is seeking to stimulate the creation of more renewable electricity facilities in order to meet EU targets of producing 15% electricity from renewable sources (Holland, 2010). Under a current initiative, facility operators receive a certain number of Renewables Obligation Certificates (ROCs) for each mega-watt hour produced, and these are worth a particular amount of money depending on supply and demand in the ROC market. The UK Panel Industry Federation notes, however, that the indirect subsidies allow generators to pay more for wood than the unsubsidized wood panel industry can and established users are therefore unable to compete. Beyond immediate issues related to market distorting effects of subsidies, rising biomass consumption for energy

production and associated increases in biomass value raise the question of how composite panel and paper producers worldwide will fare over the long term in a world of rising energy prices and competition for the same raw materials. Policy makers are tackling this dilemma, in part armed with the new UNECE/FAO "Guidance on wood mobilization"[26].

The subject is discussed in more detail in chapter 9 on wood energy markets and chapter 11 on carbon markets.

3.4 Green building and market–impacting policies

Green building continues as a driver for building with wood. European countries are setting new policies to promote green building and are reviewing their building regulations to remove barriers to the use of renewable building materials. One means for this is prioritizing wood for buildings in green public procurement policies.

In April 2010, the European Commission made a call for eco-innovation projects to be funded under the Competitiveness and Innovation Programme, with possible significant implications for wood. A total fund of $35 million is available. Priority areas include: (a) construction products and related processes that reduce consumption of resources, (b) embodied carbon and production of by-product wastes, (c) more environmentally friendly construction materials and innovative manufacturing processes, (d) substitution of materials with reduced environmental impacts and higher resource efficiency (e.g. bio-based products), and (e) substitution of scarce materials and increased use of secondary raw materials.

Source: APA-The Engineered Wood Association, 2010.

In May 2010 the European Parliament approved plans to extend the existing energy performance labelling scheme for household appliances, setting a 2020 deadline for newly constructed buildings to meet stringent energy saving standards. Language also calls for the application of standards in major refurbishing projects whenever feasible; public buildings are to meet the new requirements by 2018. Under the agreement, Member States are responsible for setting their own building energy efficiency standards. It is not clear how the new rules will affect wood use in buildings, although the measure does call for product labelling requirements to be extended to energy-related products such as windows and doors, a provision that should stimulate wood use in those applications.

The European Committee for Standardization is working on sustainable building standardization and is expected to finalize an environmental standard for buildings by the end of 2010.

A country-specific environmentally-based initiative aimed at increasing wood use in construction was outlined in a May 2009 announcement from French President Sarkozy, directing the building industry to increase wood consumption tenfold. The action reportedly partly reflects the positive carbon benefits associated with increased wood use, as well as a desire to increase utilization of France's large domestic forest resource.

The French initiative is similar to a Government-led measure in British Columbia, Canada, to promote the use of wood in construction. Although not an economic stimulus measure per se, the Wood First Act, which received Royal Assent in late October 2009, requires provincially funded projects to use wood as the primary construction material (BC, 2010). The legislation is intended to support forest-dependent communities while promoting climate-friendly construction.

Early 2010 marked a new chapter in green building standards development in the US. On 12 January 2010 the California Building Standards Commission unanimously adopted the first State-wide green building standards code in the US, codifying a number of practices previously defined only in voluntary green building standards. Shortly afterwards the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, in cooperation with the Illuminating Engineering Society of North America and the US Green Building Council, released what is described as the first code-intended commercial green building standard in the US. In addition, the US-based International Code Council (ICC), which earlier collaborated with the National Association of Home Builders in developing the National Green Building Standard, is now developing code language to guide development of green commercial

[26] www.unece.org/publications/oes/Timber_wood-mobilization-good_practice-guidance.pdf

buildings in the US. The fourth draft of the standard – the International Green Construction Code – was released for public comment on 15 March (ICC, 2010). The intent is to incorporate the final standard into the 2012 family of ICC-codes. All of these standards are comprehensive and include language related to the use of certified wood, wood products associated with low emissions, and the use of life-cycle assessment to inform building design and selection of construction materials.

In Russia according to the "Strategy of development of construction materials industry up to 2020", promulgated in 2010 by the Ministry of Regional Development of the Russian Federation, that country's production of prefabricated wooden houses by 2012 is planned to reach 1.4 million m^2 and by 2020 – 2.9 million m^2.

3.5 Russian forest sector reform and their domestic and export market effects

An increase in the Russian Federation's log export tax, from 25% to 80%, was originally scheduled to enter into effect in January 2009. However, in November 2008, a 9 to 12 month delay in implementation was announced, pushing back the date for the tax increase to November 2009 at the latest. But on 27 October 2009, on the eve of the revised deadline for increase, Russian Prime Minister Vladimir Putin announced that the export duty would remain at 25% through 2010, and possibly through 2011 as well; as part of the same announcement, he also indicated that, though delayed, the increase has not been abandoned (Flynn, 2009).

Thus far, the effect of the tariff on world markets has been significant. For example, Finnish imports of Russian timber reportedly fell from 23% of total wood use in Finland in 2005 to less than 13% in 2009 (Karjalainen et al., 2010). The Russian-supplied percentage of total Japanese log imports dropped even more sharply – from 55% in 2006 to 17% by early 2009 (WRI, 2009). Within Russia the combined effect of the tariff and the global economic situation was to reduce wood-export volumes by about 30%; exports of roundwood fell from 21.7 million m^3 in 2008 to 15.1 million m^3 in 2009.

The log export tax, along with a parallel measure that established customs duties on most wood products shipments to the Russian Federation, was intended to divert wood raw materials from export markets to domestic mills for processing and value-added activity. This would require investments, especially foreign, in manufacturing facilities within Russia, which were not possible given the depth of the global economic crisis. Thus, it remains to be seen whether the combined log export tax and domestic industry protection duties will lead to the intended result.

3.6 China's wood products policies and potential impacts on UNECE region countries

Global economic woes, and in particular economic problems experienced by the world's largest economies, had a dramatic impact on China's forest sector. A recent report (Ma et al., 2009) indicates sharp decreases in export demand for Chinese wood products, and losses approximating to $5 billion on the part of China's wood processing industries in the first 10 months of 2008. Widespread mill closures and production curtailments have resulted, including the closure of more than 7,000 furniture enterprises in 2008 alone. More than 50% of plywood businesses and nearly 65% of primary wood processing enterprises in China reportedly halted production. Further erosion of markets occurred through 2009.

In response, the State Forestry Administration increased export tax rebates for most wood product items, and enhanced and continued a policy of reimbursement of the national value-added tax for wood products producers as well as a programme of low interest loans for forest industries. In 2008, a total of $1.26 billion in low interest loans were provided to the sector, an amount that increased to an estimated $4.5 billion in 2009 (Ma et al., 2009).

Source: T. Pahkasalo, 2010.

Another key element of forest-sector-oriented stimulus initiatives is a focus on increasing domestic markets for wood products (Cao, 2010). A new wood-frame building code adopted by the city of Shanghai in October 2009 provides an example of how domestic wood use might be encouraged, providing for significant increases in wood use in Shanghai construction as compared to previously allowed practices. The code, if adopted by other Chinese cities, could potentially create a huge domestic market for national and global manufacturers alike. Whether such changes will translate into export opportunities for producers in the UNECE region is open to debate, but it is clear that China does not have the wood resources to support a substantial increase in domestic wood consumption.

3.7 Illegal logging

Efforts to contain illegal logging through limitations on trade of the products of such activity continued to intensify over the past year. In the US, phased elements of an amendment in 2008 of the Lacey Act (reported in the 2009 edition of this chapter) came into force. The EU continued to consider legislation on the obligations of buyers and sellers who place timber and timber products on the EU market to prevent illegal logging.

US implementation of a 2008 amendment to the Lacey Act continued in 2009-2010. Phase IV began on 1 April 2010, requiring documentation for complex wood products such as pianos and sculptures. The amended Act makes it unlawful to trade in any plant that is taken, possessed, transported, or sold in violation of the laws of the US, a State, Indian tribe, or any foreign law (APHIS, 2010). Extensive education has been offered to the forest products industry regarding how to meet the provisions of the Act.

Actions by federal authorities appeared to signal an intention to vigorously enforce the new law. The US Government has begun enforcement, and in November 2009 federal agents raided the headquarters of Gibson Guitar Corporation, in pursuit of an apparent violation. The Act has clearly sent a ripple through the US industry and has increased interest in certification and verification services. A publication of the Environmental Investigation Agency describes the Act as, "…leading to a systemic shift in the practices of retailers, importers, manufacturers, and logging companies" (EIA, 2009).

The most recent EU legislation about illegal logging, "Obligations of Operators who Place Timber and Timber Products on the Market", is awaiting Parliament decision and a second reading. A Draft Recommendation for Second Reading was published on 15 March 2010. This includes a number of critiques, the most important being that the Council position does not contain a prohibition on trading illegally harvested timber and does not include obligations beyond those who first place timber on the market. The deadline for a second reading by the EU Parliament is early July 2010. If agreement cannot be reached, a conciliation process between the EU Parliament and the EU Council will follow.

Meanwhile, the EU continues development of the Forest Law Enforcement Governance and Trade (FLEGT) process. The first Voluntary Partnership Agreements (VPA) with Ghana and the Democratic Republic of Congo went into effect in 2009. This means that the first licensed timber could arrive on the market as early as 2011. Negotiations were concluded in May 2010 with Cameroon and are ongoing with Malaysia, Indonesia, Liberia and the Central African Republic. A working group on FLEGT was launched in March 2010 in Viet Nam. Contacts have also been made with several other countries.

Under the framework of the US-Russian Federation Bilateral Presidential Commission, the Russian Federal Forest Agency, USDA Forest Service and USAID signed a Protocol of Intent to strengthen collaboration in the sustainable forest management of forests through 2013. The Protocol provides a framework for joint activities to protect the world's largest expanse of forest, including both countries' efforts to mitigate climate change. The three signing agencies will collaboratively develop annual work plans in priority areas which include sustainable forest management and illegal logging (USAID, 2009).

The subject is discussed in more detail in chapter 10 on forest certification and chapter 13 on tropical timber markets.

3.8 Corporate social responsibility

The International Organization for Standardization (ISO) published the Guidance on Social Responsibility, ISO 26000, as a draft international standard in September 2009. A five-month balloting period followed, closing in February 2010. Based on that vote, the document became a final draft international standard. The Working Group is evaluating more than 2,500 comments received during the balloting period. The Working Group met in Copenhagen in May 2010. Following the meeting the final draft was circulated for a two-month balloting period. If the vote is positive, the International Standard may be published by late 2010 (ISO, 2010).

Some have questioned whether the global financial crisis might divert increased corporate focus away from corporate social responsibility (CSR) issues. Roger Hill, Head of Financial Management Advisory at KPMG, suggests the opposite: that the financial crisis may provide a catalyst to increase attention on the part of business to

broader measures of performance. He refers to the triple bottom line (People, Planet, Profits), suggesting that investors will be looking for a broader measure of a company's real contribution and performance (KPMG, 2010). At the 2009 Timber Committee Market Discussions, at the height of the economic crisis, companies having corporate responsibility programmes were experiencing a market advantage during the buyers' market.

Source: M. Fonseca, 2010.

The Timber Committee called for a workshop on CSR in the forest sector, which was conducted in Serbia in April 2009. The conclusions[27] contained the statement that, although consciousness of CSR issues in both business and civil society in south-east Europe is currently low, it is growing. CSR has value not only for stakeholders outside the corporation or association, but also within, as employee satisfaction is critical for business success. Making CSR integral to a company's business enhances motivation, productivity, labour retention and safety.

Recent research has documented the CSR claims of the top 100 global pulp, paper, and packaging producers (Han, 2010). Data were collected from annual financial and sustainability reports of each of the companies. The most commonly implemented social responsibility activities were those associated with the environment, with "resource and energy use" the most often mentioned, followed by "sustainable forestry" and "pollution and waste management." "Mitigating climate change", "types of community support", and "health, safety, and well-being" were equally mentioned. Some of the least mentioned activities included "ethical leadership", "responsible/fair remuneration" of the workforce, "promoting social and economic inclusion" in the supply chain, and "mapping key stakeholders and their main concerns." The study found few regional differences in implementation claims between Europe, Asia, North America and Latin America. The level of sales was positively correlated with level of implementation, suggesting that larger companies with more resources implement more CSR activities than their smaller competitors.

[27] Full conclusions from the CSR workshop, recommendations and presentations are available at: http://timber.unece.org/index.php?id=284

3.9 References

APHIS. 2010. Lacey Act Primer. Animal and Plant Health Inspection Service. United States Department of Agriculture. Available at: www.aphis.usda.gov/plant_health/lacey_act/index.shtml

British Columbia. 2009. Wood First Act. Bill 9 – 2009. British Columbia, Canada, 39th Parliament. Available at: www.leg.bc.ca/39th1st/1st_read/gov09-1.htm

California Building Standards Commission. 2009. 2008 California Green Building Standards Code. California Code of Regulations, Title 24, Part 11. Available at: www.documents.dgs.ca.gov/bsc/2009/part11_2008_calgreen_code.pdf

Cao, X. 2010. Chinese Wood Products Industry Targets Domestic Market for Growth.

Environmental Investigation Agency (EIA). 2009. Early Impacts of the 2008 Lacey Act Plant Amendments. Environmental Investigation Agency. Washington DC. Available at: www.illegal-logging.info/uploads/Laceyearlyimpactsmemo.pdf

European Panel Federation. 2010. EU Energy Policy Impact Study 2000. Available at: www.europanels.org/main_be.html

EU. 2010. European Parliament, The Legislative Observatory. Available at: www.europarl.europa.eu/oeil/file.jsp?id=5704232

Flynn, R. 2009. Russian Log Export Tax Increase Delayed Again. Resource Information Systems Inc. (RISI). 27 October. Available at: www.risiinfo.com/blogs/ Russian-Log-Export-Tax-Increase-Delayed-Again.html

Gerasimov, Y. and Karjalainen, T. 2009. Assessment of Energy Wood Resources in Northwest Russia. Working Papers of the Finnish Forestry Research Institute. Available at: www.metla.fi/julkaisut/workingpapers/2009/mwp108.pdf

Han, X. 2010. Corporate Social Responsibility and its Implementation: A Study of Companies in the Global Forest Sector. Oregon State University. Corvallis,

Oregon. Available at: http://ir.library.oregonstate.edu/jspui/handle/1957/14978

Holland, T. 2010. Warnings Over Wood. MRW Magazine, 1 June. Available at: www.mrw.co.uk/home/warnings-over-wood/8600502.article

International Energy Agency. 2009. IEA Bioenergy: Strategic Plan 2010-2016, 2 February. Available at: www.bioenergypromotion.net/bsr/publications/iea-bioenergy-2009-strategic-plan-2010-2016

International Code Council (ICC). 2010. International Green Construction Code, Draft 4. Available at: www.iccsafe.org/CS/IGCC/Pages/PublicVersionDevelopment.aspx

ISO. 2010. Social Responsibility. Available at: http://isotc.iso.org/livelink/livelink/fetch/2000/2122/830949/3934883/3935096/02_news/news.html

Karjalainen, T., Viitanen, J., and Gerasimov, Y. 2010. Economic Impacts of the Russian Customs Tariffs Programme for Roundwood Exports – a Finnish Perspective. Workshop on Emerging Trade Measures in Timber Markets, Geneva, 23 March. Available at: http://timber.unece.org/fileadmin/DAM/meetings/05Karjalainen_et_al.pdf

KPMG. 2010. Introducing the Triple Bottom Line. Available at: www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Press-releases/Pages/Press-release-Introducing-the-triple-bottom-line-1-Mar-2010.aspx

Ma, Q., Liu, J., and Du, W. 2009. How Chinese Forestry is Coping with the Challenges of Global Economic Downturn. United Nations, FAO, Forestry Division. Available at: www.fao.org/docrep/012/i1025e/i1025e09.htm

National Association of Home Builders. 2010. Housing Starts. Available at: www.nahb.org/generic.aspx?genericContentID=45409

Random Lengths. 2010. Available at: www.randomlengths.com

Sikkema, R., Steiner, M., Junginger, M, and Hiegl, W. 2009. Final Report on Producers, Traders, and Consumers of Wood Pellets. Intelligent Energy Europe. December. Available at: www.forcebioenergy.dk/pelletsatlas_docs/showdoc.asp?id=100113154336&type=doc&pdf=true

UNFCCC. 2010. Harvested Wood Products. Key documents related to accounting for harvested wood products in international climate protocols. Available at: http://unfccc.int/methods_and_science/lulucf/items/4016.php

USAID. 2009. Press release USAID Signs Agreement with U.S. Forest Service and Russian Federal Forest Agency to Protect World's Largest Forests. Available at: www.usaid.gov/press/releases/2009/pr091207.html

US Department of State. 2009. The Pittsburgh Summit 2009: Key Accomplishments. G-20. Available at: www.pittsburghsummit.gov/resources/129665.htm

US Environmental Protection Agency (US EPA). 2010. EPA Finalizes Regulations for the National Renewable Fuels Standard Program for 2010 and Beyond. Office of Transportation and Air Quality, EPA 420-F–10-007. Available at: www.ethanolmarket.com/Media/EPA%20-%20RFS2,%20February%203,%202010.pdf

Chapter 4
Record low timber harvests put pressure on wood raw material prices: Wood raw material markets, 2009-2010[28]

Highlights

- The continued global financial crisis is affecting demand for all forest products, with consumption in 2009 of wood raw material, including roundwood and wood chips, falling for the second consecutive year.
- The total timber harvest in the UNECE region was 1.1 billion m^3 in 2009, which was down 300 million m^3 compared with just two years earlier: the greatest reductions occurred in North America and the CIS subregion, where total removals were equally down 14% from 2008.
- An estimated 880 million m^3 of the total timber harvest was used for industrial purposes: the lowest ever recorded.
- The storm "Klaus" hit southwestern France and northwestern Spain in 2009 and an estimated 700,000 hectares of mostly maritime pine were affected.
- The total wood fibre consumption by the pulp industry in Europe was 136 million m^3, down 16% from its peak in 2007, mainly because of weak paper markets on the continent.
- The substantial rise in demand for woody biomass, including forest residues, urban wood, sawmill co-products and smaller logs for energy generation that has occurred in Sweden and Germany is a trend likely to be repeated in many other countries.
- In most countries, sawmills and pulp mills are now paying almost 17% more for their wood than in 2008, but prices are still lower than before the start of the financial crisis.
- The strong pulp market, particularly in China, pushed wood fibre costs upward around the world over the past 12 months, with an increase of more than 11% in the first quarter of 2010 as compared with the first quarter of 2009.

[28] By Håkan Ekström, Wood Resources International, US.

Secretariat introduction

Wood raw materials markets are the foundation for the following chapters in the *Forest Products Annual Market Review*. Demand for sawnwood, panels and pulp translates to removals of roundwood from the extensive forests across the UNECE region. Long before the 2008-2009 global economic crisis, roundwood removals were fully sustainable in the sense that the volumes of wood removed was appreciably less than the increased volume arising from annual growth. Thus, the growing stock in UNECE region forests has been increasing steadily every year. The downturn in demand for wood products means that there are greater volumes than before 'stored' in the region's rich forests. Wood raw material includes roundwood, chips and other residues used to manufacture primary and secondary products. Spurred on by policies supporting renewable energy, bio-energy is consuming increasing amounts of wood raw materials.

The *Review* benefits from continued collaboration with Mr. Håkan Ekström[29], President, Wood Resources International. He is the Editor-in-Chief of two publications that follow global fibre markets, including prices: *Wood Resource Quarterly* and *North American Wood Fibre Review*, which provide him the most up-to-date information on global markets. His expertise is evident in the current analysis. Mr. Ekström regularly presents his analyses in international forums such as the UNECE Timber Committee Market Discussions. We also acknowledge the contributions from Ms. Ariane Crèvecoeur of the Confederation of European Paper Industries (CEPI) and Dr. Nikolai Burdin, Director, OAO NIPIEIlesprom in the Russian Federation.

Since the international terminology may need clarification, a schematic diagram of the breakdown of roundwood into different subcategories appears in the annex to this volume. The complete statistics upon which this chapter is based are available in the electronic annex on the *Review* website.

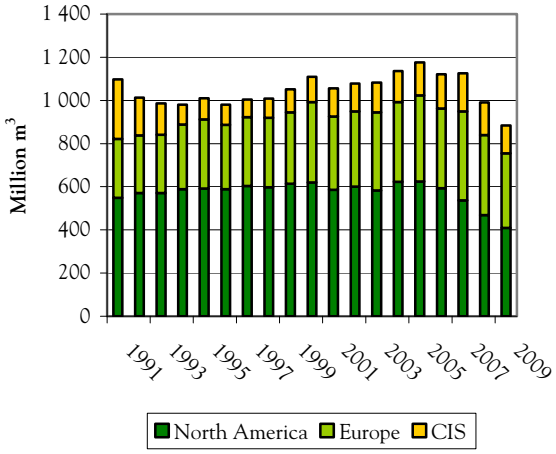
4.1 Introduction

In most countries within the UNECE region, the forest products industry had another difficult year in 2009. The global economic and financial crisis continued to have a major negative impact on the demand for the majority of forest products. As a consequence, consumption of wood raw material, including roundwood and wood chips continued to fall. The decline in log consumption will probably reach a bottom during 2010 and slowly start increasing again in 2011.

The 2008-2009 economic downturn had a clear impact on roundwood removals in the UNECE region (graph 4.1.1). For the first time in almost 20 years, annual removals of industrial roundwood have dropped well below 1 billion m^3. In fact the removals in 2009 are the lowest on record since UNECE began to collect data in 1964.

GRAPH 4.1.1

UNECE region industrial roundwood removals, 1991-2009

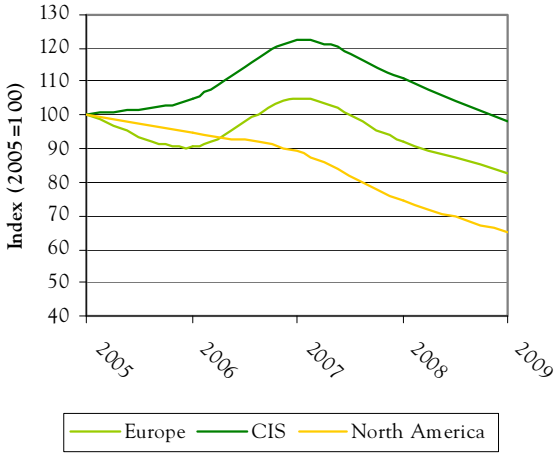


Source: UNECE/FAO TIMBER database, 2010.

The softwood roundwood market has weakened most, falling almost 24% since 2007 and affecting all UNECE subregions (graph 4.1.2).

GRAPH 4.1.2

Consumption of softwood industrial roundwood in the UNECE region, 2005-2009



Note: Industrial roundwood excludes woodfuel.

Source: UNECE/FAO TIMBER database, 2010.

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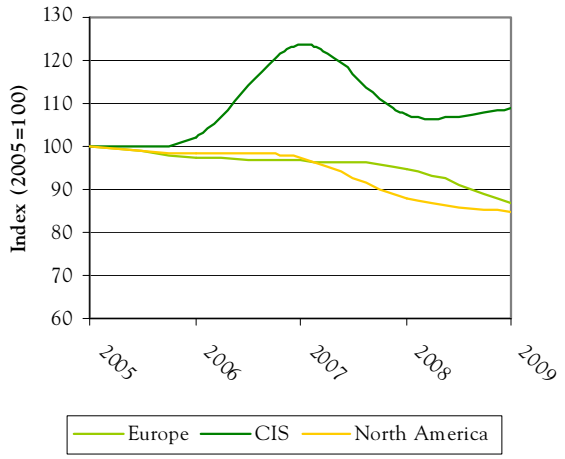
By contrast, consumption of hardwood roundwood has declined 13% since 2007, with the fall more pronounced in Europe and North America than in the CIS, where there appears to be evidence of a modest revival in consumption having taken place in 2009 (graph 4.1.3).

GRAPH 4.1.3

Consumption of hardwood industrial roundwood in the UNECE region, 2005-2009



Note: Industrial roundwood excludes woodfuel.

Source: UNECE/FAO TIMBER database, 2010.

The total timber harvest in the UNECE region was 1.07 billion m^3 in 2009, which was down an astonishing 300 million m^3 over three years. The biggest reductions occurred in North America and the CIS region where total removals were down 14.6% and 14.4% respectively from 2008; the fall in Europe was only 5.0%.

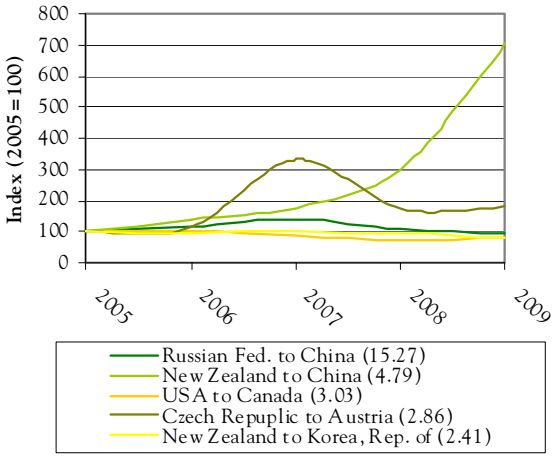
An estimated 880 million m^3 were used for industrial purposes, of which 73% consisted of softwood species mainly used by the sawmilling sector. The harvests of industrial roundwood in 2009 were the lowest ever recorded by UNECE/FAO.

Approximately 200 million m^3 of roundwood, or almost 20% of total removals, were estimated to have been used for energy. However, the data for volumes removed from forests for energy are highly unreliable, as few countries have consistent methods of collecting relevant data for this increasingly important end-use.

Almost 8% of industrial roundwood production in the UNECE region was exported in 2009. A majority of the shipments were between countries within the UNECE region. The export share, which was slightly higher for softwood than for hardwood, fell in 2009. One of the greatest changes in trade flow over the past few years has been the sharp decline in Russian roundwood exports, which coincided with an increase in export taxes. Another is the increase in log imports by China. New Zealand has increased its softwood log exports to China seven-fold since 2005, replacing much of the shipments of softwood logs from the Russian Federation (graph 4.1.4). In Europe, the major change in log flow has been the sharp rise in shipments from the Czech Republic to Austria, driven mainly by the lower cost of Czech logs.

GRAPH 4.1.4

Top 5 international trade flows of softwood industrial roundwood by volume, 2005-2009



Notes: Values in legend box are in 1 million m^3 in 2008. Basis of trade flow graphs changed from previous *Reviews*.

Source: WRI databank, 2010.

4.2 Europe subregion

4.2.1 Industrial roundwood markets

Most countries in Europe reduced harvest levels in 2009 because of the lower operating rates in the forest industry. France and Germany were the exceptions; in these two countries, roundwood removals were slightly higher in 2009 than in 2008. Interestingly, Germany's log consumption in 2009 increased by 12%. The higher demand was met mostly by Germany's change from a net exporter to a net importer in 2009.

The largest declines were in Austria and Finland, where harvests were down 27% and 20% respectively in 2009, as compared to 2008. The forest industries of both countries depend heavily on the export market, and shipments of sawn softwood in particular have fallen during 2008 and 2009.

Timber harvest was estimated at 446 million m^3 in 2009, of which 346 million m^3 was for industrial purposes (table 4.2.1). Wood used for fuel was estimated at 100 million m^3 in 2009.

TABLE 4.2.1

Roundwood balance in Europe, 2008-2009
(1,000 m³)

	2008	2009	Change%
Removals	469 219	445 991	-5.0
Imports	61 514	47 090	-23.4
Exports	39 299	36 454	-7.2
Net trade	-22 215	-10 636	…
Apparent consumption	491 433	456 627	-7.1
of which: EU27			
Removals	421 211	400 590	-4.9
Imports	57 456	44 451	-22.6
Exports	35 736	33 102	-7.4
Net trade	-21 720	-11 349	…
Apparent consumption	442 931	411 939	-7.0

Source: UNECE/FAO TIMBER database, 2010.

European consumption of industrial roundwood in 2009 fell to 360 million m³, a decline of 18% from its all-time high in 2007. Log consumption in 2009 was the lowest since 1998. Finland recorded the biggest decline from 2008 to 2009: of the overall 32 million m³ reduction in log consumption, Finland alone accounted for almost 20 million m³.

The southwest region of France has been struck by two major storms in the past 10 years, with the result that the standing volume of coniferous timber has been reduced to almost half the pre-storm levels. In January 2009, the storm "Klaus" hit southwestern France and northwestern Spain. Most of the damage occurred in France, where an estimated 700,000 hectares (ha) were affected. Approximately 300,000 ha of mostly maritime pine were classified as "seriously" impacted, meaning 60-70% of the trees were on the ground. An estimated 40 million m³ of timber was damaged in France, which is 1½ times the annual harvest for the entire country. Approximately 70% of the damaged timber was marketable, of which a majority was pine. Much of the remaining volumes were smaller poplar logs from plantations.

During 2009, approximately 14 million m³ of the damaged timber was harvested and removed. This was only about half the total volume of merchantable wood. Since the local industry was unable to consume the sudden surge in log supply, there were increases in the export of both logs and chips from the ports of Bordeaux and Bayonne.

Spain was less affected by "Klaus". However, locally in the province of Galicia, the damage was devastating, with almost 2 million m³ of radiata pine and high-quality eucalyptus (mainly *Eucalyptus globulus*) plantations being destroyed.

In 2009, logging activity in private forests in Finland reached its lowest level in almost 20 years. Harvest volumes were just over half of the levels of 2008. This dramatic decline in harvests came despite a government tax break of 50% on timber sales revenue that was introduced in early 2009. This tax break was reduced to 25% from 1 January, 2010.

Not only did the domestic sourcing of logs fall in Finland, but log imports have also dropped dramatically in recent years in accordance with their rationalized manufacturing capacity. Total imports of softwood and hardwood logs were only about 3.7 million m³ in 2009, which was down from 13.4 million m³ in 2008 and 16 million m³ in 2005.

In the first quarter of 2010, there was finally good news coming from the Finnish forest industry: Sawnwood production was up 24%, and pulp and paper production increased 10% over the equivalent quarter in 2009. These higher production levels increased the demand for logs, from both domestic suppliers and imports.

Source: Metsäliitto, 2010.

Europe continues to be a net importer of wood raw material. However, the log trade deficit has been shrinking steadily from 28 million m³ in 2005 to only 14 million m³ in 2009. By far the largest supplier has been the Russian Federation, which mainly supplied sawmills in northern Europe with softwood logs and pulp mills with hardwood logs. This flow of logs declined substantially in 2009, when high log export taxes were implemented to discourage exports.

The supply and demand of wood chips and sawmill co-products on the continent continue to be out of balance: net imports in 2009 were 9.2 million m³, practically the same as the record year of 2008. The largest importers were pulp mills, MDF manufacturers and energy plants in Germany, Turkey, Finland, Sweden, and Italy (ranked in order from the largest importer). Major exporters of wood chips in Europe have been the Czech Republic, France, Germany and Latvia, while major

supplying countries lying outside Europe included Brazil, Canada, the Russian Federation and Uruguay.

The pulp and paper market in total had another weak year in 2009 (market pulp was an exception) and wood fibre demand from this sector fell for the second consecutive year. The total fibre consumption was 136 million m^3, which was down 16% from its peak in 2007, according to industry organization CEPI. Sweden (+4.4%) and Portugal (+4.6%) were the only countries that increased wood fibre use from 2008. The increases were the result of higher production of market pulp rather than integrated pulp production. Of the largest pulp-producing countries, Finland and Norway reduced fibre consumption the most. Permanent and temporary mill shutdowns resulted in a decline in wood fibre demand by over 25% in these two countries in 2009.

Source: D. Moorhead, 2010.

Since sawnwood production declined in 2009, so did the supply of co-products like wood chips. As a consequence, pulp mills had to rely on a higher percentage of roundwood in their intake. Between 2008 and 2009, therefore, the share of roundwood in wood fibre use increased to 50%, while the share of co-products fell from 25% to 22%. In 2009, almost 29% of the industrial roundwood harvest in Europe was used by the pulp sector.

4.2.2 Wood energy developments

Over the past few years, there has been a rapid, worldwide expansion in the consumption of renewable energy by the pulp and paper industry. Numerous pulp and paper plants have made the strategic decision to invest in the equipment needed to make the switch from fossil fuels to woody biomass. Global consumption of woody biomass by the pulp industry increased by over 50% between 2006 and 2009 (Fisher International, 2010).

The annual consumption of biomass for energy generation by the global pulp industry in 2009 was an estimated 75 million m. t. While the biggest increases have occurred in Latin America, Asia and Oceania, mills in North America and Europe are still the largest users of biomass, sourced mainly from forest residues and industry co-products. Not surprisingly, the leading biomass-consuming countries by volume are regions with large areas of forests, including Brazil, Canada, Sweden and the United States. Perhaps somewhat unexpectedly, pulp mills in Australia, France, Finland, Germany, New Zealand and Sweden have consumed fairly small volumes of woody biomass up until now.

The rising use of biomass by the forest industry, and to an even larger extent by the residential energy sector, is increasingly impacting the management of forests and the prices for smaller logs.

4.3 CIS subregion

Removals of industrial roundwood in the CIS region fell 16% to approximately 128 million m^3 in 2009. Total removals were down 14% (table 4.3.1). The fall was steeper for hardwood species than for softwood. The accuracy of the harvesting data is uncertain, since in addition to the official estimate there is also an acknowledgement by the Russian Federation Government that there is "undocumented" timber harvesting in the country. In addition, Belarus and Ukraine have not reported any change in roundwood removals in over three years. The reason for this is not clear.

TABLE 4.3.1

Roundwood balance in CIS, 2008-2009.

(1,000 m^3)

	2008	*2009*	*Change %*
Removals	208 684	178 684	-14.4
Imports	795	569	-28.4
Exports	41 981	27 211	-35.2
Net trade	41 185	26 642	-35.3
Apparent consumption	167 498	152 041	-9.2

Source: UNECE/FAO TIMBER database, 2010.

A major setback for the Russian logging industry in 2009 was the dramatic reduction in exports of both softwood and hardwood logs to Europe and Asia. The decline was directly related to log export taxes and weakened demand during the economic crisis. The log export market is still highly important to many companies and their employees in the Russian Federation, as about 23% of the softwood and 12% of the hardwood harvests are shipped out of the country. In 2009, softwood exports fell 27% to 18.3 million m^3, while hardwood exports fell 72% to 3.4 million m^3 from 2008.

The biggest declines were in softwood sawlogs to China and hardwood pulplogs to Finland.

The Prime Minister of the Russian Federation, Mr. Putin, announced in October 2009 that the current log export tax for softwood timber would remain at 20% of the log value (with a minimum of €15/m³) for 2010 and he hinted that this tax might be extended to 2011 if the demand for Russian forest products had not improved by that time.

The key message in the Prime Minister's statement was that the Russian Federation has no intentions of suspending the export tax, as had been requested by the Finnish Government and by the European Union. There are, however, indications that the duty-exemption for birch logs with a top-diameter smaller than 15 centimetres might be changed to 24 centimetres, which would represent a partial softening of the tax code.

The Russian log export taxes have changed the way foreign forest companies source their logs, particularly China, Finland and Japan. Companies in these countries are changing their strategies for the future manufacturing of wood and pulp products. Finland, which in 2005 imported over 13 million m³ of logs from the Russian Federation, is expected to import only about 2 million m³ in 2010. The three major Finnish forest companies, all of which have been present in the northwestern Russia for many years, have reduced the number of Russian workers from about 4000 employees in 2007 to nearer 1000 in 2009.

Logging activity has reduced because of the log export taxes and changes in the Forest Code that was adopted in 2008. It is currently unclear how the new Code envisages reforestation and infrastructure investments will be financed. These questions, together with uncertainty about liabilities for future costs of forest management and road construction, are believed to have resulted in reluctance on the part of many potential forest investors. To succeed in increasing harvests in the coming years, there may be a need for greater transparency on these issues, as well as improved record keeping and forest management.

4.4 North America subregion

4.4.1 Industrial roundwood removals

Production and consumption of industrial roundwood have fallen faster in North America than in any other region of the world over the period 2004-2009. Removals in 2009 were almost 410 million m³, which was 16% less than 2008 and as much as 36% lower than the record year of 2005. Removals of both industrial and fuel roundwood was down to 452 million m³ in 2009 (table 4.4.1). The reduction in demand for timber is mainly the result of a decline in sawnwood production in both the US and Canada, which was due to the housing construction collapse. There has been a consistent downward trend in sawnwood output since 2005, a reduction of roughly 44% in both countries.

Timber harvests in the US were down to 304 million m³ in 2009, of which 192 million m³ were softwood logs. This was the lowest level in at least 20 years. Removals of roundwood in Canada have also declined substantially in the past few years and in 2009 totalled 105 million m³, with 88% being softwood species.

Source: P. Dyson, 2010.

The sawn softwood industry is by far the largest consumer of logs in Canada. In 2009, an estimated 75% of the total consumption of 88 million m³ was consumed by this sector. Almost 14% was used by the pulp industry, while the remaining 11% was consumed for wood-based panels and sawn hardwood manufacturing. Total log consumption in Canada has fallen mostly as the result of a sharp reduction in sawnwood exports to the US over the past few years.

TABLE 4.4.1

Roundwood balance in North America, 2008-2009

(1,000 m³)

	2008	*2009*	*Change%*
Removals	515 456	452 101	-12.3
Imports	6 291	5 666	-9.9
Exports	13 372	12 503	-6.5
Net trade	7 081	6 837	-3.4
Apparent consumption	508 375	445 264	-12.4

Source: UNECE/FAO TIMBER database, 2010.

US softwood log exports have been surprisingly stable at approximately 7.5 million m³ annually from 2005. Canada has for a long time been the major destination for exported logs and accounted for approximately 40% of

the total shipments in 2009. The major change between 2005 and 2009 has been the decline in exports to Japan and increases to China and the Republic of Korea. In 2005, the latter two countries accounted for only 13% of all exports, while in 2009 their share had grown to 29%. This trend has continued and during January-April 2010; log exports to China and the Republic of Korea accounted for 34% of shipments, while exports to Japan were down to 21% (as compared with a 35% market share as recently as 2005).

4.4.2 *Developments in the pulping industry*

In late 2008, US pulp companies started to take advantage of a loophole in a tax law that was originally introduced in 2005 to encourage the use of alternative fuel over fossil fuel for cars and trucks. However, chemical pulp-producing mills were able to receive a substantial tax credit for black liquor, a by-product of wood pulp production. This tax credit continued to impact fibre sourcing decisions for many pulp companies in the US until 31 December 2009, when it was abolished. A number of companies reported that they were running a higher share of virgin wood fibre rather than recycled fibre as a result of the tax credit. Some pulp mills were also running at higher operating rates than planned, thanks to the subsidy.

This federal tax credit, which amounted to $125-$200/ton pulp, was a temporary saviour for many chemical pulp-producing facilities, adding over $7 billion to the forest companies' balance sheets last year. A number of pulp and paper companies actually made more money from the tax credits than from selling forest products in 2009.

The Canadian Government initiated the Green Transformation Program in June 2009 in response to the black liquor tax credit in the US. The programme was meant to improve energy efficiency in the pulp and paper industry and to support innovation of renewable energy production technologies. The programme, which was capped at Can$1 billion, was based on the volume of black liquor produced at pulp mills during 2009. The funds must be spent on capital expenditures at pulp and paper mills in Canada before March 2012. Examples of approved projects include upgrades of cogeneration (combined heat and power) units, improvements to the efficiency of recovery boilers, and investments in machinery to produce ethanol from biomass on a trial basis.

4.5 Wood raw material prices

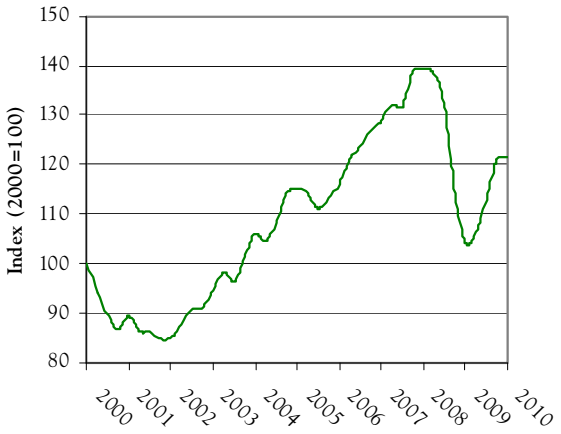
4.5.1 *Softwood sawlog prices*

Wood raw material costs have gone up for both sawmills and pulp mills during 2009 and early 2010 in most countries in the UNECE region. The Global Sawlog Price Index (GSPI), which is based on quarterly conifer sawlog prices in 19 key regions worldwide, increased from $65.89/m^3 in the first three months of 2009 to $76.77/m^3 in the first three months of 2010, a climb of almost 17% (graph 4.5.1). Despite the recent increases, the GSPI is still not back to pre-financial crisis levels. The biggest price increases in 2009 occurred in Oceania and northern Europe, while North America has seen only moderate upward price adjustments.

Although the wood costs for both sawmills and pulp mills have trended upward for many countries in the UNECE region during 2009, prices will probably level off later in 2010 and then slowly increase again in 2011 because of anticipated improvements in timber and paper markets and as a result of increased demand for wood raw material.

GRAPH 4.5.1

Global softwood sawlog price index, 2000-2010



Note: Price Index based on delivered sawlog prices in 19 key regions worldwide.

Source: Wood Resources International LLC, 2010.

Sawmills in central and northern Europe continue to have the highest wood costs among regions producing sawn softwood worldwide. These regions, which typically have high log quality and sufficient sawmills, are also regions that have experienced the biggest price increases. In Sweden and Germany, spruce sawlog prices were, respectively, 28% and 15% higher in the first three months of 2010 than in early 2009, according to *Wood Resources Quarterly* (WRQ) (graph 4.5.2). Sawlog prices in Latvia and the Czech Republic have also gone up over

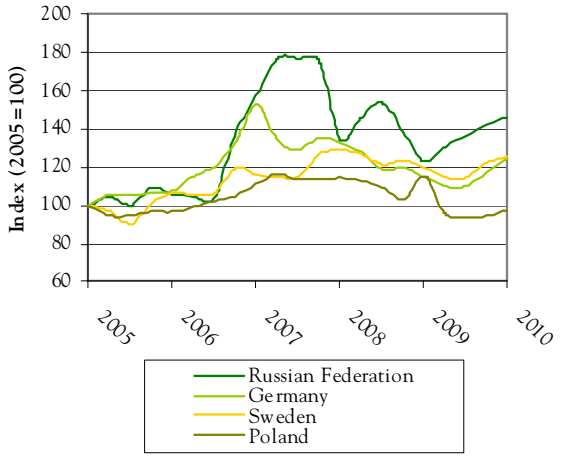
the 12 months to March 2010 as a result of higher operating rates at the region's sawmills. Early in 2010, log prices were 43% higher in Latvia and 25% in the Czech Republic compared to the first three months of 2009.

It is probable that sawlog prices will continue to increase in local currencies in many markets later in 2010, because of improved sawnwood markets. This may not necessarily translate into a higher GSPI Index, as the US dollar is expected to strengthen, particularly against European currencies.

Russian sawlog prices increased in 2009 because export-oriented sawmills have been more active log buyers than mills that have predominantly supplied the domestic market with sawnwood. Consumption of sawnwood in 2009 fell 7.2% against 2008 because of low demand from the construction sector. Although the housing market started to rebound in the final three months of 2009, there has been little activity in the construction of new buildings.

GRAPH 4.5.2

Softwood sawlog prices in Europe and the Russian Federation, 2005-2010



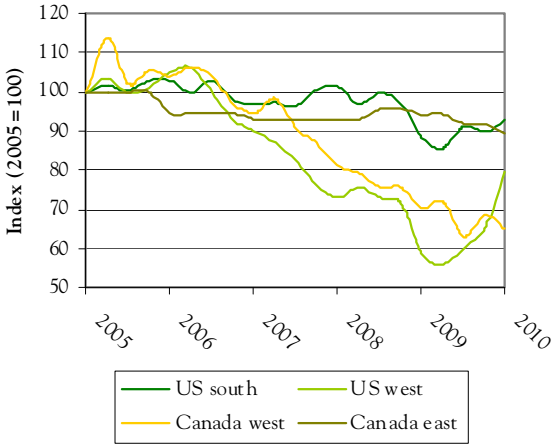
Note: Price index based on delivered log price per m^3 in local currency.

Source: Wood Resources International LLC, 2010.

Improved sawn softwood markets in the US in the latter half of 2009 and early 2010 moved sawlog prices upward in the two major sawnwood-producing regions of the south and west (graph 4.5.3). In the US west, log prices were also impacted by the strengthening of the log export markets in China and the Republic of Korea. In Canada, sawmills throughout the country reduced production substantially during 2009, which resulted in lower demand for logs and reductions in log prices.

GRAPH 4.5.3

Softwood sawlog prices in North America, 2005-2010



Note: Price index based on delivered log price per m^3 in local currency.

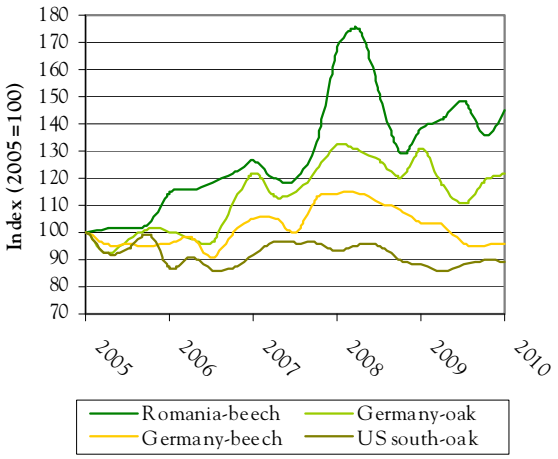
Source: Wood Resources International LLC, 2010.

4.5.2 *Hardwood sawlog prices*

The demand for hardwood products such as flooring, kitchen cabinets, furniture and mouldings was generally slower in 2009 than in 2008, throughout the UNECE region. As a consequence, demand for hardwood logs was lower and log prices last year were below the 2008 levels (graph 4.5.4).

GRAPH 4.5.4

Hardwood sawlog prices, 2005-2010



Note: Price index is based on delivered log price per m^3 in local currency.

Sources: Timber-Mart South, ZMP and WRI, 2010.

Oak log prices in the US have held up, mainly because sawnwood production was not down as much as it was in softwood sawmills. Average oak log prices were only down about 10% in 2009.

Source: M. Fonseca, 2010.

The hardwood sawmills in Romania have struggled on many fronts in 2009, with both the domestic and exports markets being slower than they were before the financial crisis started in late 2008. Two of the bright spots have been the higher shipments of beech to the Middle East and to Asia, mainly to China. As a consequence of the uncertain market conditions for sawn hardwood in the past year, log prices have fluctuated more than usual but were on average substantially lower in 2009 than in 2008 (graph 4.5.4).

In Germany, beech and oak log prices have trended downward since 2007 mainly because of weak export sales of sawnwood. It is believed that log prices did reach the bottom in 2009 and may increase later this year, mainly as a result of stronger sawnwood shipments to Asia.

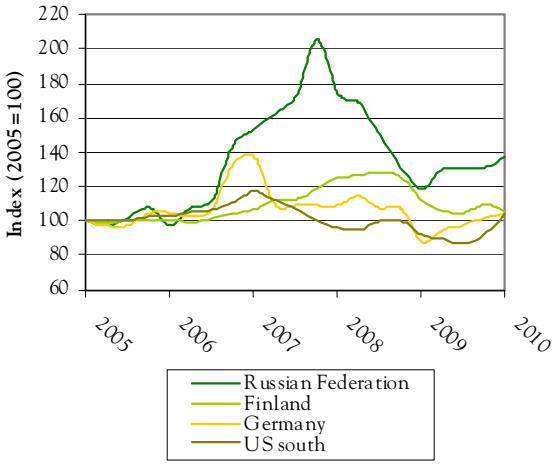
4.5.3 Pulpwood prices

The strong pulp market has pushed up wood fibre costs in most regions around the world during 2009. Both the softwood and hardwood wood fibre price indices have gone up in 2009 and were more than 11% higher in the first three months of 2010 compared to first three months of 2009, according to WRQ. Wood fibre costs are currently at their highest level since the beginning of the financial crisis in late 2008. The cost of wood accounts for about 55% of the total production costs when manufacturing pulp, so it is the one cost component that often decides a mill's competitive advantage in the global market place.

The Softwood Wood Fiber Price Index, which is based on wood fibre costs in 16 regions in the world, increased for the fourth consecutive quarter, reaching $99.55/odmt (oven-dry metric ton) in the first quarter of 2010. The Index was almost 12% higher compared with the first quarter of 2009. Softwood fibre price adjustments in individual markets have been mixed, with the highest increases occurring in the US south, western Canada, France and the Russian Federation, while prices fell most in Finland, Spain, Chile and Brazil (graph 4.5.5).

GRAPH 4.5.5

Softwood pulplog prices in Finland, Germany, US (south), and the Russian Federation, 2005-2010



Note: Price index based on delivered log price per oven-dry metric tons in local currency.

Source: Wood Resources International LLC, 2010.

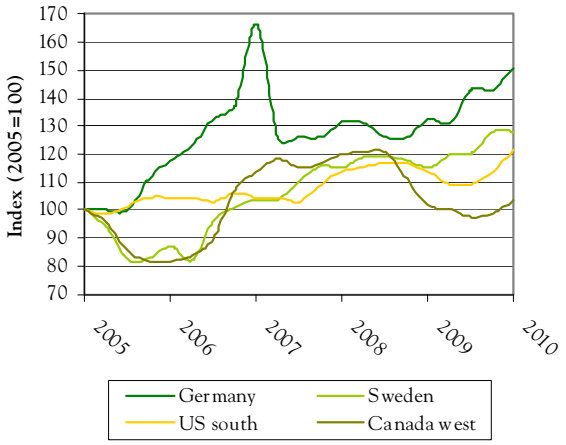
Global hardwood fibre markets have also been mixed, with prices generally increasing during 2009 in the US south, the Russian Federation and Indonesia, while prices in Sweden, Finland, Spain and Brazil were the same or slightly lower in the first quarter of 2010 compared with the first quarter of 2009. As a result, the Hardwood Wood Fiber Price Index reached $105.90/odmt in early 2010, which was 15% higher than the same quarter in 2008. Chile, Indonesia and the Russian Federation continue to have the lowest hardwood fibre costs in the world, with prices less than half of those in the high-cost regions of Europe.

Softwood chip prices in the US south reached their highest levels in the first three months of 2010 since WRQ started tracking global wood costs in 1988 (graph 4.5.6). The strong demand for wood fibre, coupled with reduced availability of wood chips from the sawmilling industry, were the main drivers of the rising prices. Wood chip prices in western Canada have also gone up steadily because of higher pulp prices, and wood costs were 12 percent higher in the first three months of 2010 than in the same period in 2009. Even though prices in both

regions have increased, pulp mills there currently have among the lowest softwood fibre costs in the world. Wood chip prices in Germany and Sweden have also risen because of increased competition for a limited supply.

GRAPH 4.5.6

Softwood wood chip prices in Europe and North America, 2005-2010



Note: Price index based on delivered wood chip price per oven-dry metric tons in local currency.

Source: *Wood Resource Quarterly*, Wood Resources International LLC, 2010.

The pulplog market in Sweden has heated up following a sharp increase in market pulp prices in 2009. In addition, energy companies in need of additional biomass are increasingly using roundwood that could also be used by pulp mills. With the expansion of energy capacity generated from biomass, it is clear that the wood fibre market in the country has forever been transformed to a more competitive marketplace with two fibre-consuming sectors having quite different expansion plans for the future. The rise in demand for woody biomass, including forest residues, urban wood, sawmill co-products and smaller logs that has occurred in Sweden and a few other countries in Europe is likely to be repeated in many other countries in both Europe and North America in the future.

4.6 References

Confederation of European Paper Industries (CEPI). 2010. Available at: www.cepi.org

Europäischer Wirtschaftsdienst (EUWID). 2009 and 2010. Available at: www.euwid-wood-products.com

Fisher International. 2010. Available at: www.fisheri.com

Timber Mart-South. 2009 and 2010. Available at: www.tmart-south.com

UNECE/FAO TIMBER Database. 2010. Available at: www.unece.org/timber

Wood Resources International, LLC. 2010. North American Wood Fiber Review. Available at: www.woodprices.com

Wood Resources International, LLC . 2010b. Wood Resource Quarterly. Available at: www.woodprices.com

Western Wood Products Association (WWPA). 2010. Available at www.wwpa.org

ZMP. 2009. Zentrale Markt- und Preisberichtstelle. Available via: www.zmp.de

Chapter 5
Global financial fallout lingers, still affecting UNECE region: Sawn softwood markets, 2009-2010[30]

Highlights

- The global economic and financial crisis resulted in a fall in demand for sawn softwood across the UNECE region starting in 2008 and continuing into 2009 and the first half of 2010; consequent weak prices led to lower production and hit many segments of the industry hard, as sawn softwood consumption dropped by 13.8% in 2009 compared with 2008.
- The end of the housing market slump in the United States in mid-2009 signalled that the damaging four-year slide may be over, but the rebound into 2010 was slight and any gains were marginal, as demand remained subdued.
- Softwood sawmilling companies in the European industry took strategic measures to respond to fluctuating markets to safeguard their future competitiveness and this resulted in a fall in output of 12.5% from 2008 levels.
- Raw material (log) availability in Europe remained an overriding constraint for the recovery of the sawmilling industry in many regions and countries leading to the view that the recovery would be modest compared with past production levels.
- European shippers continued to develop other non-UNECE export markets (mainly in North Africa, Asia and the Middle East) to compensate for losses in the US market.
- The financial crisis adversely affected the development of the sawmilling industry in the countries of the Commonwealth of Independent States with consumption continuing a downward trend in 2009; in addition, persistent uncertainty with regard to the future regulatory framework (in particular, the Russian log export tax) led to significant reductions of forest sector-related investment.
- North American output fell sharply in 2009, by 20.3% to 71.6 million m^3 after a drop of 18.8% in 2008, mirroring a 22.6% decline in demand; the effects being felt evenly in Canada and the US.
- For North American producers, there were a few bright spots in 2009 that carried into 2010: improving housing starts and repair and remodelling activity; stronger exports to China; and rapid expansion of the wood pellet and bio-fuels industries.
- The rebuilding of market demand in North America and Europe will take considerable time and will present challenges to sawmilling companies until more stable conditions occur, most likely after 2011.

[30] By Dr. Nikolai Burdin, OAO NIPIEIlesprom, Russian Federation; Mr. Thorsten Leicht and Mr. Mathias Lundt, both from Pöyry Forest Industry Consulting, Germany; and Mr. Russell E. Taylor, International WOOD MARKETS Group Inc., Canada.

Secretariat introduction

Sawn softwood markets are the pillar of the annual Timber Committee Market Discussions. Since its first session over 60 years ago, when sawnwood was rationed after the Second World War, the Committee has closely followed those market developments as an indicator of general market health. Unfortunately, in mid-2010 the sector is still suffering from the global economic and financial crisis of 2008-2009. Nevertheless, it seems that the corner has been turned, and markets should improve, along with the key demand determinant, housing construction and its multipliers.

The secretariat sincerely appreciates the work of Mr. Russell E. Taylor,[31] President, International WOOD MARKETS Group Inc., in coordinating the chapter on sawn softwood markets once again. His consultancy firm specializes in the North American markets, as well as offshore markets. We thank him for his work in assembling the information and the expertise that he put into the production of the chapter. He regularly presents at international forums, including the Timber Committee Market Discussions. He is to present this chapter at the Timber Committee Market Discussions in Geneva on 11-12 October, 2010.

Dr. Nikolai Burdin,[32] Director, OAO NIPIEIlesprom, Moscow, is the author of the Russian sawnwood analysis. His institute is the source for the Russian Federation statistics and forecasts, not only for sawnwood but for all wood and paper products. Dr. Burdin was formerly Chair of the UNECE Timber Committee and the FAO/UNECE Working Party on Forest Economics and Statistics. Both Dr. Burdin and Mr. Taylor are members of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing.

The European subregion analysis was once again performed by Mr. Thorsten Leicht,[33] Senior Consultant, and Mr. Mathias Lundt[34] Analyst, Pöyry Forest Industry Consulting. Their insight into the European market provides much needed understanding of statistical developments. Mr. Lundt will join Mr. Taylor in presenting this chapter at the Timber Committee Market Discussions.

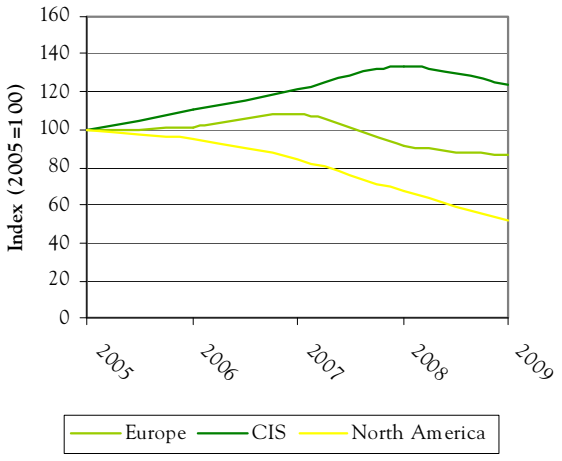
We thank all these analysts, and their sources, for this analysis of the sawn softwood market and policy developments.

5.1 Introduction

In 2009, similar declining trends in consumption of sawn softwood (-13.8%), occurring in all UNECE subregions, were replicated in terms of production and trade (graph 5.1.1). While European consumption declined by 6.3% to 84.4 million m^3, consumption in North America and CIS countries fell by 22.6% (67.0 million m^3) and 7.2% (12.5 million m^3), respectively. Following the considerable decline in demand for sawn softwood in North America since 2005, and in Europe since late 2007, mills have reduced production to match the lower consumption levels every year. Beginning in the second half of 2008, all UNECE subregions were affected by the global financial and economic downturn.

GRAPH 5.1.1

Consumption of sawn softwood in the UNECE region, 2005-2009



Note: CIS apparent consumption represents a secretariat estimate.
Source: UNECE/FAO TIMBER database, 2010.

In general, demand and prices began to pick up in the second half of 2009. Despite this, sawmills in many European countries still sustained losses, as raw material availability remained tight and log prices stubbornly high. North American mills battled weak demand-related prices until prices rallied temporarily at the beginning of 2010, and the rally ended just as abruptly by mid-2010. The rally in prices was not the result of an improvement in demand

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but reflected the fact that companies had allowed stocks to fall to low levels, based on market uncertainty.

In 2009, Europe's production declined by 5.7% to 92.9 million m^3, compared with a 20.3% fall in North America to 71.6 million m^3. The only good news was that the trend showed signs of slowing in 2010, but the evolving economic crises continued to affect all UNECE subregions. The key regional trends from 2008 continued through 2009 and included extensive mill curtailments and closures, to offset weak demand. Sawmill earnings across the UNECE region were close to zero, and many mills experienced substantial losses. Despite low building activity in key markets, there were some signs of recovery for the industry sector in 2010. However, any recovery was expected to be quite modest compared with past production levels, and the timing of the recovery remains uncertain.

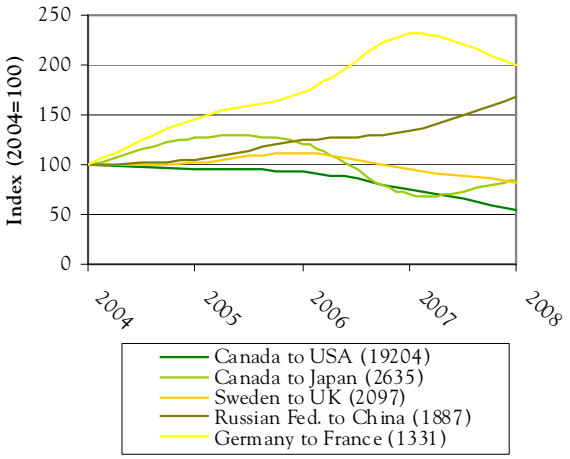
In the Commonwealth of Independent States (CIS), consumption decreased in 2009, as economies had gone into recession and construction growth had slowed. The ongoing effect of the global market collapse affected timber industry workers particularly hard, but also hurt communities dependent on the forest industry, where ongoing layoffs and curtailments became prevalent.

Sawn softwood trade flows continued to show different trends. North American and European producers had lower "domestic market" sales in 2008, while offshore exports saw more growth, especially to Asia (graph 5.1.2) and Middle East markets. This trend continued in 2009.

Source: Raunion Saha, 2010.

GRAPH 5.1.2

Top 5 international trade flows of sawn softwood in the UNECE region, 2004-2008



Notes: Values in legend box are in 1,000 m^3 in 2008. Basis of trade flow graphs changed from previous *Reviews*.

Sources: FAO Yearbook of Forest Products, 2010 and previous editions.

5.2 Europe subregion

In 2009, European softwood sawmills were adjusting to fluctuating markets and safeguarding future competitiveness. Demand had slowed in 2008, and by 2009, many mills were curtailing production. Measures taken ranged from reducing the number of shifts to temporary and even permanent mill closures. Mills took additional cost-saving measures such as delaying discretionary maintenance wherever possible. The impact of such actions was clearly visible in the Nordic countries early in 2009 with marked cutbacks in capacity. In central Europe, the effects became visible only more recently.

Other factors affected Europe's sawmilling industry. Among these has been the postponement by three years of the introduction of CE marking (a declaration that a product conforms to all applicable European legislation) for construction products, a result of problems with implementation in some countries. With the standard now expected to take effect by the end of 2012, this will finally remove this technical obstacle to trade. The adoption of CE marking could give fresh impetus to the already positive market development of wood products used in construction in several European countries and further strengthen wood's position against competing, non-wood CE-marked building materials.

The increasing use of wood for energy has benefited the European sawmilling industry, as demand for its co-products for heat and electricity generation has pushed up prices and hence income. There is also the possibility to benefit from new sources of income if sawmills use their own co-products for cogeneration to meet their own

energy needs or to make processed wood fuels such as pellets, for which there is a rapidly growing market. On the downside, a continued expansion of wood-based energy plants could potentially result in increased competition for industrial roundwood, which could push up raw material costs. Many larger sawmills that had already installed pellet manufacturing plants found themselves with a dilemma. The demand for pellets meant that the pellet lines could have operated profitably at capacity provided they had enough co-products. However, with many mills having cut production of sawnwood, co-product availability had been reduced. Only by increasing sawnwood production could they have produced enough co-products. This, however, would have led the mills to produce extra sawnwood that would have remained unsold in the current market conditions. Overall, wood energy helped many sawmills in 2009-2010 to remain profitable.

In 2009, sawn softwood production in Europe dropped for the second year in a row, totalling only 92.9 million m³ (table 5.2.1). Even though the downturn slowed in 2009, production volumes were still 5.7% less than in 2008 and 17.7% below the peaks in 2007. The fall in production was widespread across the major countries. However, the scale of the cuts varied regionally, with Finland and Austria showing the largest reductions, i.e. a decline of approximately 20% over 2008. Along with weak export and domestic markets, declining availability of imported sawlogs further hampered any recovery in production in these countries.

TABLE 5.2.1

Sawn softwood balance in Europe, 2008-2009

(1,000 m³)

	2008	*2009*	*Change (%)*
Production	98 599	92 932	-5.7
Imports	40 660	35 880	-11.8
Exports	49 140	44 367	-9.7
Net trade	8 480	8 488	0.1
Apparent consumption	90 119	84 444	-6.3

Source: UNECE/FAO TIMBER database, 2010.

Raw material (log) availability remained a major constraint for the recovery of the sawmilling industry in many other countries and regions as well (European Organization of the Sawmilling Industry, 2010). The volumes that forest owners offered to the market did not rise significantly, despite higher log prices in many countries. Forest owners reduced harvests owing to the low prices offered in 2008 for industrial roundwood and were slow to resume harvest activity, probably waiting for prices to increase. This situation hit sawmills negatively, especially in southern Germany, Austria and Finland. The outlook for 2010, therefore, was for production to be only marginally higher. Any recovery is expected to be modest in comparison with production levels of the past few years.

Sawnwood inventories at most mills were low at the beginning of 2009, following the heavy drop in demand. Most sawmills were not able or willing to build inventories, mainly due to the uncertainty of market developments and problems with financing stock. In previous years major changes in inventories often distorted apparent consumption; this effect in 2009 was only marginal. Consumption of sawn softwood continued to decline in Europe totalling only 84.4 million m³ in 2009. Compared with 2007, the market in 2009 shrank by almost 25%.

With consumption of 15.5 million m³, Germany remained the largest market for sawn softwood in the UNECE European subregion (18.4% share). France ranked second, followed by the United Kingdom (UK), Italy and Austria. Once again, falling consumption could be attributed mainly to the large cutbacks in the building sector all over Europe, while demand from the second most important sector, packaging, recovered slowly in line with the economic rebound (EUROCONSTRUCT, 2010). Volumes of softwood purchases continued to fall in those countries that had high levels of construction before 2007, e.g. Ireland, the Netherlands and Spain. The lack of improvement in the construction sector indicates that a substantial and stable improvement of consumption remains unlikely in the short term. In terms of sawnwood consumption per capita, the Nordic countries and parts of the Baltic States were still to the fore with values over 0.35 m³/capita. Only Austria had a higher consumption level (0.51m³/capita), which was the result of successful, continued timber-promotion campaigns.

In line with a falling trend in production and consumption, in 2009 European sawn softwood imports and exports fell by 11.8% and 9.7%, respectively. Traded volumes had already begun to fall in 2008 and this trend strengthened in 2009, particularly for imports, which totalled 35.8 million m³, a steep drop of 24.9% from the peak of 2007 and far below the 2005 level. The reductions differed within the subregion with Ireland, Spain and the Netherlands recording the highest falls in consumption and Italy and the UK both recording a fall of more than 10% compared with 2008. The trend apparently levelled off in 2009 with stable but considerably lower levels.

European shippers also recorded decreases in export volumes in 2009 (9.7%). The decline had already started in 2008 with a drop of 3.1% but intensified in 2009 in line with the reduced production volumes. Sweden was able to expand its leading position as the largest European

exporter, recording a growth in exports in 2009 of 2.2%, to almost 12.3 million m³. Beneficial currency-exchange rates and the availability of less expensive, wind-thrown logs from previous years helped this growth.

Germany and Austria were able to retain their positions as the number two and three exporters, despite major declines in exported volumes, of 23.5% and 19.3%, respectively. The declines reflected the impact of the global financial crisis and the US housing market collapse on major export-oriented companies. The business models of companies in those countries were not only called into question, but also seriously challenged by financing partners. It became increasingly difficult for these companies to maintain their lines of credit without major restructuring efforts and they also faced complications with regard to credit insurance. Efforts to diversify products for markets other than the US were often not successful, as an understanding of the market requirements and the mill technical capabilities (economies of scale, limited sorting lines) were often not suitable. The above factors, combined with intensified competition for logs, led to major financial difficulties, with many mills no longer competitive in international markets.

European exports to the US had been on a downward path since 2006 and continued to fall in 2009 (US Department of Agriculture, 2009). With only about 270,000 m³ compared with the peak of 4.5 million m³ in 2005, the US market almost completely lost the relevance it once had for European shippers. The fall in exports was due to uncertainty in the future of US building, excess available capacity within the US, unstable currency exchange rates and increasing shipping rates.

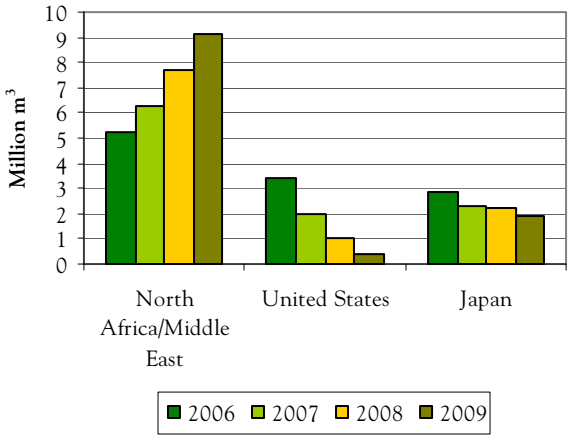
Source: Canaveral Port Authority, 2010.

European sawn softwood exports to Japan were roughly in the same range in both 2008 and 2009 and appeared to be stable at these lower levels (Japan Lumber Journal, 2010; Ministry of Finance, Japan, 2010). With an increase of almost 24%, Sweden became the leading European exporter to Japan, followed by Finland and Austria, both of which sustained major drops in exports to that country. With shipping rates rising sharply in the latter half of 2009, conditions for European exporters became even more difficult, which may explain why European exports to Japan fell by almost 30% in the first two months of 2010.

To compensate for falling sales to the US and Japan, European shippers continued to develop other non-UNECE region export markets, mainly in North Africa, Asia and the Middle East (graph 5.2.1). North Africa and the Middle East had already been important for European shippers in 2007 and 2008 (after the US market contracted). With margins and demand often much better in these regions, central European exporters turned their attention towards these markets. This trend continued and intensified, with EU-27 exports climbing by 75% over 2006 levels to total more than 9.1 million m³ in 2009. Against the backdrop of increasing quality requirements, a comparatively weak euro and the proximity of these markets to Europe, export volumes to these regions are expected to remain high in the future. Major obstacles that might restrict further growth are the lack of consistent product specification standards, payment practices and insufficient transport capacity.

GRAPH 5.2.1

Exports of EU-27 to selected markets, 2006-2009



Source: Eurostat, 2010.

Both China and Australia recorded big increases (albeit from a small base) in sawn softwood volumes imported from European producers in 2009. Australia's imports grew by almost 115% since 2005, totalling almost 195,000 m³ in 2009. As the gap between demand and local supply was

expected to widen in the coming years, supplying Australia with more structural sawnwood might be a growing opportunity for European shippers. The same is true for China, where European shippers were able to increase their exports by 57.8% (76,500 m³) between 2005 and 2009. However, these markets are still dominated by low-grade products. Consequently, Europeans have a hard time competing with producers from North America and Oceania, as these lower valued products are less able to support shipping and handling costs.

It remains to be seen how the European sawmilling industry will deal with the current period of transition. Sweden has regained its international competitiveness in recent years, replacing Germany at the forefront of the industry. In central Europe, the expected industry consolidation is not yet evident. Recently installed sawmill capacities were trapped between insufficient demand, the related price levels, and high log prices, owing to demand exceeding the original log availability projections. As a result, some of the newly-built large-scale sawmills in central Europe were operating with reduced shifts, while a few were being sold or dismantled. In eastern Europe, the sector was characterized by difficulties in financing timber-processing investment projects and questionable log availability, thus hampered the industry's modernization.

Source: Metsäliitto 2010.

However, there were still new investments in European sawmills. Investments were made in mill improvements and some sawmills were built with government aid in order to stimulate regional development and use of local raw materials. It remains to be seen how these projects will succeed, given that installed sawmill capacities already exceeds log availability projections. With demand and prices for some sawnwood products picking up slightly, the market conditions for the sawmilling industry have seen some improvement in 2010. However, any meaningful recovery of Europe's sawmilling industry will be difficult before construction activity in key markets regains momentum.

5.3 Commonwealth of Independent States subregion, focusing on the Russian Federation

Apparent sawn softwood consumption in the CIS subregion had been relatively stable in 2008 compared with other UNECE subregions, but declined by 7.2% in 2009 (table 5.3.1). The building boom, especially in Russia, came to an abrupt end, in line with the deteriorating gross domestic product (graph 5.3.1). With residential as well as non-residential construction figures slowing down, the consumption of sawn softwood also declined. In particular, the construction of single-family houses (a segment where timber-frame construction had enjoyed considerable success in recent years) registered a significant drop. Although timber-frame construction continued to gain market share, total consumption plummeted due to the decline in construction.

TABLE 5.3.1

Sawn softwood balance in CIS, 2008-2009

(1,000 m³)

	2008	*2009*	*Change (%)*
Production	28 655	28 637	-0.1
Imports	1 942	1 939	-0.2
Exports	17 110	18 059	5.5
Net trade	15 168	16 120	6.3
Apparent consumption	13 487	12 517	-7.2

Source: UNECE/FAO TIMBER database, and secretariat estimates 2010.

As a consequence of reduced consumption and increased exports, production volumes of sawn softwood in the CIS in 2009 were estimated to have remained the same as in 2008.

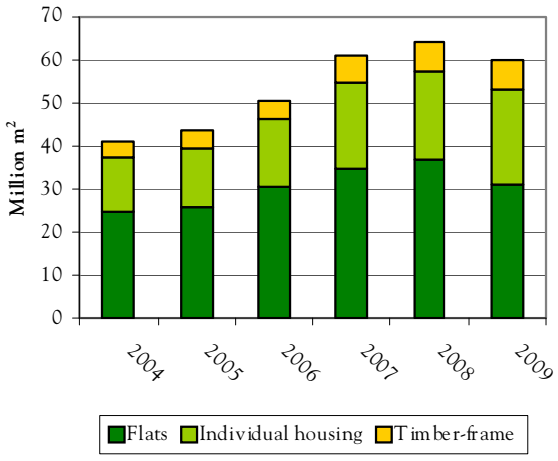
The official statistics received in June 2010 for Russian consumption were acknowledged by the statistics correspondent to be substantially underestimated. Analysts outside Russia attributed this to a lack of reporting, predominantly by small and medium-sized sawmills, although some larger mills may not have included all of their production data by the deadline. As exports rose faster than recorded production, official statistics show a large drop in apparent consumption.

To portray more accurately the positive development of apparent consumption in the CIS, the secretariat used residential construction statistics for Russia. The positive construction trends from 2004 to 2008 average 11.1% per annum as shown in graph 5.3.1. In 2009 the official construction statistics showed a drop of 7.2%, which is the decrease the secretariat applied to consumption. The

following analysis of the Russian sawn softwood markets does not have any secretariat modifications to the statistics, and readers are advised to focus on production trends rather than absolute volumes. Readers should also note that the tables in the electronic annex[35] contain only official statistics and no secretariat estimates. Therefore, discrepancies exist in production and consumption for 2008 and 2009 between this chapter (secretariat estimates) and the electronic annex tables. The secretariat is attempting to resolve the issue with the Russian statistical authorities at Rosstat.

GRAPH 5.3.1

Russian residential construction, 2004-2009



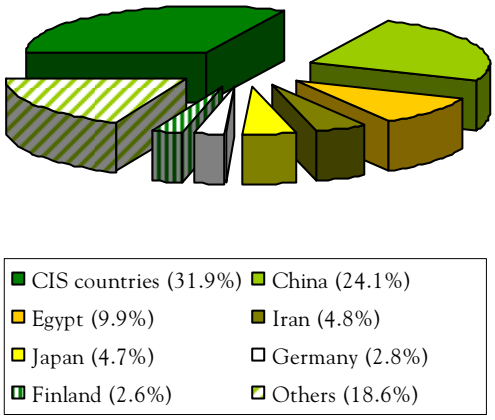
Source: Rosstat, 2010.

However, the decreased sales prospects are not the only explanation for declining production volumes since the peaks of 2007. Uncertainty about the proposed increase in export taxes on Russian sawlogs (from 25% to 80%) at the end of 2008 had created considerable insecurity for loggers, sawmillers and traders, and this persisted in 2009. The trend was reflected by large reductions in investment for the development of the forest sector, which was contrary to the intent behind the measure. Overall, the CIS did not make essential progress in developing a clear regulatory framework and investment conditions that could provide a large stimulus for sawmill investment. Consequently, modernization of the sawmilling industry was further delayed.

Despite falling production, the CIS countries recorded an increase in exports of 5.5%, totalling almost 18.1 million m³ in 2009. As the CIS's largest producing and exporting country, Russia benefited from the comparatively stable economic situation in the central Asian countries and China in particular. As a result, the share of CIS countries and China in Russia's total exports was well above 55% (graph 5.3.2). With sawn softwood now exported to China to replace the logs that China at one time would have imported from Russia, China's importance for Russian exports of sawnwood may now become even greater than the European markets of the 1990s.

GRAPH 5.3.2

Major destinations for Russian sawn softwood exports, 2009



Source: OAO NIPIEIlesprom, 2010.

In Russia, the national housing programme had a targeted level of residential construction of 140 million m²/year from 2012 to 2015. These figures equal an increase of more than 100% over the current level. The programme was expected to boost demand for wood products even if realistically these targets could not be achieved. It was a good sign for a new forest industry strategy, which strongly supports the wooden housing industry and related wood sectors. Consequently, hope prevails that 2010 will show major signs of recovery in the CIS sawmilling sector.

5.4 North America subregion

North American sawn softwood consumption fell sharply for the fourth consecutive year to 67.0 million m³ in 2009, down 22.6% from 86.6 million m³ in 2008 and a staggering 49% from the record of 128.7 million m³ in 2005. The US housing market (new and existing homes) continued to decline steadily from its peak in early 2006 to a bottom in mid-2009. Along with the effect on North American consumption, the crisis had negative impact on North American sawn softwood production, as shown by a drop of 18.3 million m³ (20.3%) production between 2008 and 2009 (table 5.4.1).

[35] www.unece.org/trade/timber/docs/fpama/2010/table-list-2010.htm.

TABLE 5.4.1

Sawn softwood balance in North America, 2008-2009
(1,000 m³)

	2008	2009	Change (%)
Production	89 853	71 583	-20.3%
Imports	21 950	15 703	-28.5%
Exports	25 208	20 277	-19.6%
Net trade	3 258	4 575	40.4%
Apparent consumption	86 594	67 008	-22.6%

Source: UNECE/FAO TIMBER database, 2010.

Approximately two thirds of all sawn softwood is used in residential construction and remodelling applications, the majority of this being two-inch thick dimension sawnwood and studs. With eroding demand for new housing construction, US apparent consumption was lower again in 2009 at 52.9 million m³ – a drop of 16.4 million m³ or 23.6% from 2008. Canadian consumption also fell, to 14.1 million m³ or (a decrease of 18.6%). This occurred at the same time as the full impact of lower exports from Canada to the US was felt (Wood Markets Monthly, 2010). Engineered wood products saw even lower consumption levels, as about 80% is used in residential housing construction (see chapter 11).

With a glut of existing and new homes for sale in the US, housing supply continues to exceed demand in mid-2010. US house prices are still falling in many large regional markets and it seems unlikely that there will be an end to this turmoil soon. Record mortgage foreclosures in early 2010 confirm that the housing market remains unsettled (see also chapter 1).

As a result of high housing inventories and weak demand, in 2009 new residential housing starts in the US were just 554,000 units. However, they averaged over 600,000 on an annualized basis for the first half of 2010 (US Department of Census, 2010). This compares with a peak of 2.07 million housing starts in 2005 and normal activity of about 1.6 million starts annually (Wood Markets Monthly, 2010). Housing starts are the key demand driver for wood products in North America. Thus, plunging starts in the US continued to have a serious impact on North American sawnwood consumption. Since demand for new housing and building materials are interconnected with the US economy, the current market situation remained unsettled.

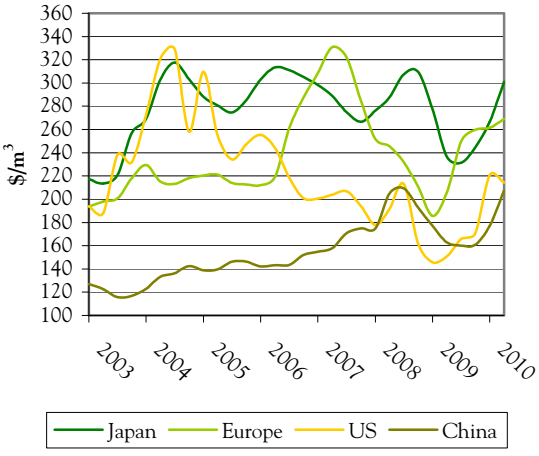
In periods of 2008 and throughout much of 2009, sawn softwood prices were near or below break-even for many commodity structural sawnwood mills. All sawmilling regions of North America had to continue to reduce or stop production as sawnwood demand collapsed. North American sawmill capacity utilization (sawnwood production as percentage of total capacity) fell from a more usual 90% to below 65% in 2008 and were below 60% for much of 2009. Canadian mills had slightly lower capacity utilization than US mills in 2009 as freight costs, currency exchange rates and export duties on US shipments worked against their exports. It was estimated that almost 15% of the North American sawmilling capacity had closed since the beginning of 2006, with the balance having cut back production to differing degrees.

With low demand and production, North American sawnwood prices have trended lower since 2004 and bottomed out in the first quarter of 2009 (graph 5.4.1). There was an anomaly from January to April 2010, when prices soared because of low stock in the supply chain. By June 2010, prices had returned to the weak levels in the second and third quarters of 2009. Prices are expected to trade within this range for much of the rest of 2010 (Wood Markets Monthly, 2010). Low US prices have made prices in many export markets much more attractive, particularly in China where demand is strong for lower grade sawnwood (The China Book, 2010).

Reflecting lower demand, North American sawn softwood production slumped in 2009 to 71.6 million m³ from 89.9 million m³ in 2008. The overall reduction of 20.3% occurred roughly evenly in Canada (20.8%) and the US (19.9%). The first half of 2010 saw some modest production gains.

GRAPH 5.4.1

Sawn softwood quarterly price trends in Japan, Europe, US and China, 2003-2010



Notes: Japan: BC W-SPF 2x4, J-Grade, C&F. Europe: Swedish Spruce 47x100mm, C&F. US: BC W-SPF #2&Btr, 2x4 delivered to Chicago. China: SPF/Hem-Fir, Green, #3&Btr 1-7/8x4-12 C&F.

Sources: Wood Markets Monthly Newsletter and The China Book – Outlook to 2015, 2010.

US sawn softwood output in 2009 was 39.6 million m³ as against 49.4 million m³ in 2008 and 59.8 million m³ in 2007. All major producing areas of the US had double-digit declines in 2009 (as in 2007 and 2008), as mill

closures, reduced production and shift reductions continued to be regular occurrences. The US west coast (16%) had the smallest production decrease in 2008, while the decreases were greater in the US south (19%), US inland-west (22%) and California redwood regions (32%) (WWPA, 2010).

Total US exports, at 1.6 million m^3, were slightly higher in 2009 than in 2008, with little change in markets. Canada remained the US's largest export market (28% share) followed by Central America and the Caribbean (19.5%), Mexico (18.5%) and Japan (12%). However, overseas exports, while small, exceeded imports from offshore countries for a third consecutive quarter starting in the third quarter of 2009. The last period when annual export volumes exceeded imports was in the mid-1990s.

US imports of European sawn softwood plummeted by 66% in 2009 to just 270,000 m^3, the lowest since the late 1990s. Canadian exports to the US dropped by 4.3 million m^3 (29%) in 2009 to 14.3 million m^3 (Wood Markets Monthly, 2010).

Canada's sawn softwood output in 2009 fell to 32.0 million m^3 from 40.4 million m^3 in 2008 and was down to almost half the peak of 62.2 million m^3 in 2004. Production losses in eastern Canada (21%) exceeded those in western Canada (15%) (Wood Markets Monthly 2010).

The British Columbia (BC) interior region continued to salvage timber from trees killed by the mountain pine beetle. Latest estimates indicate that more than 750 million m^3 of lodgepole pine trees over 16.3 million hectares have been killed. It was predicted that, by 2018, the figure could reach up to one billion m^3 (BC Ministry of Forests, 2010), affecting about one third of the total area of the BC interior region's timber harvesting land base.

Source: R. Billings, 2010.

The beetle, which is endemic to western North America, has now spread to the neighbouring province of Alberta and infestations have occurred from Montana to New Mexico, up and down the Rocky Mountain Front Range. As the beetle is only killed by extremely cold weather (-40 C), global warming is considered to be the main reason for this epidemic and for other insect outbreaks affecting conifer forests in other parts of North America.

Source: W. Ciesla, 2010.

Under the US-Canada Softwood Lumber Agreement (SLA) signed in 2006, Canadian exporters to the US continued to face an export duty that has remained at its maximum level since early 2007 (15% in BC and Alberta and 5% in the rest of Canada). Provinces east of Alberta were also required to pay back surge taxes and quota volumes totalling $54.8 million, which were attributed to the first six months of 2007. This involves an additional 10% tax until the total is repaid. However, for just two months in the second quarter of 2010, lower export taxes were assessed when prices finally rose. The rate is higher when market prices are lower and zero once price thresholds are exceeded. As with European exporters, opportunities in export markets slowed dramatically for North Americans following the start of the global financial crisis and the common quest for offshore markets.

Canadian sawn softwood exports in 2009 were 18.7 million m^3, a drop of 21% from 2008. The US remains Canada's largest market (13.3 million m^3). Most offshore

exports were generally stable and non-US exports increased over 11% to 5.4 million m^3.

For western Canadian sawnwood exporters, the rapidly expanding market in China provided a bright spot in an otherwise gloomy picture. Just as the Middle East and North Africa provide expanding export opportunities for producers in Europe, China's housing growth presents an expanding market opportunity for North America. This has been helped by the reduced availability of log exports from the Russian Federation, the result of the current 25% export tax on Russian softwood logs. In the absence of alternative log-supply options, Russian and especially Canadian sawn softwood exports to China have increased dramatically. Canadian sawn softwood exports to China (almost exclusively from BC) were 2.4 million m^3 in 2009 compared with 400,000 m^3 in 2006, representing more than 10% of BC's output. In the first four months of 2010, exports were already 100% higher than in the same period in 2009.

Another positive development in the sawmilling business in 2009 continued to be the rapid expansion of announced capital investment in bio-fuels, including wood pellets, cellulosic ethanol, and bio-diesel. The US produced over 2 million oven-dry m. t. of wood pellets, and Canada was close behind with over 1.5 million m.t. Prospects look good, as dozens of new wood pellet plants throughout North America are proposed for 2010 and beyond.

The US housing market is in the early stages of recovery. While the recovery is expected to be slow until after 2011, the mid-term outlook is better and may lead to a much healthier sawn softwood sector.

The outlook for 2010 is for slowly rising North American sawn softwood consumption as the US and the rest of the world emerge from the global recession. There is evidence of too much domestic sawmill capacity, as US sawnwood prices remain depressed with too many mills chasing too little demand. The supply and demand balance seems to be somewhat elusive, but there is evidence that the overall situation is improving as sawnwood prices move higher from the record lows in 2009. With the US housing market expected to make only a modest recovery in 2010 and 2011, prospects remain challenging for domestic producers and offshore imports. Given the housing market and US economic forecasts, a return to more normal sawmilling conditions and business is unlikely until after 2011.

5.5 References

BC Interior: Mountain Pine Beetle Attack Outlook to 2028. 2010. Available at: www.woodmarkets.com

British Columbia Ministry of Forests. 2010. Mountain Pine Beetle Action Plan Update, 2009. Available at: www.for.gov.bc.ca

European Organization of the Sawmilling Industry. 2010. Press release from June meeting. Available at: http://eos-oes.eu/en/news/archive

EUROCONSTRUCT. 2010. 69th Euroconstruct Conference. Available at: www.euroconstruct.org/conference/conference.php

EUWID Wood Products and Panels. 2010. Various issues. Available at: www.euwid.de

Holzkurier. 2009. No. 03. Gefährliche Erlösschere. Available at: www.timber-online.net

International WOOD MARKETS Group – Global Database. 2009. Available at: www.woodmarkets.com

Japan Lumber Journal. 2010. Available at: http://www.jlj.gr.jp/

Ministry of Finance. 2010. Available at: www.mof.go.jp/english/

Pöyry Forest Industry Consulting Databases. 2010. Available at: www.poyry.com

Rosstat. 2010. Official Statistics. Available at: www.infostat.ru/

Spelter, H. 2010. Lumber Market - Status & Trends. Available at: http://www.mlep.org/documents/lumbermktstatustrends.pdf

The China Book. 2010. 2nd Edition: Outlook to 2015 – Wood Products Industry & Market Review. Available at: www.woodmarkets.com

Timber Trade Journal. 2010. Various issues. Available at: www.ttjonline.com

UNECE/FAO TIMBER database. 2010. Available at: www.unece.org/timber

US Bureau of Labour Statistics. 2010. Available at: www.bls.gov/

US Department of Agriculture. 2009. Foreign Agricultural Service. Available at: www.fas.usda.gov/

US Department of Census. 2010. US Housing Starts. Available at: www.census.gov

WOOD MARKETS Monthly International Report. 2009 and 2010. Various issues: Available at: www.woodmarkets.com

WWPA. 2010. Lumber Track – various issues. Available at: www.wwpa.org

Chapter 6
The long struggle towards recovery: Sawn hardwood markets, 2009-2010[36]

Highlights

- The downturn in the sawn hardwood industry deepened further throughout the course of 2009 as overall production across the UNECE region declined 5.9% to 39.2 million m^3.
- Total consumption of sawn hardwood across the UNECE region fell a further 7.2% to 38.5 million m^3 in 2009, as the economic and financial crisis reduced demand for hardwood products.
- Total European production of sawn hardwood fell by 5.7% to 12.9 million m^3 in 2009, a significant rise in Romanian production being insufficient to offset large declines in France and Germany.
- Consumption of sawn hardwood within Europe fell by 9.3% in 2009, a decline that reflects slow demand in the furniture and parquet industries.
- Oak has been consolidating its dominant market position in European flooring and joinery sectors during the recession, whereas tropical hardwoods have been losing share, due to limited availability and development of innovative new products for external applications.
- Patchy signs of recovery in European sawn hardwood demand were reflected in rising prices in early 2010, but it is too early to judge whether this resulted from short-term restocking or was driven by a sustained increase in consumption.
- Sawn hardwood production in North America has been declining for a decade, falling from a peak of 31.0 million m^3 in 2000 to 23.2 million m^3 in 2009, raising concerns that the hardwood forest resource is now seriously under-utilised.
- There are indications that in North America both consumption and exports of sawn hardwood bottomed out by mid-2009 and began to improve in the second half of 2009.
- Emerging markets, notably China, are playing a more critical role in the sawn hardwood trade, particularly now that declining availability of logs in East Asia is helping generate new demand for imported sawn hardwood products.
- Green building rating systems have gained momentum during 2009 and 2010, boosted by political interest in climate change and green-tinged emergency public funding, increasing the need for hardwood suppliers to provide credible environmental life cycle data.

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Secretariat introduction

The most valuable sawn hardwood demand stems from appearance-grade sawnwood manufactured into furniture, mouldings, parquet, etc. Low-grade hardwood is most often used for packaging, such as pallets. Both of these end-uses suffered during the economic and financial crisis of 2008-2009 but were showing improvement in 2010.

The *Forest Products Annual Market Review* profits from the detailed knowledge of Mr. Rupert Oliver[37] of Forest Industries Intelligence Limited. He is a renowned specialist on the topic and has gained a wealth of experience working as a specialist in hardwood marketing and associated environmental consultancy.

We are grateful for the support for this chapter from the European Office of the American Hardwood Export Council (AHEC). To analyse sawn hardwood market developments in the UNECE region, Mr. Oliver's research and authorship were supported by Mr. Roderick Wiles[38], Broadleaf Consulting, and Mr. David Venables[39], European Director of AHEC. Mr. Oliver, Mr. Wiles and Mr. Venables have all been working with the *Review* for a number of years and have also presented their analyses at the annual Timber Committee Market Discussions. Furthermore, they are all members of the UNECE/FAO Team of specialists on Forests Products Markets and Marketing.

This chapter focuses on temperate hardwoods, although some passages also refer to the competition with tropical hardwoods. More information on tropical hardwoods can be found in chapter 13 of the *Review*.

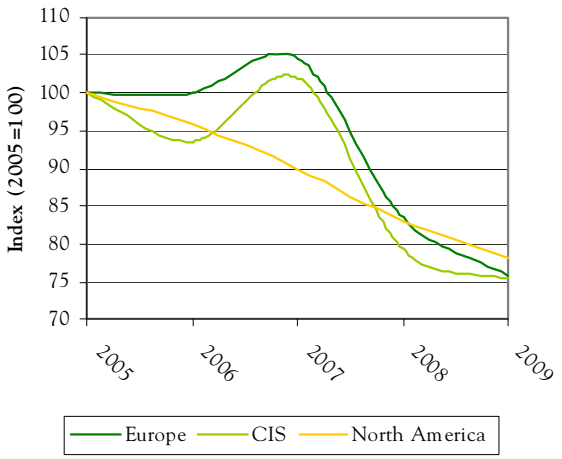
6.1 Introduction

In line with developments in the broader economy, the downturn in the sawn hardwood industry reported in the 2008-2009 *Review* deepened further throughout the course of 2009. Total apparent consumption of sawn hardwood across the UNECE region amounted to 38.5 million m^3 in 2009, falling by 7.2% from 2008 (graph 6.1.1). This follows a 13% fall between 2007 and 2008. As in 2008, consumption fell in all three UNECE subregions. However, unlike 2008 when the largest fall was recorded in North America, the biggest fall in 2009 was in Europe.

Overall production of sawn hardwood across the UNECE region amounted to 39.2 million m^3 in 2009, a decrease of 5.9% over 2008. This follows a 13% decrease in 2008 over 2007. All subregions experienced a further decline in production during 2009, with production down by 5.7% in Europe, 9% in the Commonwealth of Independent States (CIS), and 5.4% in North America.

GRAPH 6.1.1

Consumption of sawn hardwood in the UNECE region, 2005-2009



Source: UNECE/FAO TIMBER database, 2010.

While this chapter focuses on events within the UNECE region, it is important to highlight that the long-term future of global sawn hardwood markets is becoming more dependent on events outside the region. Emerging markets, particularly China, are expected to play a more critical role in the hardwood sawn timber trade in the years ahead. A growing proportion of global GDP growth in recent years has been concentrated in these emerging economies (graph 6.1.2) (World Bank, 2009; Oliver and Donkor, 2009). In the early 1990s, Less Developed Countries (LDCs) accounted for less than 20% of global GDP. On current trends this figure could hit 40% within the next decade. In terms of purchasing power parity, LDCs already account for around 50% of GDP. Much of this increase in GDP share can be attributed to rapid growth in "developing Asia", which includes China and India.

A recent report on global window and door markets highlights the importance of "developing Asia", particularly China, for future market demand in relevant sectors (Freedonia, 2009). The report forecasts that global demand for windows and doors will grow more than 4% per annum to $167 billion in 2013, less than half the rate of growth between 2003 and 2008 (when demand tripled). The slowing rate is due to the weak outlook for building construction in the large western Europe market. Future expansion is likely to be driven by demand in

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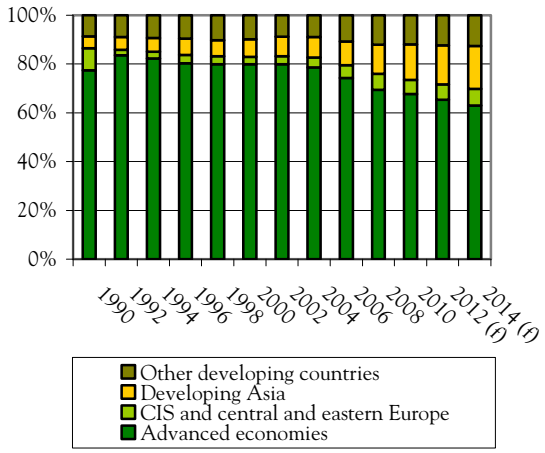
China, which is expected to account for over half of all growth in the worldwide window and door market between 2008 and 2013. The Chinese domestic market is forecast to rise 12% per year to $40 billion in 2013, outpacing all other major national markets. China's expansion will be driven by the rapid growth of building construction in the country, especially in the non-residential market. By 2013, the Chinese market is expected to have surpassed the United States as the largest market for windows and doors.

GRAPH 6.1.2

Share of world GDP by global region, 1990-2014



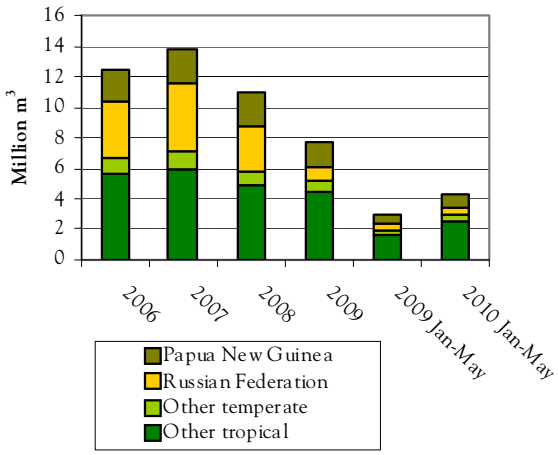
Notes: f = forecast. Current dollars.
Source: World Bank, 2009.

China's role in the international hardwood trade has continued to evolve between 2007 and 2009. The Chinese hardwood market suffered a severe downturn in line with global economic trends and with most major consuming countries. Hardwood log imports fell from a peak of nearly 14 million m^3 in 2007 to under 8 million m^3 in 2009, with a particularly sharp fall in imports of temperate hardwood logs (graph 6.1.3).

Source: S. Bratkovich, 2010.

GRAPH 6.1.3

Chinese imports of hardwood logs, 2006-2010

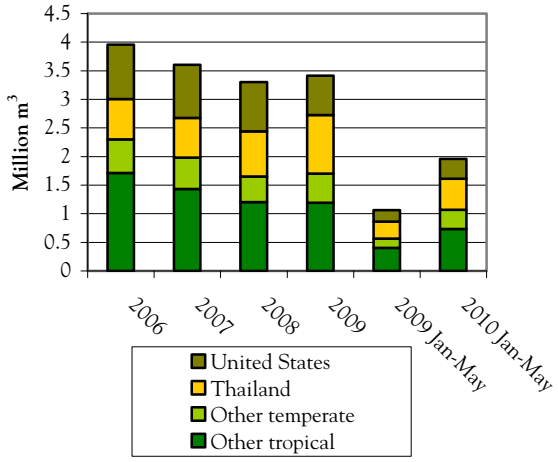


Source: Global Trade Atlas, 2010.

China's sawn hardwood trade, however, followed a different pattern. The decline in imports of sawn hardwood started earlier, in 2006, at a time when China seemed set to develop large-scale domestic sawing capacity based on imported logs (graph 6.1.4). The imposition of export tariffs by the Russian Federation and measures to improve law enforcement and reduce illegal log exports from neighbouring tropical countries has greatly reduced supplies of hardwood logs. As a result, China is becoming more reliant on imports of hardwood sawn timber. China's sawn timber imports declined only slightly between 2007 and 2008 and have rebounded with increasing strength starting from mid-2009.

GRAPH 6.1.4

Chinese imports of sawn hardwood, 2006-2010

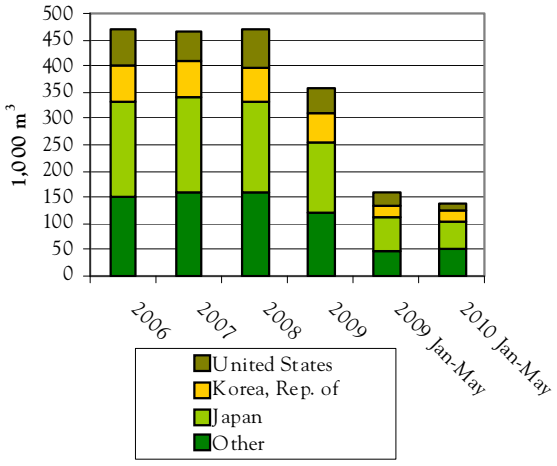


Source: Global Trade Atlas, 2010.

As China's domestic demand has increased, China's own exports of sawn hardwood – mainly to Japan and the Republic of Korea – fell markedly between 2008 and 2009, a trend which has continued into 2010 (graph 6.1.5).

GRAPH 6.1.5

Chinese exports of sawn hardwood, 2006-2010



Source: Global Trade Atlas, 2010.

Overall the signs are that the combination of strong economic and construction growth in "developing Asia" and a long-term tightening in supplies of Russian and tropical hardwood logs are now creating significant new opportunities for other hardwood producers within the UNECE region. Long-term, there is likely to be continuing strong demand for North American and European hardwood logs in 'developing Asia' but also emerging new demand for temperate hardwood sawn timber. These opportunities are all the more welcome, given signs of only slow market recovery in the traditional markets of Europe and North America.

6.2 Europe subregion

6.2.1 Market developments in 2008-2009

Sawn hardwood production in Europe was 12.9 million m^3 in 2009, 5.7% lower than 2008 (table 6.2.1). The decline felt more severe coming on top of a fall of 17% between 2007 and 2008. Germany (down 29.9%) and France (down 21.4%) recorded marked falls in production (table 6.2.2). For many years France has been the largest producer of sawn hardwood in the European Union, but lost this position in 2009 to Romania, which recorded a 38.2% increase in production during 2009.

TABLE 6.2.1

Sawn hardwood balance in Europe, 2008-2009

(1000 m^3)

	2008	*2009*	*% change*
Production	13 667	12 887	-5.7
Imports	7 208	5 083	-29.5
Exports	5 820	4 308	-26.0
Net trade	-1 388	-775	-44.2
Apparent consumption	15 055	13 662	-9.3
Of which: EU27			
Production	9 933	9 383	-5.5
Imports	6 595	4 651	-29.5
Exports	4 688	3 450	-26.4
Net trade	-1 907	-1 201	-37.0
Apparent consumption	11 840	10 584	-10.6

Source: UNECE/FAO TIMBER database, 2010.

Sawn hardwood production in Turkey, having fallen significantly between 2007 and 2008, stabilised at close to 2.1 million m^3 in 2009. This made Turkey the second largest producer of sawn hardwood in Europe in 2009. Most of the hardwood timber produced in Turkey is from low-grade domestic forests, as well as small-dimension plantation logs. Most production is for the pallet and packaging industry with only a small proportion earmarked for export..

The European Organisation of the Sawmill Industry[40] (EOS) reports that, despite the strength of production in Romania, the European hardwood sawmilling sector performed even worse than previously expected during 2009 (EOS, 2010). According to the EOS, the hardwood sawmilling industry in Europe has greatly reduced production in response to the global economic crisis both by reducing the number of shifts and through company closures. Much sawmilling capacity has been reduced permanently. While the downturn has led to closures, EUWID suggests that there has been "no major wave of consolidation" in the hardwood sawmilling industry, at least in central Europe, and the sector continues to be dominated by smaller fragmented processing mills (EUWID, 2010b).

Total apparent consumption of sawn hardwood within Europe fell by 9.3% in 2009, the figures being particularly affected by large downturns in Italy, France and Germany, three of Europe's biggest hardwood consuming nations (table 6.2.2). Consumption of sawn hardwood in Europe has been heavily impacted by slow demand in the furniture and parquet industries.

[40] EOS Member countries include: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Latvia, Norway, Romania, Sweden, and Switzerland.

TABLE 6.2.2

Production of sawn hardwood in Europe, 2008-2009
(1000 m³)

	2008	2009	Change %
Europe	13 667	12 887	-5.7
of which:			
Romania	1 592	2 200	38.2
Turkey	2 099	2 076	-1.1
France	1 590	1 250	-21.4
Germany	1 094	767	-29.9
Slovakia	779	649	-16.7
EU27	9 933	9 383	-5.5

Source: UNECE/FAO TIMBER database, 2010.

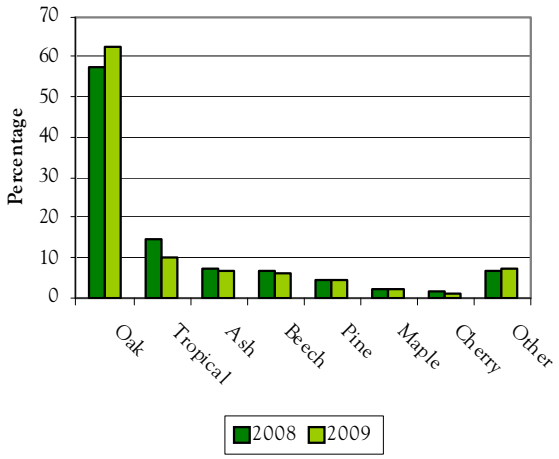
The European Federation of the Parquet Industry (FEP)[41] reported a 20% reduction in European parquet flooring production during 2009 to a volume of 67.5 million m^2 (FEP, 2010). This was the second consecutive annual fall in production, following a 16% decline during 2008. After years of growth, parquet production in 2009 was at a low level not seen since the year 2000. Unlike 2008, when a few countries (like Belgium and Romania) managed to buck the downward trend, in 2009 all countries experienced a fall in wood flooring production. Particularly steep falls were recorded in Italy, Hungary, the Netherlands, the Nordic countries, Poland, and Spain. Consumption of parquet flooring in the FEP area fell by 15.3% in 2009 to a level of 86 million m^2. Consumption fell right across FEP member countries, with Hungary, Italy, the Nordic countries, Poland and Spain recording particularly large falls.

The continuing economic downturn has had a negative effect on demand for all European hardwood species. For example, EUWID reported "massive slumps" in sales of both oak parquet assortments and "extremely slack" demand for all grades of beech timber (EUWID, 2010b).

Nevertheless, anecdotal market reports reinforced by the FEP statistics suggest that oak has been consolidating its dominant market position in European finishing sectors during the recession (AHEC 2010a, 2010b). Oak's share of total parquet flooring production in FEP member countries increased from around 56% in 2008 to nearly 63% in 2009 (graph 6.2.1) (FEP, 2010). The shift to oak contributed to slippage in market share in wood flooring for other temperate hardwood species including ash, beech, maple, and red oak. However, the major loser in 2009 was tropical hardwood, which saw its share of wood flooring drop from 14.7% in 2008 to only 10.2% in 2009.

GRAPH 6.2.1

European flooring species, 2008-2009



Note: "Other" includes species with less than 3% market share: acacia, birch, chestnut and eucalyptus.

Source: European Federation of the Parquet Industry, 2010.

Oak's increasingly dominant position partly reflects continuing strong consumer preference for this species, together with the development and application of an increasingly wide array of stain and other surface treatments that have broadened the range of looks available in oak. Oak has also benefited from a trend towards just-in-time ordering, which has favoured species regularly traded in large commercial volumes in Europe. There may also be more negative reasons for oak's increased dominance during the recession, such as greater risk aversion and a relative lack of finance to develop new product lines, which may have contributed to greater conservatism in the industry.

During 2009, the combination of the global economic downturn and the strength of the euro-dollar exchange also contributed to a 26% fall in export sales of European hardwood sawn timber. Germany and Belgium recorded particularly sharp falls in export sales in 2009. Meanwhile, countries like France and Croatia that had already suffered a major drop in exports in 2008 experienced further erosion of exports during 2009. Of all major producers, only Romania managed to maintain exports in 2009 at levels close to those of recent years. Significant depreciation of the Romanian currency in the wake of the financial crisis helped boost Romanian exports in 2009.

[41] FEP Member Countries include: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, the Netherlands, Norway, Poland, Romania, Slovakia, Spain, Sweden, and Switzerland.

6.2.2 *Market developments in 2010*

Log production remained low throughout much of Europe during winter 2009-2010 due to harsh weather and forest owners delaying harvesting until prices improved. Lack of credit constrained many mills from buying logs. Nevertheless, EOS reported that sawn hardwood production levels in member countries bottomed out before the end of 2009 and forecast (in June 2010) that production in 2010 would be 7.1% higher than 2009.

Increased production is unlikely to occur evenly across Europe in 2010. EUWID reported that Romanian hardwood sawmills were operating on short shifts in spring 2010 and that mills had closed since the start of the year (EUWID, 2010a). Romanian industry representatives have reported greater difficulties sourcing logs from public forests this year, citing factors such as the poor condition of the forest road network and requirements for advance payments when buying logs, leading some mills to source more logs from private forestry contractors. Limited supply has pushed up prices for higher grade Romanian oak logs in 2010, despite relatively low consumption. Romanian mills report that domestic demand for beech and oak sawn timber has stabilised at a low level in 2010 with export demand for Romanian beech in Western and Central Europe subdued. There are signs of improving market prospects in China and Japan (EUWID, 2010f).

Source: M. Fonseca, 2009.

In France and Germany, lack of underlying consumption has meant that serious shortages have generally been avoided despite relatively low availability of logs. Mills report that supplies of beech logs are generally adequate, the larger mills having sufficient stock to last until the new felling season starts in autumn 2010. There is pressure on available supplies of oak logs, particularly with rising demand for this commodity in export markets, particularly from China. However, increased harvesting late in the winter and carrying on into early summer meant these problems had eased somewhat by the middle of 2010. In early 2010, oak logs were fetching prices averaging 20% more than the same time the previous year. Prices for ash were also 20%-30% higher.

In the first half of 2010, sawn hardwood producers in the euro-zone began to see the benefits of a weaker euro-dollar exchange rate, which increased the competitiveness of their products. German exports of oak and beech sawn timber increased by 18% and 12% in the first quarter of 2010 compared to the same quarter in 2009 (EUWID 2010c). Much of the increase in export demand came from China and other South-east Asian markets. By mid-June, German hardwood processors were forecasting that sales during the first half of the year may be up 8%-12% compared with the same period in 2009. Similarly French hardwood producers were reporting better business during the first half of 2010 (EUWID 2010d), mainly due to rising exports to China and the Middle East. Demand for beech started to pick up during the first quarter of the year and for oak during the second quarter of the year.

Patchy signs of recovery in sawn hardwood consumption within Europe began to emerge in 2010. For example, the level of sawn hardwood imports into the EU27 group of countries hit bottom in the last quarter of 2009 and was rising again in early 2010. In June 2010, EOS was sufficiently confident of improving market conditions to predict an 8.4% increase in consumption of sawn hardwood within EOS member countries during 2010.

However, it is too early to say whether the upturn will be maintained. The apparent increase in demand in the first half of 2010 may have been driven less by a real increase in consumption and more by short-term restocking at a time when inventories had fallen to the lowest level for decades and prices for sawn hardwood looked set to increase. It is now clear that if sustained recovery in sawn hardwood demand in Europe is to take root, major end-using sectors like flooring, furniture and joinery will have to cope with progressive removal of emergency public financing in the property and construction sectors.

The prospects for rising construction sector activity generating significant increases in demand for sawn hardwood seem slim. In June 2010, delegates at the Euroconstruct conference reported that output in the European construction sector fell by 8.8% in 2009 and that a further contraction of 4% is expected in 2010 (Euroconstruct, 2010). Further deep falls in construction activity in Ireland, Portugal and Spain will be only partly compensated by gains elsewhere, notably in Poland,

where construction activity is expected to grow by 10% in 2010. Construction output is expected to increase by 1.2% in 2011, but this forecast rate of growth implies a much weaker rebound than the wider economy.

Nevertheless, there are other reasons for greater optimism in sections of the European hardwood trade and industry. The decline in new-build across large parts of Europe has fed a tendency in the residential sector to "improve-not-move", boosting hardwood demand from continuing refurbishment and renovation activity. Refurbishment activity has also been encouraged to some extent by high-profile government measures aimed at improving the energy efficiency of existing buildings. Reports from flooring and furniture trade shows in Europe in the first half of 2010 suggest that activity in the high-end bespoke sector of these markets – which particularly value hardwoods – has often held up better than the lower-end mass produced sectors (AHEC 2010a, 2010b, ITTO 2010a).

The economic downturn has impacted not just on the volume of the European hardwood trade, but also on the structure and direction of trade. For example, the recession has been accompanied by a significant increase in 'just-in-time' purchasing with little speculative buying of product to hold in stock. The desire to reduce risks associated with stock-holding now overwhelms the increase in transport costs associated with smaller but more regular shipments. This factor combined with rising freight rates has placed a premium on locally produced hardwoods that are readily available in commercial volumes. This is giving temperate hardwoods an extra edge over tropical hardwoods.

Lack of availability and lengthening lead times have become a particularly significant problem for tropical sawn hardwood in Europe during 2010. There are signs that manufacturers requiring a dark or red tropical look are increasingly looking to take more widely available lighter temperate species such as beech, tulipwood, and maple to which they will apply a stain. Temperate hardwood producers are also beginning to exploit new heat and chemical treatments in an effort to take market share from tropical hardwood in external applications such as window frames, decking and cladding (ITTO, 2009).

Longer-term gains in hardwood consumption in Europe will be particularly dependent on successful efforts in two areas: firstly, measures to promote wood's market share in relation to non-wood materials in the furniture and construction sectors; and secondly, steps by major end-using sectors like furniture and flooring to exploit the weaker euro-dollar exchange rate and to develop new markets for their products in other parts of the world.

6.3 North America subregion

6.3.1 *Market developments in 2008-2009*

In 2009, production of sawn hardwood in North America reached 23.2 million m^3, representing a fall of 5.4% since 2008 (table 6.3.1). While the decline in production during 2008 and 2009 is partly the result of the short-term economic trends, other longer-term trends are also at work.

The slide in North American hardwood production set in well before the economic downturn in the US and wider global economy. Sawn hardwood production in North America, having reached a peak of around 31 million m^3 in 2000, has been falling now for a decade. Indeed the 25% drop in production over the last decade recorded in the UNECE/FAO statistics may understate the true extent of the decline. Market reports published by Hardwood Review Express, drawing on wide-ranging interviews with hardwood producers in both the US and Canada, suggest that between 2006 to 2009 as much as 50% of productive capacity was temporarily or permanently idled (Hardwood Review Express, 2010a).

TABLE 6.3.1

Sawn hardwood balance in North America, 2008-2009
(1000 m^3)

	2008	*2009*	*% change*
Production	24 564	23 235	-5.4
Imports	1 940	1 408	-27.4
Exports	2 713	2 221	-18.1
Net trade	773	813	5.2
Apparent consumption	23 792	22 422	-5.8

Source: UNECE/FAO TIMBER database, 2010.

This is cause for concern for anyone interested in the long-term future of the hardwood trade and industry. The North American hardwood resource is the world's largest and most diverse. The latest US Resources Planning Act (RPA) assessment published in 2010 demonstrates the remarkable fact that over the last 50 years, the inventory of hardwoods standing in US forests has more than doubled as harvesting levels have remained well below the level of growth (USDA, 2010a). The signs are that this resource is now seriously under-utilised at a time when global demand for commodities is set to rise and when there is a critical need to shift the emphasis to sustainable carbon-neutral materials.

There are a number of factors contributing to under-utilisation. The North American hardwood industry's raw material supply is largely controlled by small family forest owners for whom management for timber is often only a secondary consideration. Levels of awareness of the need and value of sustainable forest use are still low. Many

policymakers and consumers have been so influenced by environmental campaigns that they have a negative perception of any form of timber harvesting. Logging professionals have been leaving the industry in droves over the last few years, many lured away by lucrative opportunities in other industries. Declining log demand, rising insurance costs, elusive financing and higher fuel costs all contributed to the downsizing (Hardwood Review Express, 2010b).

Meanwhile opportunities in the US domestic market have been undermined by the long-term decline of the North American furniture and flooring industries as consumers have switched to cheaper imported products. Declines in new housebuilding, remodelling and commercial construction along with increased substitution of cheaper MDF and softwood products have put a dent in hardwood flooring, component and moulding sales. While the development of new wood processing industries in Asia is boosting prospects for exports, the volumes involved have so far been insufficient to offset the decline in domestic hardwood consumption.

The end result of under-utilisation is that the hardwood forest is under-valued and increasingly vulnerable to conversion. The draft 2010 US National Report on Sustainable Forests (NRSF), while indicating that current use of US forests is sustainable from the perspective of timber production capacity, also suggests that threats to this resource from outside the forest sector are increasing (USDA, 2010b). The area of forests impacted by fragmentation due to urban development has been rising at a steady rate over the last decade.

Source: D. Cappaert, 2010.

The US NRSF also highlights a substantial increase in the levels of biotic disturbance of US forests over the last decade. For the North American hardwood sector, the emerald ash borer (EAB) has established itself as one of the most feared threats since it was first identified as an invading pest in 2002. The latest estimate is that EAB has killed more than 70 million ash trees in the US and Canada since it arrived in the Detroit, Michigan, area in the late 1990s.

Turning to shorter term market trends, the downturn in the main North American end-use sectors for sawn hardwood deepened considerably during 2009. According to the American Home Furnishings Alliance, shipments of wood household furniture from US factories totalled $5.06 billion in 2009, 22% down from 2008. The Kitchen Cabinet Manufacturers Association reports that cabinet sales were down about 50% in 2009 from the 2006 peak, although some manufacturers noted declines of up to 70%. Sawn hardwood processors, distributors and wholesalers were forced to deal with smaller order sizes, slower customer payments and heavier competition (Hardwood Review Express, 2010a). More companies tried to enter the export arena, but this did not prevent North American sawn hardwood timber exports falling a further 18.1% to only 2.22 million m^3 in 2009, the lowest level for around two decades.

More positively, there are clear indications that both domestic consumption and exports bottomed out by around the middle of 2009 and began to improve in the second half of 2009. New demand for sawn hardwood began to emerge in Asian markets, while replacement purchasing began to pick up elsewhere.

At the same time, major reductions on the supply side also began to be felt from the middle of 2009 onwards. Falling prices of hardwood logs meant that family forest owners offered much lower volumes of logs for sale in the 2008-2009 winter logging season. Sawn hardwood prices were at extremely low levels in mid-2009 but then started to climb as supply finally fell below demand. Worldwide, the scramble for available sawn timber intensified towards the end of 2009, at a time that is typically seasonally slow (Hardwood Review Express, 2010b).

6.3.2 *Market developments in 2010*

Domestic consumption of North American sawn hardwood timber began to improve slowly during 2010. The construction sector in the US is showing more signs of life, although it continues to suffer from a critical shortage of credit for new and existing projects and intense competition for sales. Home buyer tax credits helped boost the housing market during the latter part of 2009 and into early 2010 before ending in April 2010. Housing momentum is being carried forward by low interest rates, pent-up demand, stabilizing prices and budding employment growth. The US National Association of House Builders (NAHB) is forecasting 552,000 single-family starts in 2010, up 25% from

445,000 in 2009, which was the lowest annual output since government records began. However, multifamily housing starts are expected to lose further ground in 2010, falling 18% to 93,000 units, before rebounding to 150,000 units in 2011. This is due to an acute shortage of available financing and a significant inventory of homes lost to foreclosure that is competing against normal inventory. Levels of commercial construction are also expected to remain low in the US during 2010.

Demand for cabinets in the United States has stabilized, and most manufacturers expect 2010 sales to be at least equivalent to last year. The US hardwood mouldings industry reports some improvement in demand this year, helped by the fact that overseas suppliers seem now less inclined to compete in this market - US hardwood moulding import volumes fell almost 60% between 2007 and 2009. Market reports also suggest that sales have increased for some flooring manufacturers during 2010, although this may be largely because others have closed or scaled back production (Hardwood Review Express, 2010a).

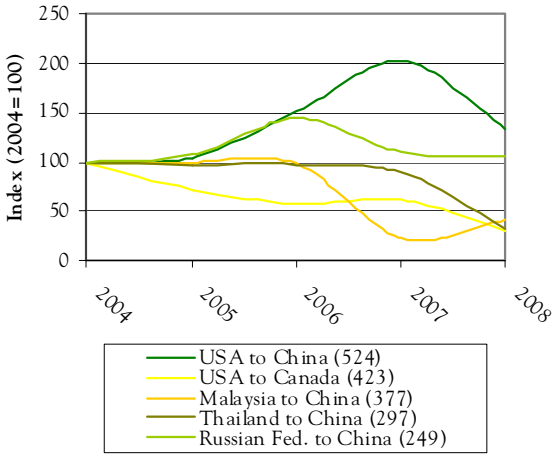
Source: R. Johnson, 2010.

Mixed reports are emerging from the furniture sector. There continue to be reports of large US furniture companies switching their domestic operations from manufacturing to distribution of imported goods (Hardwood Review Express, 2010c). Other reports are more positive. For example, production capacity has been rising again in Mississippi a centre for the US upholstered furniture industry - assisted both by aggressive tax credits and increased demand. Several major US furniture producers have also announced plans to boost production of their custom goods, an indication of strategies being adopted to avoid competition with mass-produced furniture from abroad (Hardwood Review Express, 2010a).

There was also a sharp upturn in US sawn hardwood exports in the early months of 2010. Exports were nearly 50% higher in January and February of 2010 than in the same period in 2009. Much of this growth was concentrated in Asia, with gains of 144% and 162% recorded in exports to China and Vietnam respectively. On the other hand, unfavourable exchange rates, higher timber prices and the Greek fiscal crisis were undermining exports to Europe during the early months of 2010. US exports to China, which fell in 2008, appear to be recovering (graph 6.3.1).

GRAPH 6.3.1

Top 5 international trade flows of sawn hardwood by volume, 2004-2008



Notes: Values in legend box are in 1,000 m^3 in 2008. Basis of trade flow graphs changed from previous *Reviews*.

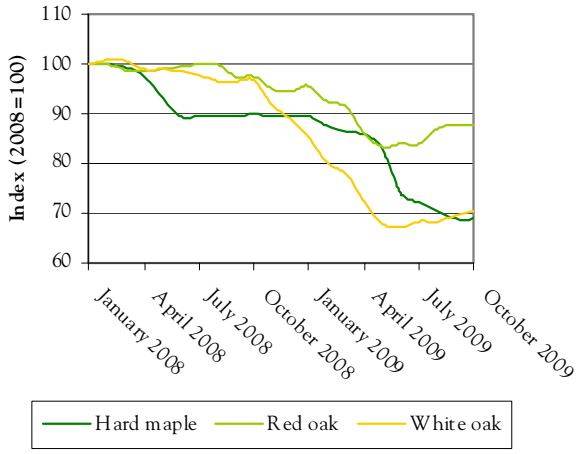
Source: FAO Yearbook of Forest Products, 2010 and previous editions.

The year 2010 has brought significant shifts on the supply side. In the early months of the year, logging levels remained quite low relative to demand, constrained in part by particularly severe winter weather and by lack of credit facilities for timber buyers. At this time, the rate of increase in demand outpaced supply so that prices for popular hardwood species and grades increased (graph 6.3.2). However, rising prices for hardwood logs brought progressively more family forest owners back into the market once the weather improved in spring 2010. In fact, the pace of increase in supply for a few species with relatively short drying times was such that signs of overproduction were emerging by summer 2010. For example, the market for common grades of tulipwood began to move from scarcity to abundance. However, other products for which there is good export demand and which have longer turn-around times – such as white

oak and walnut – were still in short supply and prices remained firm in mid-2010. Expectations for the rest of the year are that production will continue to rise and that prices will hold up better for export-oriented items than for those whose primary markets are domestic (Hardwood Review Express 2010a).

GRAPH 6.3.2

Price development for selected hardwood species in the US, 2008-2009



Source: UNECE/FAO TIMBER database, 2010.

6.4 CIS subregion

During 2009, total sawn hardwood production in the CIS dropped to 3.03 million m^3, a 10% decline on 2008 and continuing a downward trend that began during 2007 (table 6.4.1). The accuracy of the total CIS production figure is severely undermined by lack of any recent data from Belarus and Ukraine, both of which are known to play a significant role in regional supply of sawn hardwood products.

TABLE 6.4.1

Sawn hardwood balance in CIS, 2008-2009

(1000 m^3)

	2008	*2009*	*% change*
Production	3 362	3 028	-9.9
Imports	122	118	-3.3
Exports	808	696	-13.9
Net trade	686	578	-15.8
Apparent consumption	2 676	2 450	-8.4

Source: UNECE/FAO TIMBER database, 2010.

Production of sawn hardwood in the Russian Federation declined from 2.04 million m^3 in 2008 to 1.91 million m^3 in 2009. Sawn hardwood exports from the Russian Federation remained stable at a low level of around 375,000 m^3. The implication is that, once again, reduced global demand for sawn hardwood negatively affected the efforts of the Russian Government to reduce dependence on log exports and expand the domestic wood processing industry. Several investment projects have been postponed as a result. The Russian Government also decided to delay the planned rise in log export duties from €15/m^3 to €50/m^3, originally scheduled to be implemented from 1 January 2010, by a further 12 months.

Consistent information on Russian sawn hardwood prices is not readily available. However, flooring manufacturers based in northwest China report sharp increases in oak log and timber prices from the Russian Far East. Apparently shortfalls in supply combined with high levels of demand led to a 40% increase in Russian oak prices during the course of 2009. This may indicate depletion of Russia's stocks of Mongolian oak (*Quercus mongolia*). Mongolian oak is the only oak species commercially available from the Russian Far East, where it is concentrated in Primorskiy krai, close to Vladivostok. The resource is relatively limited in extent and has been heavily exploited for the Chinese market over the course of the last decade. During 2010, shortages of Russian oak have been encouraging Chinese importers to look for new sources of oak supply (AHEC, 2010a).

The Global Trade Atlas (2010) indicates that exports of sawn hardwood from Ukraine fell dramatically between 2007 and 2009 from around 410,000 m^3 to only 230,000 m^3. The major overseas markets for Ukrainian sawn hardwood are Poland, Italy and Germany.

Demand for sawn hardwoods from overseas within the CIS itself shows little consistency, with domestic resources, limited secondary processing capacity and a lack of organisation in end-user sectors playing the key roles. As a result, imports of sawn hardwoods in the CIS subregion in 2009 were low once more, estimated at not more than 118,000 m^3.

6.5 Policy and other market issues

A range of policy and other market issues are increasingly impacting on the sawn hardwood trade and industry. These are discussed further in the following sections (6.5.1-6.5.6).

6.5.1 *Consumer country legislation targeting illegal wood*

The US Lacey Act Amendment introduced in May 2008 and the European "Due Diligence" Legislation due to be passed into law in September 2010 are placing new obligations on suppliers to demonstrate "low risk" status with respect to illegal logging. Hardwood supplies in

regions where there is strong evidence of good forest governance are likely to benefit in the long-term.

6.5.2 *Government timber procurement policies*

These are becoming more significant, particularly in North-western Europe. While seeking to promote sustainable practices amongst timber suppliers, the policies may have negative consequences. Most impose sustainability requirements on timber without imposition of equivalent requirements on alternative – generally more fossil-fuel intensive - products. There is also strong reliance on sustainable forest certification systems better adapted to large forest estates than to the small family forest ownerships that predominate in the temperate hardwood sector.

6.5.3 *Green building rating systems*

These systems have gained momentum during 2009 and 2010, boosted by recent political interest in climate change and green-tinged emergency public funding during the recession. Originally focused heavily on industrialised countries, systems are now being developed in many emerging markets. Systems like BREEAM, (Building Rersearch Establishment Environmental Assessment Method) which are based on a comprehensive life cycle assessment (LCA) approach to material specification, have strong potential to benefit markets for sawn hardwoods. However, systems like LEED, (Leadership in Energy and Environmental Design) which reward environmental progress by different material sectors in an uncoordinated way, tend to discriminate against wood products. Promoting an LCA approach in green building rating systems has become a central marketing issue for hardwood trade associations. For example, in 2010 the AHEC is planning to commission the largest LCA study ever undertaken to compare hardwoods with alternative materials.

6.5.4 *Design trends*

Trends in architecture and furniture design have a considerable impact on the use of all materials. Key trends in the decorative sector, which impact particularly heavily on temperate hardwoods, include: rising interest in "sustainable design" (which for designers has many connotations and may imply, for example, greater use of recycled materials, or of natural materials, or a reduction in the use of all materials); in the "authenticity" of products; and in the "narrative" or story behind different materials. The recession is also explicitly linked to a trend towards "simplicity" in design as a reaction against the blatant materialism of the boom years. With appropriate marketing, all these trends can work strongly in favour of hardwood.

6.5.5 *REDD projects*

While REDD projects are still in the early stages, and their long-term future depends on the outcome of ongoing UN climate change negotiations, there is rising interest in the sawn hardwood sector of potential impact on long-term competitiveness and wood supply. For example, a report commissioned by the US-Based NGO Avoided Deforestation Partners and the US National Farmers Union estimates the financial benefits resulting from increased demand for a range of US commodities following implementation of an effective programme to progressively eliminate deforestation. On timber, the report suggests that a far-reaching programme to eliminate deforestation and thereby remove wood derived from forest conversion from trade, would increase the average price of US hardwoods by between $14/m^3$ cubic metre and $21/m^3$ and increase US revenue from wood products by between $2.5 billion and $4 billion each year (Friedman, 2010).

6.5.6 *Tariffs*

Tariffs have not been a significant issue in this sector in past years due to their relatively limited impact on trade in temperate sawn hardwood between developed countries, traditionally the largest trade flows for this commodity. However, new issues are arising now that global trade patterns are changing in the wake of the global recession and with the growing importance of emerging markets. For example, efforts by the European flooring sector to increase their exports to China – and thereby begin to reverse the currently dominant east-west flow of trade – are seriously impeded by disparities in tariff rates. Whereas Europe imposes no import tax on flooring from China, European flooring products are hit by a 10% import tax in China.

6.6 References

AHEC. 2010a. Report of the Domotex Trade Show, issued by the American Hardwood Export Council as part of the January 2010 European Market Report.

AHEC. 2010b. Report from London Surface Design show, issued by the American Hardwood Export Council as part of the February 2010 European Market Report.

Euroconstruct. 2010. Press release issued on the occasion of the Euroconstruct Conference in Dublin, June 2010. Available at: http://www.ecocem.ie/uploads/news/1277717689.pdf?PHPSESSID=1d5e12bc11dca4f38e438de16383ed6f

EOS. 2010. Press release issued on the occasion of the European Sawmillers Organisation General Assembly,

June 2010. Available at: http://www.eos-oes.eu/files/Press_release_EOS_AGM_Como.pdf

EUWID. 2010a. Romanian hardwood sawmills are not producing to capacity in April. Vol. 84 No. 17, 28 April 2010. EUWID. Available at: http://www.euwid-wood-products.com/

EUWID. 2010b. Consolidation pressure continued to rise in the sawmilling industry 2009.Vol. 84 No. 1/2, 13 January 2010. EUWID. Available at: http://www.euwid-wood-products.com/

EUWID. 2010c. German hardwood timber exports picking up again. Vol. 84 No. 23, 9 June 2010. EUWID. Available at: http://www.euwid-wood-products.com/

EUWID. 2010d. Revival in demand for French hardwood timber continues up to mid-June. Vol. 84 No. 25, 23 June 2010. EUWID. Available at: http://www.euwid-wood-products.com/

EUWID. 2010e. Business is relatively stable according to German hardwood timber producers. Vol. 84 No. 25, 23 June 2010. EUWID. Available at: http://www.euwid-wood-products.com/

EUWID. 2010f. Demand for Romanian hardwood timber is largely steady at a low level. Vol. 84 No. 3, 20 January 2010, p. 4. EUWID. Available at: http://www.euwid-wood-products.com/

FAO Yearbook of Forest Products, 2010. Available via: www.fao.org

FEP. 2010. Year 2009 Statistics. May 2010. European Federation of the Parquet Industry, Brussels.. Available at: http://www.parquet.net/eng/setfep.htm

Freedonia. 2009. World Windows and Doors to 2013 -- Demand and Sales Forecasts, Market Share, Market Size, Market Leaders. Freedonia Study No. 2513. Available at: http://www.freedoniagroup.com/World-Windows-And-Doors.html. June 2009.

Friedman, S. 2010. Farms Here, Forests There: Tropical Deforestation and US Competitiveness in Agriculture and Timber. Report Commissioned by Avoided Deforestation Partners and the US National Farmers Union from David Gardiner & Associates. Available at: http://adpartners.org/pdf/ADP_Report_052410a.pdf

Global Trade Atlas, 2010. Available at: http://www.gtis.com/gta/

Hardwood Review Express. 2010a. The State of the Hardwood Industry: A Sector-by-Sector Overview. Vol. 9, Issue 35, May 14, 2010. Available at: http://www.hardwoodreview.com/

Hardwood Review Express. 2010b. Hardwood Publishing Wins Federal Grant: Funded Forums Will Help Move Industry and Forests Forward. Vol. 9, Issue 34, May 7, 2010. Available at: http://www.hardwoodreview.com/

Hardwood Review Express. 2010c. Alive and Kicking: Most Signs Indicate US Furniture Manufacturing Isn't Dead. Vol. 9, Issue 38, June 4, 2010. Available at: http://www.hardwoodreview.com/

ITTO. 2010a. Optimism following successful Milan furniture show. 15 May 2010. Market News Service. International Tropical Timber Organisation, Yokohama, Japan. Available at: http://www.globalwood.org/market/timber_prices_2009/aaw20100501e.htm

Oliver, R., and Donkor, B. 2009. Monitoring the competitiveness of tropical timbers. A project for the International Tropical Timber Organisation, Yokohama, Japan.

UNECE/FAO TIMBER database, 2010. Available at: www.unece.org/timber

USDA. 2010a. Forest and Rangeland Renewable Resources Planning Act (RPA) 2010 Assessment. United States Department of Agriculture, Washington DC. Available at: http://www.fs.fed.us/

USDA. 2010b. 2010. National Report on Sustainable Forests. United States Department of Agriculture, Washington DC. Available at: http://www.fs.fed.us/research/sustain/2010SustainabilityReport/documents/draft2010sustainabilityreport.pdf

World Bank. 2009. Prospects for the Global Economy. Available at: www.worldbank.org

Chapter 7
Global panel industry caught up in economic storm: Wood-based panels markets, 2009-2010[42]

Highlights

- In response to the economic crisis, consumption of wood-based panels fell by 17.2% in North America, by 19.2% in the CIS and by only 3.7% in Europe.
- With housing starts down, demand for wooden household furniture also declined, further reducing the demand for wood-based panels.
- Substantial wood-based panel plant closures occurred across all subregions, with 5 closures in Europe, 10 closures in North America and at least 2 closures in the Russian Federation.
- Structural panel manufacturers in North America recorded their lowest levels of production capacity utilisation in 20-25 years – 66% in the plywood industry and 53% in the oriented strand board (OSB) sector.
- The weak global economy continued to adversely affect imports of wood-based panels into all subregions, with imports into the United States dropping by 27.7% between 2008 and 2009, into the CIS by 13.1% and into Europe by 10.1%.
- Subsidies to the bio-fuel sector continued to adversely affect raw material prices and availability for wood-based panel manufacturers in Europe and North America.
- Following lobbying efforts in the US, the Biomass Crop Assistance Program, which provides significant subsidies for the purchase of woody raw materials by bio-gas and bio-energy companies, was under review and would likely be rewritten to exclude sawmill co-products.
- Formaldehyde emission standards, originally passed in California, were proposed in both US Senate and House bills for national standards that would limit formaldehyde emissions at 0.09 parts per million, making this the toughest standard in the world; it is scheduled for passage in 2010 and would be implemented in 2013.

[42] By Dr. Ivan Eastin, University of Washington, US; Ms. Bénédicte Hendrickx, the European Panel Federation, Belgium; and Dr. Nikolai Burdin, OAO NIPIEIlesprom, Russian Federation.

Secretariat introduction

This chapter presents market and policy developments for wood-based panels in the UNECE region, and its three subregions, CIS, Europe and North America. A fourth section analyses price trends for panels. The secretariat greatly appreciates the collaboration for the past few years with the three specialists who wrote this analysis on the panels sector in the UNECE region, and we welcome continued collaboration with them. They are members of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing.

Dr. Ivan Eastin,[43] Director, CINTRAFOR, coordinated the chapter's production and analysed the North American markets. He is scheduled to present an update of the chapter at the joint UNECE Timber Committee and Society of Wood Science and Technology Market Discussions on 11-12 October 2010 in Geneva, Switzerland.

Ms. Bénédicte Hendrickx,[44] Economic Adviser, European Panel Federation (EPF), wrote the European analysis, based primarily on the EPF *Annual Report, 2009/2010* and the *Annual Report, 2009/2010* of the European Federation of the Plywood Industry. At times the EPF statistics differ from UNECE/FAO Timber Database statistics because of their 11-country European grouping, versus the 41-country Europe subregion of the UNECE; however, the trends are consistent.

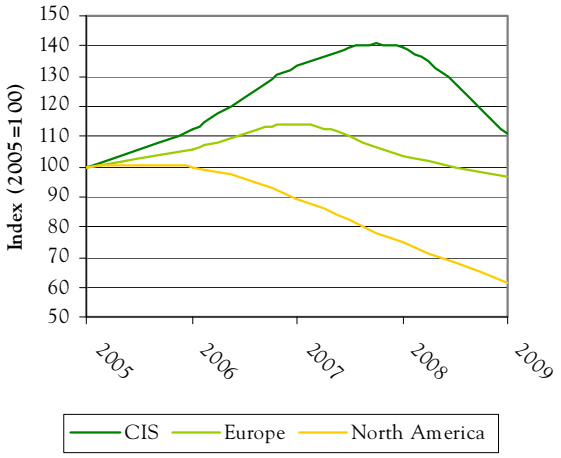
Dr. Nikolai Burdin,[45] Director, OAO NIPIEIlesprom, contributed the section on Russian panel markets. Dr. Burdin is the former Chairman of both the Timber Committee and the FAO/UNECE Working Party on Forest Economics and Statistics.

7.1 Introduction

The ongoing global economic crisis continued to affect the wood industry and, with housing starts down across Europe and North America, consumption of wood-based panels continued to decline in 2009. The decline was particularly strong within the CIS, where the economic crisis arrived a little later. Consumption of wood-based panels was down by 20.5% in the CIS, by 17.2% in North America and by 6.7% in Europe (graph 7.1.1). The wood-based panel sector was particularly hard hit because panel products are used in the framing of new homes (e.g. exterior sheathing, sub-flooring and sub-roofing), in the finishing stage of homes (e.g. laminated flooring, cabinets, moulding and millwork) and in home furnishings (e.g. wooden furniture). With new home starts at record lows, and with the home remodelling sector down significantly as well, demand for wood-based panels has followed a downward trend.

GRAPH 7.1.1

Consumption of wood-based panels in the UNECE region, 2005-2009



Source: UNECE/FAO TIMBER database, 2010.

The October 2009 Timber Committee forecast of wood-based panel consumption in 2010 was mixed, with consumption forecast to rise by 3.8% in Europe and by 4.2% in the CIS in contrast to a projected decline of 2.4% in North America. However, the American Plywood Association, in its 2009 Annual Yearbook projected that demand for structural panels (OSB and plywood) would increase by 6% in 2010. Similarly, the Composite Board Association estimated that the demand for particle board, medium density fibreboard (MDF) and hardboard will increase by 6.6%, 10% and 5%, respectively. Strong demand for woody raw materials (e.g., sawdust, planer shaving and wood chips) from the bio-energy sector will continue to increase wood raw material costs throughout 2010.

The major international trade flows for particle board in recent years appear below (graph 7.1.2). The market outlook for international trade in wood-based panels in 2010 is less pessimistic, though demand will remain weak by historical standards. US housing starts are projected to remain below 700,000 for the second year in a row, although Canadian housing starts are expected to grow by

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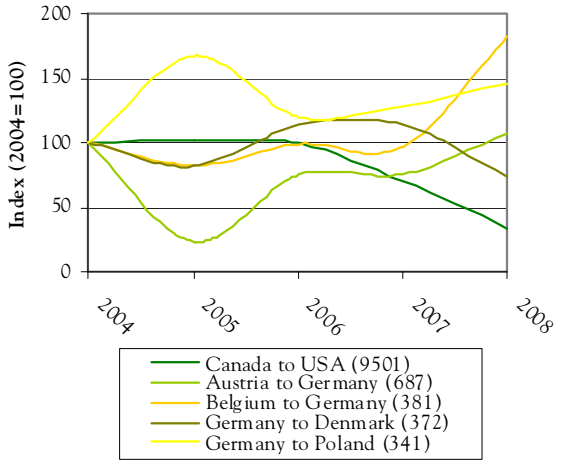
22%, from 150,000 in 2009 to 182,000 in 2010. As a result, the Timber Committee estimates that North American imports of structural panels will decline by 3.4%, and with exports down as well, net trade is expected to drop by 6.3%. The trade situation is somewhat more optimistic in Europe and the CIS, with net trade increasing by 52.3% and 166.4%, respectively.

GRAPH 7.1.2

Top 5 international trade flows of particle board (incl. OSB) by volume, 2004-2008



Notes: Values in legend box are in 1,000 m³ in 2008. Basis of trade flow graphs changed from previous *Reviews*.

Sources: FAO Yearbook of Forest Products, 2010 and previous editions.

7.2 Europe subregion

The downsizing of construction activity due to the general economic recession had a direct impact on wood-based panel demand in Europe, since a large majority of the wood-based panel production ends up in construction applications or construction-related furniture. Demand for wood-based panels contracted by 6.7% in Europe (table 7.2.1).

Reduced demand coupled with rising input costs created extremely difficult operating conditions for European wood-based panel producers. Wood prices continued to rise, as did energy costs, and these increased costs were only partly offset by a decrease in resin costs. The increase in wood prices was accompanied by lower wood availability, despite the fact that activity in all segments of the woodworking industries was subdued. Less wood was removed from the forest and fewer sawmill co-products were available.

TABLE 7.2.1

Wood-based panel balance in Europe and EU 27, 2008-2009

(1,000 m³)

	2008	*2009*	*Change %*
Production	69 693	66 219	-5.0%
Imports	35 197	29 934	-15.0%
Exports	34 716	30 661	-11.7%
Net trade	-481	728	251.4%
Apparent consumption	70 174	65 492	-6.7%
of which: EU27			
Production	62 020	58 854	-5.1%
Imports	31 824	27 246	-14.4%
Exports	32 712	28 746	-12.1%
Net trade	887	1 499	69.0%
Apparent consumption	61 133	57 354	-6.2%

Source: UNECE/FAO TIMBER database, 2010.

The absence of demand forced wood-based panel producers to cut production, with five facilities closing: two small mills in Norway and Italy and three medium-sized mills in Belgium, Germany and the United Kingdom. These developments brought the overall production capacity in Europe, excluding Turkey, down to 46.2 million m³. On an annual basis, particle board production was down 7% in 2009 at 38 million m³.

As a direct result of the economic downturn, trade in wood-based panels collapsed in Europe: imports contracted by 22% on average, while exports declined by 12%. Most of the particle board was traded within the European Union or among countries in the European Free Trade Association (EFTA) zone, the Balkans, the former CIS-countries and Turkey. Extra-European trade relations are rather limited to the countries of the EFTA zone or other neighbouring countries in the Balkans or Ukraine and Turkey. According to Eurostat, EU imports from Ukraine gained momentum, although imports from most other countries decreased. Total extra-EU imports of particle board amounted to 525,000 m³ in 2009, whereas extra-EU exports were reported at 1.8 million m³. For extra-EU exports, Israel, Japan, and Taiwan Province of China as well as countries in North Africa and the Middle East were important sales markets, although most exports continued to go to neighbouring countries within Europe. The EU registered 1.3 million m³ net exports in 2009, which implies a decrease compared with 2008.

MDF is produced in 20 European countries. After steady increases for many years, MDF production in Europe decreased for the second consecutive year. Overall, EU output fell to 11.3 million m³ in 2009. The crisis in industrial activity and the construction sector

affected all end-user markets for MDF. As a result, overall European MDF consumption shrank to 11.3 million m³ in 2009. The weakening construction industry and lower demand for laminate flooring, interior finishing and furniture shrank demand and postponed orders by traders. According to Eurostat, extra-EU exports amounted to 163 million m² (or approximately 1.2 million m³), while extra-EU imports attained 30 million m² (approximately 172,000 m³). Hence, Europe continues to be a large net exporter of MDF, showing a little over 1 million m³ positive trade balance for MDF. The EFTA countries imported about 12% of EU MDF, while North America accounted for an additional 12%. Exports to the Russian Federation and Ukraine contracted severely but shipments to countries in North Africa and the Middle East gained momentum.

The plywood sector has been the hardest hit by the on-going recession. Overall, European plywood production contracted by 18% in 2009, to just 3.6 million m³. The main reason for the decrease is sluggish demand within the housing sector. Plywood is mainly used for construction-related applications and this end-user market fell sharply. Moreover, plywood is facing increasing competition from other wood-based panels and from increasing exports from overseas producers who are steadily capturing market share. In 2009, plywood imports from China decreased significantly, but imports from the Russian Federation and South America decreased only marginally.

In contrast to the market situation for plywood, particle board and MDF, OSB production increased in 2009. In 2007, overall European OSB consumption decreased, announcing the beginning of the economic crisis. In 2008, both the domestic production and consumption of OSB were exceptionally low. Since stock levels for both producers and traders were already low by the end of 2008, and with demand showing signs of improvement, European OSB production increased in 2009. Production of the 13 European OSB plants increased to 4.1 million m³ during 2009 from 3.7 million m³ in 2008. Taking into account the stock developments, real consumption increased as well, albeit modestly, to reach 3.5 million m³. According to Eurostat data, a majority of domestic OSB production was traded within the EU-EFTA region (90%), while 580,000 m³ of EU-27 OSB was exported outside EU.EFTA, with the Russian Federation, Turkey and Ukraine the largest foreign markets.

During 2009, national governments issued several measures to underpin construction activity, in particular to support a growing movement in green renovation. However, the benefits for the wood-based panel industry were limited. Indeed, according to Eurostat, the European economy climbed out of the recession in the third quarter of 2009. The recovery still appears to be fragile, with continued slow construction activity failing to underpin overall economic growth. The first forecasts for 2010 indicate a slow recovery of demand for wood-based panels in Europe.

Source: Metsäliitto, 2010.

European wood-based panel producers are continuing to make the case to policymakers and end-users for recognition of the benefits that wood-based panels offer in the field of carbon storage. About 250 kg of carbon are stored in each cubic metre of wood. Therefore, the European wood-based panel sector has requested the European Commission and all policy makers to promote the principle of a cascading use of wood to take full advantage of the life-cycle of wood, and to emphasize the positive contribution of wood-based panel products in climate change mitigation.

7.3 CIS subregion, focusing on the Russian Federation

The Russian economy entered recession in 2009, with GDP contracting by 7.2% on an annual basis. The Russian economy was confronted with two shocks. First, the financial crisis caused a sudden stop in access to international capital flows (adversely affecting the ability of the Russian banking system to extend credits). This was followed by a sharp fall in commodity prices. Since the Russian Federation is an important exporter of bulk

commodity products, the decline in commodity prices had an adverse effect on its trade balance. On an annual basis, the value of exports declined by 11.6% in 2009. Domestic demand fell steeply, investment plummeted by 19% and retail sales fell by 8%. The economic decline was particularly steep during the first half of the year; during the second half of 2009 the economy began to recover, albeit at a very moderate pace and largely due to an increase in demand for Russian commodity exports. During 2010 and 2011, both the Russian economy and domestic consumption are expected to continue recovering at a slow pace.

Consumption of wood-based panels in the CIS suffered from the economic crisis and fell in 2009 by 20.5% (table 7.3.1). Plywood production in the Russian Federation in 2009 declined by 18.7% and domestic consumption fell by 40.3%. The main reason for these declines in the domestic market demand for plywood can be attributed to a decline in the number of wooden houses being built (see chapter 1 on construction). In contrast, plywood production in the CIS region fell by 16.5%, while consumption fell by 32.6%.

TABLE 7.3.1

Wood-based panel balance in CIS Region, 2008-2009

(1,000 m³)

	2008	*2009*	*Change %*
Production	13 608	11 556	-15.1%
Imports	4 146	3 405	-17.9%
Exports	3 078	3 291	6.9%
Net trade	-1 068	-114	-89.3%
Apparent consumption	14 676	11 670	-20.5%

Source: UNECE/FAO TIMBER database, 2010.

The Russian plywood industry is traditionally export-oriented, with the share of exports to the total volume of plywood production reaching 63% in 2009. The Russian Federation suffered from the decline in European construction activity, and demand for structural plywood declined significantly. The reduction of plywood exports from the Russian Federation started in the second quarter of 2008 and continued into 2009. In the first quarter of 2009 exports totalled 262,000 m³, 22% below the corresponding period in 2008. During the final three quarters of 2009, plywood exports began to improve, totalling 1,064,000 m³, which was up by 8.8% on 2008. As a result, exports of plywood in 2009 increased by just 0.7%, to reach 1.3 million m³, with exports from the CIS up by only 0.5%. The major importers of plywood from the Russian Federation include Azerbaijan, Egypt, Finland, Germany, Italy, Latvia, and the United Kingdom.

During the period of economic growth in the Russian Federation (1999-2007), the plywood industry was intensively developed. This investment continued into the economic crisis, with three new plywood plants built in 2008 and two more in 2009. Most of the new plywood plants were located in the European region of the country.

Source: H. Inhaizer, 2010.

According to OAO NIPIEIlesprom, the Russian particle board industry suffered a sharp downturn in domestic demand in 2009; consumption shrank because of reduced demand from the Russian furniture industry, which uses 89% of domestic production. In 2009, furniture output dropped 23.4%, which contributed to a 21% decline in particle board production, (down to 4.6 million m³). Some 75% of particle board production in Russia is melamine-faced panels with just 16% going into commodity-type un-faced panels.

During 2009, Russian particle board exports continued to increase and reached 576,000 m³, or 40% more than in 2008. The majority of Russian particle board exports go to Kazakhstan (44%) and Uzbekistan (36%) as well as Kyrgyzstan (8%) and Azerbaijan (6%). Particle board imports dropped by 6% to 444,000 m³. Latvia was the largest foreign supplier (28%), followed by Poland (21%), China (11%), Germany (10%), Canada (8%) and Italy (5%).

The Russian particle board manufacture still relies partly on older, less efficient, production equipment. The Russian Federation currently has 24 older particle board production lines, despite the fact that these facilities face fierce competition from more modern manufacturing lines. Foreign investors specializing in wood-based panel production have established 12 particle board plants in the Russian Federation, with most being in the central federal Okrug region, along the western border of the country. This is also the region where most of the Russian furniture industry is located. Finally, this location is strategic because it provides Russian particle board

manufacturers with the opportunity to target the European market in the case of weak domestic demand.

Although the regions of Privolzhskiy, Ural and Siberia have a lack of production capacity, investors are hesitant to make investments in these regions. Moreover, Russian investors do not see particle board plants as being attractive investments because of their high capital intensity, long payback periods and low returns. During the period 2010-2011 some half a million cubic metres of production capacity in old production lines is to be shut down, and five new modern particle board production facilities are scheduled to be commissioned. By the end of 2011 Russian particle board production capacity is expected to total 7.35 million m³.

In response to the economic crisis, all new MDF projects were postponed and production capacity remained stable in 2009 at 1.3 million m³. In 2009, the joint output of the 10 MDF plants in Russia amounted to 1 million m³, down by 14.3% compared with 2008. About half of the Russian MDF production has a thickness exceeding 9 mm, with only 5% being less than 5 mm thick. The furniture industry is the largest user of MDF in Russia, consuming about 40% of domestic production. Some 38% of the output is further processed into laminated flooring, while the building industry consumes about 15%. The remaining 7% is used to produce mouldings and other types of millwork products. The decrease in MDF production was largely demand-driven, led by a steep decline in the production of laminated flooring. Imports of MDF into Russia fell by 60% and totalled less than 200,000 m³ in 2009.

The majority of the Russian MDF production capacity is located along the western border of the country in the central and north-west federal Okrug region (88%), with the remaining production based in the Privolzhskiy, Ural and Siberia regions (11%). However, the demand for MDF is increasing in these other regions because of the increasing production of cabinet and kitchen furniture. In addition, demand for laminated flooring and building materials is increasing in these regions because of strong construction activity, primarily in the public sector. Two new MDF plants are scheduled to begin production in 2010, one with a capacity of 260,000 m³ and the other with 150,000 m³.

No OSB is produced in the Russian Federation: all new investments in the OSB sector were frozen as a result of the economic crisis. Russia imported about 197,000 m³ of OSB in 2009, which is about two-thirds of the volume imported in 2008. OSB is mainly used for load-bearing elements in the construction of wooden single-family houses. Since home construction activity was particularly low in 2009 because of the economic crisis, OSB consumption fell accordingly. The construction of wooden houses or houses with a wooden interior, is expected to gain momentum in 2010 and 2011.

7.4 North America subregion

The US housing market continued its decline in 2009, with housing starts falling from 987,000 in 2008 to 604,000 in 2009 (a 38.8% decline). Recent housing data show that the inventory of homes on the market improved in 2009, with the inventory of new homes dropping from 10.7 months to 9 months, while the inventory of used homes dropped from 10.4 months to 8.8 months. However, sales of new and existing homes presented a mixed picture, with used home sales increasing from 4.9 million in 2008 to 5.2 million in 2009, while new homes sales dropped from 482,000 in 2008 to 374,000 in 2009. It remains to be seen if a programme of first-time home buyer rebates will be successful in turning the housing market around in 2010. Canadian housing starts, which had held up relatively well through 2008, suffered a 29.4% decline in 2009, falling to 149,000.

Consumption of wood-based panels was down 16% in 2009 (table 7.4.1). The weak demand for panels resulted in a number of mill closures in North America.

TABLE 7.4.1

Wood-based panel balance in North America, 2008-2009
(1,000 m³)

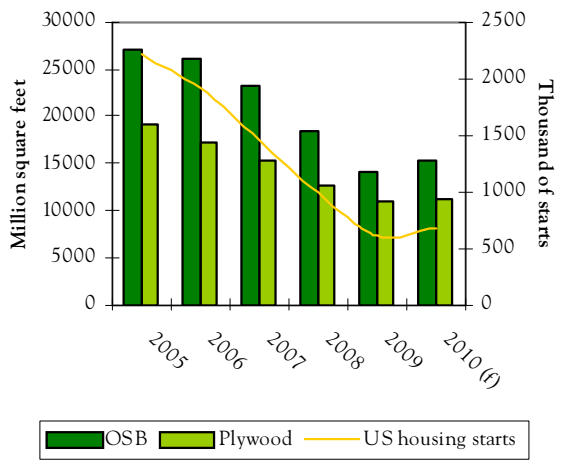
	2008	*2009*	*Change %*
Production	47 796	40 131	-16.0%
Imports	12 884	9 320	-27.7%
Exports	8 651	6 355	-26.5%
Net trade	-4 233	-2 965	-30.0%
Apparent consumption	52 030	43 095	-17.2%

Source: UNECE/FAO TIMBER database, 2010.

The combination of reduced production capacity and the home buyer stimulus package helped to sustain a mild rally in structural panel prices towards the end of 2009. Structural panel consumption in the new housing sector fell from 10.5 million m³ in 2008 to 6.9 million m³ in 2009 (graph 7.4.1). The American Plywood Association (APA) predicts that consumption of structural panels will increase to 8.0 million m³ in 2010 (APA, 2010).

GRAPH 7.4.1

Consumption of structural panels in North America, 2005-2010



Note: f = forecast.

Source: APA – The Engineered Wood Association, 2010.

Consumption of structural panels declined in the other major end-use markets as well, although to a much smaller extent than observed in the new housing market. With unemployment exceeding 10%, home values continuing to decline and mortgage foreclosures on the rise, home owners were reluctant to begin home remodelling projects. As a result, structural panel consumption in the repair and remodelling sector dropped from 7.0 million m^3 in 2008 to 6.2 million m^3 in 2009. APA predicts that consumption in the repair and remodelling sector will rebound in 2010 to 6.6 million m^3. Structural panel consumption dropped by 10% in both the industrial market and also the non-residential market, with consumption in 2009 falling to 5.4 million m^3 and 3.4 million m^3, respectively. The APA forecast shows that consumption of structural panels is expected to increase by 6% in the industrial market, whereas it is projected to decrease by an additional 11% in 2010 in the non-residential (APA 2010).

The decline of new housing construction has had a significant impact on the structural panel market, with the share of panels going into new housing construction falling from 57.5% in 2005 to 31.4% in 2009. The impact of the steep decline in new housing starts is more obvious when considering OSB and plywood individually. For example, the share of total OSB production used in new homes plunged from 73.4% in 2005 to just 44.3% in 2009, while the share of total plywood production in the new home market fell from 35.1% in 2005 to 14.9% in 2009. This trend could have significant implications on the relative market shares of each panel product as new housing starts begin to recover in 2010 and 2011.

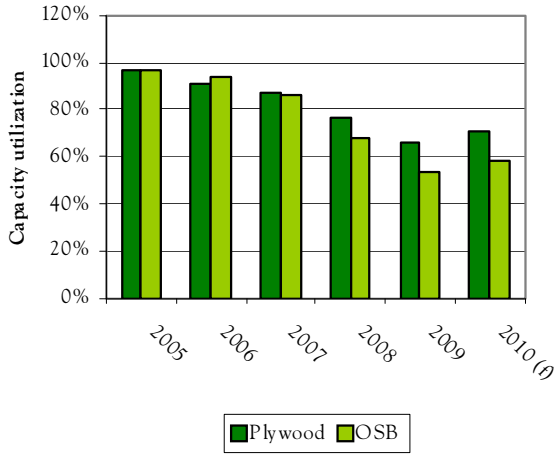
Mill closures continued to dominate the news in 2009. Following the closure of 4 OSB mills and 3 plywood mills in 2008, the industry closed an additional 2 OSB mills and 3 plywood mills (all in the US) in 2009. There were no new mill openings reported in 2009. These changes resulted in the loss of 394,000 m^3 of plywood production capacity and 655,000 m^3 of OSB production capacity. Given continued weak demand for structural panels in North America in 2009, manufacturers recorded capacity utilisation of 66% for plywood and 53% for OSB, the lowest levels in a generation. With demand expected to recover in 2010, utilisation rates of 71% for plywood and 58% for OSB are forecast (graph 7.4.2).

The weak global economy undermined US wood-based panel exports in 2009 despite the relative weakness of the US dollar. US exports of wood-based panels, which had shown substantial growth in both 2007 and 2008, dropped by 26.1% in 2009, as global demand slumped. The declines were observed across all products and all of the major export markets. Plywood exports in 2009 were down by 26.2%, while fibreboard exports were down by 8.9% and particle board exports plunged 45.6%. Exports to the two major markets for US wood-based panels, Canada (57.3% share) and Mexico (23.2% share), were down by 20% and 11%, respectively.

The weak domestic economy also adversely affected imports of wood-based panels into the US, with imports dropping from $3.4 billion in 2008 to $2.6 billion in 2009, a 23.9% decline. This continued a trend of declining imports begun in 2005. Over the 2005-2009 period, US imports of wood-based panels fell from $6.1 billion to just $2.6 billion, a staggering 56.9% decline.

GRAPH 7.4.2

Capacity utilization rates for panel sectors in North America, 2005-2010



Note: f = forecast.

Sources: APA – The Engineered Wood Association, Composite Panel Association, 2010.

Production capacity of non-structural panels (hardboard, MDF and particle board) declined by 5.6% in 2009, continuing a four-year decline that saw production capacity decrease from 17.4 million m^3 in 2006 to 16.2 million m^3 in 2009. Production decreases were observed for all three product categories in 2009: hardboard was down 12%; MDF, 8%; particle board, 4%. Continued weak demand led to the closure of three MDF mills (representing 435,000 m^3 of production) in 2009. All three mills were in the US. None has been dismantled and all are officially classified as intact and restorable.

Source: APA – The Engineered Wood Association, 2010.

Legislation moved forward at the federal level in the US to adopt the California formaldehyde emission levels contained in the California Air Resources Board (CARB) program. The CARB program in California is scheduled to move to Phase 2 in early 2011. In contrast to the CARB program, the federal Formaldehyde Standards for Composite Wood Act would establish national formaldehyde emission standards under the Toxic Substances Control Act for new composite wood products. The federal legislation is expected to be passed by the House and Senate by the end of 2010 (in fact, the Senate Bill was passed in June 2010). If approved legislation would be implemented by 1 January 2013 and would require: (1) third-party testing and certification to ensure that products with formaldehyde comply with the national standards and (2) the Environmental Protection Agency to work with Customs and Border Protection and other relevant federal agencies to enforce the standards for imported wood products.

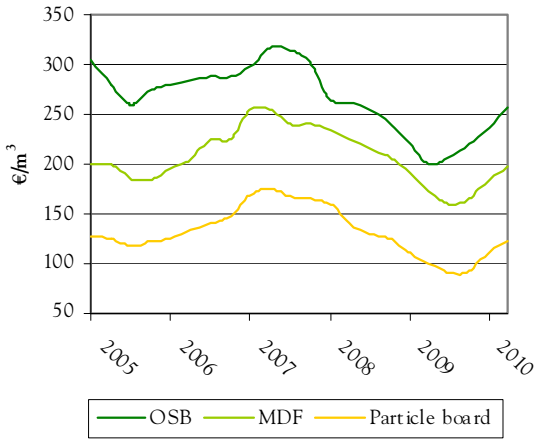
The Composite Panel Association together with other panel associations, have been working with federal legislators to reduce the scope of the Biogas Crop Assistance Program (BCAP) which was adopted in 2008. This programme provides biogas and bio-energy companies with federal subsidies of up to $45/bone-dry ton for the purchase of wood co-products. The subsidies have provided the bio-energy industry with a huge competitive advantage and effectively driven up the cost of co-products for composite wood panel manufacturers while reducing raw material availability. The legislative review of the BCAP program, which began in February 2010, will likely exclude sawmill co-products from being eligible for the subsidy and help to ensure continued availability of this important source of raw material for wood-based panel manufacture in the US.

7.5 Panel price trends

The global economic crisis continued to affect demand for wood-based panels within Europe through the first half of 2009, with prices dropping for all products (graph 7.5.1). The weak activity within the housing construction sector spread into the household furnishing sectors, further undermining demand for wood-based panels. However, declining inventories and stronger economic activity resulted in increased demand for wood-based panels in the second half of 2009 and helped push panel prices higher. By the end of 2009, prices for all wood-based panels, while on the upswing, were still below their level of a year earlier. In comparing fourth quarter 2008 panel prices with fourth quarter 2009 panel prices, particle board prices were down by 26.4%, OSB prices were down by 9.1% and MDF prices were down by 20.3%. Panel prices continued to show improvement through the first half of 2010 with all panel products showing significant gains over 2009 price levels: particle board up 22%, OSB up 28.5% and MDF up 14.5%.

GRAPH 7.5.1

European panel prices, 2005-2010



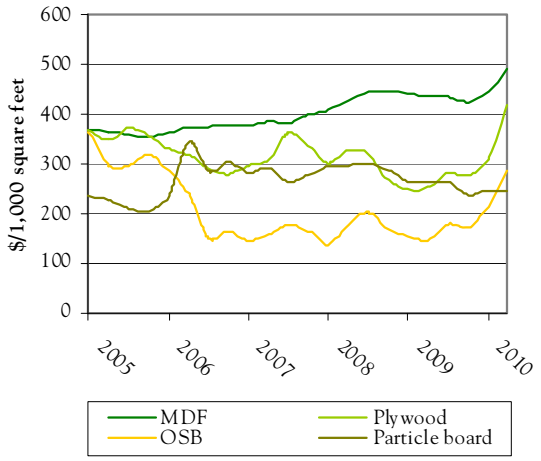
Source: EUWID, 2010.

In North America, low production volumes and capacity utilization rates allowed manufacturers and wholesalers to draw down inventories of structural panels, helping to set the stage for a modest price increase during

the last half of 2009 (graph 7.5.2). Prices were also helped by an increase in single-family housing starts during the last half of the year. The housing start increase was partly driven by first-time home buyers looking to take advantage of the new home buyer stimulus programme. Price increases accelerated during the fourth quarter of 2009 and into the first quarter of 2010 as home buyers and builders rushed to close sales before the expiration of the federal home buyer stimulus programme. This development in particular helped to pull OSB prices up from near record low levels and substantially narrow the price gap between plywood and OSB.

GRAPH 7.5.2

US panel prices, 2005-2010



Source: Random Lengths, 2010.

7.6 References

APA – The Engineered Wood Association. 2010. Regional Production and Market Outlook, 2010-2015. Available at: www.apawood.org

Composite Panel Association. 2010. Personal communication.

European Federation of the Plywood Industry (FEIC). 2009. Annual Report 2009/2010. Available at: www.europlywood.com

European Panel Federation. 2009. Annual Report 2008/2009. Available at: www.europanels.org

EUWID. 2008. Wood Products and Panels. Available at: www.euwid-wood-products.com

Federal Register. 2010. Biogas Crop Assistance Program: Proposed Rule. http://www.fsa.usda.gov/Internet/FSA_Federal_Notices/bcap_prm_2_8_2010.pdf

Standard & Poor's. 2010. Available at: www2.standardandpoors.com/spf/pdf/index/CSHomePrice_Release_062418.pdf

UNECE/FAO TIMBER database. 2010. Available at: www.unece.org/trade/timber

US Department of Agriculture, Foreign Agricultural Service. 2010. Online Trade Database. Available at: www.fas.usda.gov/ustrade/USTExBICO.asp?QI=

Woodwork Institute. 2010. Senate Bill Limits Formaldehyde in Composite Wood. Available at: http://www.wicnet.org/news/story.asp?id=371

Chapter 8
Rebound from steep drop in demand amid simmering global trade issues: Markets for paper, paperboard and woodpulp, 2009-2010[46]

Highlights

- Paper and paperboard consumption declined sharply in 2009 by 9% in Europe and 10% in the United States relative to 2008; just a fraction of that decline was recovered by early 2010.
- Pulp and paper commodity prices fell in 2009, dropping well below 2008 price levels, but prices began to stabilize by mid-year, and in some cases fully recovered by early 2010.
- A wave of capacity withdrawals in the form of mill downtime and shutdowns helped stabilize the market balance between product supply and demand.
- Pulp prices were boosted also by shutdowns of Chilean pulp capacity due to the devastating earthquake in February 2010, and by expanding woodpulp demand in Asia, particularly in China.
- Global market trends point to a secular shift of growth in paper and paperboard output to Asia, while production has levelled out and declined in Europe and North America.
- Global trade issues were simmering in 2010: the European Union launched anti-dumping and anti-subsidy probes in 2010 concerning coated paper imports from China; the US imposed preliminary countervailing duties on coated paper imports from China and Indonesia.
- In 2009, Russian Federation exports of market pulp and packaging paper products to China declined as China's export demand shrank with the global economic crisis.
- In central and eastern Europe, reduced production due to the downturn in demand from the global economic crisis in early 2009, with production returning to normal levels later in the year.
- Central and eastern Europe increasingly is becoming incorporated into EU procedures and policies and therefore developments, e.g. costs are similar to the rest of Europe.
- Green energy production subsidies are a serious threat for the pulp and paper industry in Europe due to strong competition for raw materials.

[46] By Dr. Peter J. Ince, USDA Forest Service; US; Prof. Eduard L. Akim, PhD, Saint Petersburg State Technological University of Plant Polymers, Russian Federation; Mr. Bernard Lombard, Confederation of European Paper Industries, Belgium; and Tomas Parik, Wood and Paper, A.S., Czech Republic.

Secretariat introduction

Regular readers of the *UNECE/FAO Forest Products Annual Market Review* will realize that the four authors continue to bring forth the key market and policy developments in paper and pulp markets for their respective subregions. The secretariat is thankful for the continued collaboration with the same authors as in the previous few years. These regular contributors to the *Review* provide an overview of paper, paperboard and woodpulp market and policy developments across the UNECE region and its trading partners.

Dr. Peter Ince,[47] Research Forester, USDA Forest Service, analysed the developments in North America. During his tenure at the Forest Products Laboratory, he has gained recognition for his expertise in this field. He deserves special thanks for coordinating the input from his co-authors.

In alphabetical order, we extend our gratitude to the other analysts, beginning with Professor Eduard Akim, PhD,[48] of the St. Petersburg State Technological University of Plant Polymers and the All-Russian Research Institute of Pulp and Paper Industry. Professor Akim drew his analysis from his preparations for the FAO Advisory Council on Paper and Wood Products. Professor Akim is the Deputy Leader of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing. He is an expert on the Russian pulp and paper sector.

Mr. Bernard Lombard,[49] Trade and Competitiveness Director, Confederation of European Paper Industries (CEPI), is well placed to analyse trends in western Europe. The European analysis was aided by Mr. Eric Kilby, Statistics Manager, and Ms. Ariane Crevecoeur, Statistics Assistant, both from CEPI. Collaboration with trade associations such as CEPI not only helps with the analysis, but it also helps validate the database for pulp and paper markets. Readers should note that CEPI has a different European subregion than the UNECE. Therefore the authors are careful, when discussing Europe, to indicate whether it is CEPI's 19 countries[50], the EU-27 or the UNECE European subregion of 41 countries. Due to small discrepancies between CEPI and UNECE/FAO definitions, figures may vary slightly, but the trends remain the same.

Mr. Tomás Parik,[51] Director, Wood and Paper, A.S., highlighted developments in central and eastern Europe. Mr. Parik works closely with CEPI. Based in Prague, he brings a valuable perspective to countries in his subregion.

At one time or another, all of these authors have presented the chapter, along with market forecasts, at the annual UNECE Timber Committee Market Discussions.

8.1 Introduction

By mid-2009 global pulp, paper and paperboard markets were on a rebound following a steep drop in demand that began in 2008 when the global financial crisis reduced consumer spending, industrial production and international trade flows. The drop in demand was most severe for graphic papers and significant also for packaging paper and board, while demand for tissue and sanitary paper was only moderately affected.

Capacity withdrawals in the form of mill shutdowns and downtime helped stabilize pulp and paper commodity prices, which began to increase in most cases in the second half of 2009. Prices for some major commodities such as market pulp were more than fully recovered by early 2010. Global market pulp prices were boosted also by ongoing expansion of woodpulp demand in Asia, particularly in China, and also by temporary shutdowns of significant market pulp capacity in Chile following the severe earthquake there in February 2010.

China became the world's leading producer of paper and paperboard in 2008, surpassing the United States (US) (graph 8.1.1). Whereas US production peaked historically in 1999, production in China increased by over 180% from 1999 to 2009. While US output dropped by 10% in 2009, preliminary reports suggest China's growth in paper and board output continued in 2009 (China Paper Online, 2010).

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[50] CEPI member countries include: Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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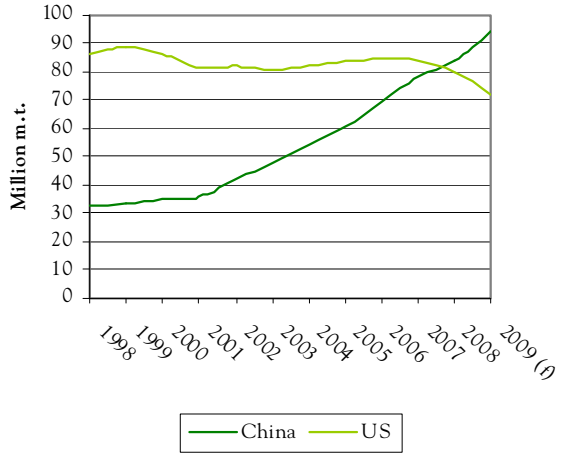
GRAPH 8.1.1

Paper and paperboard production in China and United States, 1998-2009

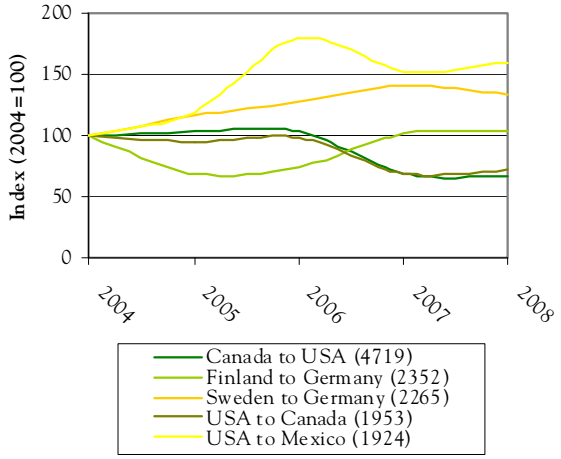


Note: f = forecast for 2009 for China.

Sources: FAOSTAT data, American Forest & Paper Association, China Paper Online, 2010.

GRAPH 8.1.2

Top 5 international trade flows of paper and paperboard by volume, 2004-2008

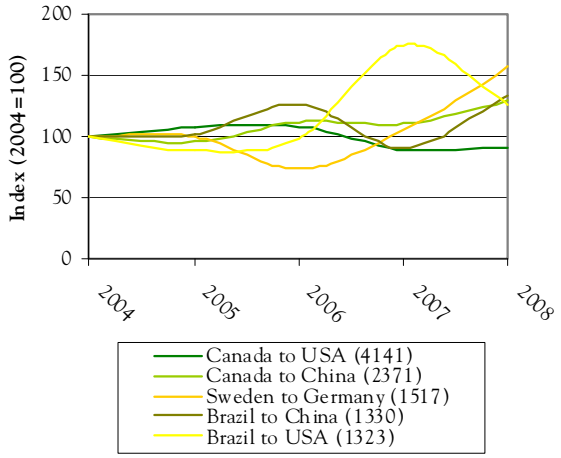


Notes: Values in legend box are in 1,000 metric tons in 2008. Basis of trade flow graphs has been changed from previous *Reviews*.

Sources: FAO Yearbook of Forest Products, 2010 and previous editions.

GRAPH 8.1.3

Top 5 international trade flows of woodpulp by volume, 2004-2008



Notes: Values in legend box are in 1,000 metric tons in 2008. Basis of trade flow graphs changed from previous *Reviews*.

Sources: FAO Yearbook of Forest Products, 2010 and previous editions.

Paper and paperboard trade among UNECE regions reflected developments in growth, competitiveness and shifts in currency exchange rates. For example, the notable decline from 2003 to 2007 in trade flows between the US and Canada clearly reflects the decline in Canadian exports to the US as a result of the stronger Canadian dollar in recent years and negligible growth in US demand (graph 8.1.2). The effect of expanding Asian markets and competitiveness of producers in non-UNECE regions is reflected in large increases that occurred in trade flows between Europe and non-UNECE countries, and among non-UNECE countries, especially for woodpulp (graph 8.1.3).

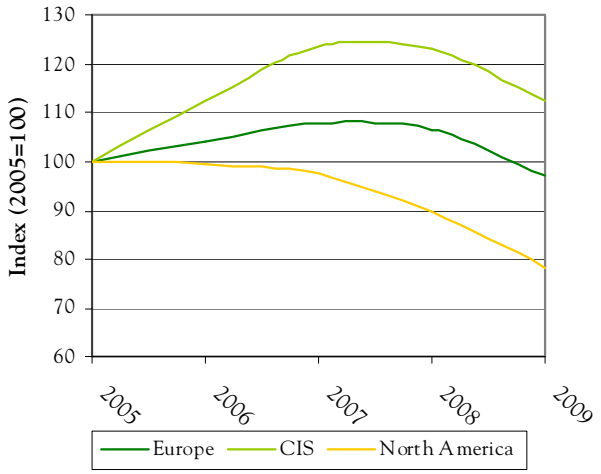
8.1.1 Paper and board demand at low point in 2009

Paper and paperboard demand weakened in 2008 and 2009 throughout the UNECE region (graph 8.1.4). North America experienced the largest percentage drop (19.7%) in consumption between 2007 and 2009, followed by the Commonwealth of Independent States (CIS) (9.2 %) and Europe, which fell by only 3.9%. The

decline was a reversal of growth trends for Europe and the CIS subregion in preceding years, while North America continued a downturn that was already underway in 2007.

GRAPH 8.1.4

Consumption of paper and paperboard in the UNECE region, 2005-2009



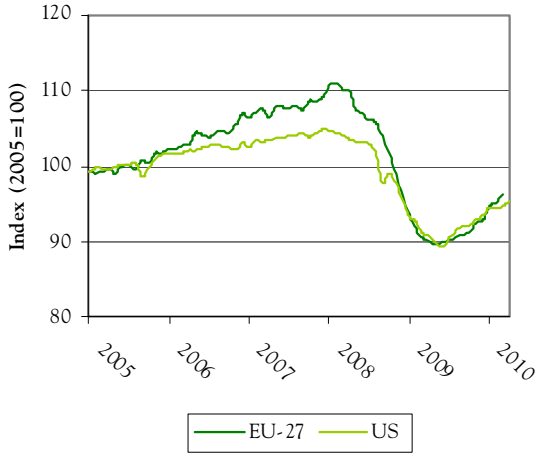
Source: UNECE/FAO TIMBER database and secretariat estimates, 2010.

Industrial production is recognized as a leading driver of paper and paperboard demands, because of its correlation to demand for print advertising and packaging. Following the steep decline precipitated by the global financial crisis in 2008, a rebound of industrial production was underway in Europe and North America in late 2009 and 2010, as illustrated by industrial production indices for the EU27 and the US (graph 8.1.5). The rebound contributed to the simultaneous rebound of pulp, paper and paperboard demands and prices in the second half of 2009 and early 2010. Pulp, paper and paperboard prices had peaked in 2008 and had then weakened along with industrial production in 2008 and early 2009.

The sharp downturn in industrial production in 2008-2009 was slightly greater in percentage terms for Europe than the US, partly because of a reversal of relative currency valuations. The exchange value of the euro was generally high relative to the US dollar in 2008-2009, negatively affecting cost competitiveness of European manufactured goods in global markets. However, in both Europe and North America the rapid drop in industrial production in 2008-2009 closely matched the decline in paper and paperboard demand. By contrast, growth of industrial production in China remained positive over the same period (although growth was somewhat slower) and thus paper and paperboard production appeared to continue to expand in China, though more slowly.

GRAPH 8.1.5

Industrial production indices for EU-27 and United States, 2005-2010



Note: Industrial production excluding construction.
Sources: EUROSTAT and US Federal Reserve, June 2010.

8.2 Europe subregion

8.2.1 *Paper and board demand declines further in 2009, and then begins to rebound*

Overall consumption of paper and board in the UNECE Europe subregion (41 countries) fell by 9.1% in 2009, dropping to 91.9 million m.t. European Union paper and paperboard consumption declined in 2008 when the global financial crisis first began and then dropped again in 2009 by 9.9%. EU GDP at current prices went down by 4.2% in 2009 (Eurostat, 2010). Imports of paper in Europe in 2009 fell in line with the sharp decrease in demand: the figures for imports include trade within Europe, as well as from countries outside the subregion (table 8.2.1).

Imports into CEPI countries, from non-CEPI countries, fell by 9.0% to 4.7 million m.t. and contributed 5.8% of total European paper consumption in 2009 (5.7% in 2008). Imports from North America accounted for 37.7% of all imports (39.9% in 2008) and decreased by 14.2% to 1.8 million m.t. in 2009. Imports from European countries that are not members of CEPI fell by 8.0% and took a 31.8% share of imports (31.4% in 2008). In contrast, imports from Asia rose by 24.0% to 651,000 m.t. and accounted for 13.9% of imports (10.2% in 2008). CEPI countries maintained an overall positive trade balance (exports exceeding imports) in paper of 10.2 million m.t. in 2009 (11.8 million m.t. in 2008), but this balance has narrowed every year since 2006 when it stood at 13.2 million m.t.

TABLE 8.2.1

Paper and paperboard balance in Europe, 2008-2009
(1,000 m.t.)

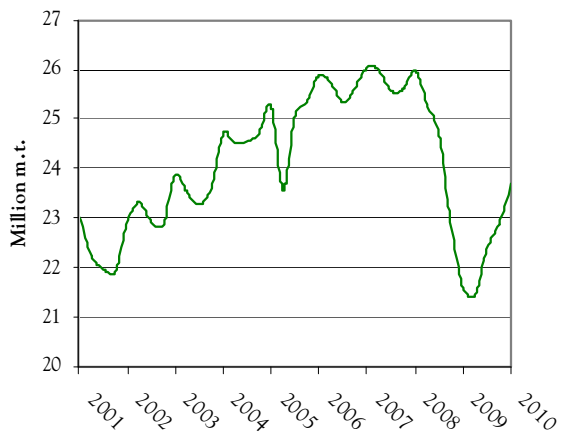
	2008	2009	Change %
Production	108 537	97 250	-10.4
Imports	59 403	54 443	-8.4
Exports	66 789	59 756	-10.5
Net trade	7 386	5 313	-28.1
Apparent consumption	101 152	91 936	-9.1
of which EU27:			
Production	99 115	88 807	-10.4
Imports	54 336	49 058	-9.7
Exports	63 796	57 078	-10.5
Net trade	9 460	8 020	-15.2
Apparent consumption	89 656	80 787	-9.9

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

Quarterly production data for Europe indicate that the recent low point occurred in the second quarter of 2009, and there was a modest rebound underway in European paper and paperboard output by the second half of 2009 (graph 8.2.1). The trend in European paper and paperboard production has generally followed a pattern similar to that of European industrial production as shown in graph 8.1.5 above, reflecting the linkage between overall industrial production and the industrial demands for packaging materials, print advertising and other industrial applications of paper and paperboard. The economic improvement was reflected in the results of the first quarter of 2010, where CEPI countries' production improved by 8.8%, over the same quarter in 2009 (CEPI, 2010).

GRAPH 8.2.1

Production of paper and paperboard in CEPI member countries, 2001-2010



Source: CEPI, 2010.

8.2.2 *European paper and paperboard production decreases in all sectors*

Production of paper in the UNECE Europe subregion decreased by 10.4% in 2009. Production by CEPI countries was at its lowest since 1999. The overall production trend of the CEPI countries in total during 2009 was similar to that of North American producers. Output in the US, for example, was down by 10% in 2009, but production in Europe (and North America) dropped much more significantly than in Asia, particularly in China as was shown above in graph 8.1.1.

Over the longer term, output of paper and board by CEPI countries has increased on average by 1.7% per annum since 1991 and by 0.7% per annum since 2000. Despite mill and machine closures, paper production capacity, standing at 105.5 million m.t. in 2009 (-3.6% compared to 2008), did not contract as much as actual production. The operating rate for 2009 was 85.1%, or 6.4 percentage points lower than in 2008, and the lowest recorded operating rate since CEPI began to collect data in 1991.

8.2.3 *Declines in European pulp production match declines in paper demand*

For Europe as a whole, woodpulp production declined by 13.5% in 2009 relative to 2008 (table 8.2.2). In CEPI countries output fell to the lowest annual production volume since 1996: output of mechanical and semi-chemical pulp fell by 19.2% while production of chemical pulp fell by 10.9%.

TABLE 8.2.2

Woodpulp balance in Europe, 2008-2009
(1,000 m.t.)

	2008	2009	Change %
Production	42 854	37 052	-13.5
Imports	19 364	17 422	-10.0
Exports	13 165	11 504	-12.6
Net trade	-6 199	-5 918	
Apparent consumption	49 053	42 971	-12.4
of which EU27:			
Production	40 172	34 734	-13.5
Imports	18 049	15 829	-12.3
Exports	12 383	10 820	-12.6
Net trade	-5 666	-5 008	
Apparent consumption	45 839	39 742	-13.3

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

8.2.4 *Eastern European pulp and paper market trends and related issues*

In central and eastern Europe (CEE), 2009 started with a dramatic reduction in production in the pulp and paper sector as demand for final products was significantly lower. Most of the global trends also were experienced in this area, albeit with different strength. Already during the second quarter of 2009, most of the producers returned to their normal levels of production.

As the sawmilling industry had a much deeper problem with global overcapacity, compounded in CEE with structural problems, the pulp and paper industry faced a significant reduction in the availability of sawmill co-products (down about 30%).

CIS countries were exporting a considerable percentage of their wood resources to neighbouring countries as well as exporting primary-processed wood products. Average consumption of wood and wood products per capita in the CEE region was extremely low; therefore, this sector was dependent on demand in western countries and other parts of the world, and experienced the associated negative consequences (preferred markets, exchange rates, logistic costs, etc.).

Newer members of the EU have been implementing all the regulations that are valid in EU as a whole, and as their wealth increases, they also experience the trends found in western countries. Wood harvesting is at a relatively high level against its annual growth, but the tendency declines when there is pressure to protect forests with significant restrictions on wood resources management. One example of this is the Sumava National Park on the border between Czech Republic and Germany. In the past this area, managed in line with the principles of sustainability, contributed importantly to local wood supply. In 2010, however, most of the national park was unavailable for wood supply, forcing local wood users to import wood from greater distances at a higher cost.

Though some political representatives were having misgivings about green energy production that relies on woody biomass, new projects still were being proposed without a thorough consideration of how they would be supplied with raw material. Understandably, the pulp and paper industry in Europe was concerned about policies that encourage production of green energy from woody biomass because of the impact of competition for raw material. Pulp and paper producers were already one of the major green energy producers and users in the region.

The process of returning property to those who owned it before the communist regime took power still was ongoing. The first elections in some countries resulted in the election of governments that wished to push forward with this process. The State, therefore, still was a significant owner of the forests in the CEE region with both negative and positive effects, including a big influence on the whole market situation.

Even though prices were slowly increasing, transportation of the wood was an increasingly larger problem for a number of reasons. In general, forest owners were in favour of any kind of revenue which could come to their property, but social and protective demands became so expensive and complicated that even this sector, which can work by following the criteria of sustainability, required increasingly higher subsidies. In 2009, the pulp and paper sector in CEE region was under higher pressure than normally but still in a relatively comfortable situation relative to other parts of the world. All cost and other advantages were disappearing and the whole sector needed to reconsider its strategy to stay competitive.

8.2.5 *EU policy developments related to pulp and paper activities*

Policy developments within the EU have been observed in a broad range of issues such as climate change, energy and environment, raw materials, products and research, and trade and transport.

Regarding climate change, the features of the Emissions Trading Scheme (ETS) for 2013-2020 have been discussed extensively, particularly the treatment of the energy-intensive sectors such as the pulp and paper industry. The European pulp and paper industry was considered to be at risk of "carbon leakage" because of its exposure to global competitiveness. The functioning modalities of the ETS after 2013 were still being considered. National renewable energy action plans were being drafted by the EU Member States to meet the ambitious 2020 goal.

Source: Metsäliitto, 2010.

Concerning environmental aspects, the revision of the Integrated Pollution Prevention and Control (IPPC) directive was being discussed along with the revision of the Best Available Techniques in the Pulp and Paper

Industry. It will shape the future legal environment for the operation of the mills.

Source: Metsäliitto, 2010.

On raw materials, the EU was developing a long-term strategy to secure raw material availability and efficient use. Some sustainability criteria were adopted for solid biomass, but with non-binding effects. These criteria are of crucial importance if market distortion is to be avoided with the use of wood for pulp and paper manufacturing. Forest certification and biodiversity remained high on the agenda. Regulation for placing timber and timber products on the market was being developed.

Concerning recovered paper, there was some progress towards the adoption of objective criteria to put an end to the "waste" status of recovered paper. The European Committee for Standardisation (Comité Européen de Normalisation – CEN) standard EN 643, which lists and describes all the individual recovered paper grades, was under scrutiny; this was expected to lead to the adoption of a revised version.

The European Recovered Paper Identification System, which was introduced by the recovered paper chain at the end of 2008 to demonstrate and improve the traceability of recovered paper, was getting increasing support. By mid-2010, more than 600 suppliers of recovered paper worldwide had registered on the European Recovered Paper Identification website to get a unique identification code for their companies and their recovered paper depots.

This unique supplier code identifies recovered paper with its supplier, who in turn knows his supplier and so forth. Full traceability is therefore ensured from the sources of recovered paper to the pulpers of the paper mills, whereby commercial confidentiality is guaranteed. The most visible sign of the identification are the new codes, which can be seen on recovered paper bales everywhere in Europe in various forms, colours and sizes. The identification system is not only intended for recovered paper delivered in bales but also for loose material, as the supplier number can be identified in delivery documents. Estimates by CEPI indicated that 30% of recovered paper bales were marked by mid-2010, of which half complied with the European system. Established national or company systems for Recovered Paper Identification also continued to be used.

Regarding product policy, several initiatives had been developed by the EU Commission such as the Sustainable Consumption and Production initiative and the Lead-Market initiative which add to the green public procurement and eco-design initiatives.

When it comes to trade-related issues, the EU was active on the bilateral front, negotiating Free Trade Agreements with several regions or countries such as the Republic of Korea, and Central and South America. Discussions also started between the EU and Canada, India and the ASEAN countries. Discussions with Mercosur were about to restart.

Regarding trade disputes, several countries targeted European paper exports with anti-dumping, anti-subsidy and safeguard investigations during the first half of 2010, though to what extent there was strong evidence to support such allegations remained unclear. The EU launched anti-dumping and anti-subsidy investigations against Chinese fine papers exports to Europe, like the US had done in 2009. The decisions, expected by the end of 2010, could lead to the adoption of duties.

Concerning transport, a wide range of policy initiatives was affecting the industry which was looking for all competitive and sustainable transport modes. It was promoting the use of higher capacity trucks to make road transport more cost effective and more sustainable. Regarding rail transport, freight transport liberalisation had not delivered on expectations yet. CEPI adopted some guidelines to help companies assess their carbon footprint related to transport activities. Regarding load safety, CEN was about to adopt some EU rules that were expected to further harmonise practices, contributing to the EU Single Market objectives.

8.3 CIS subregion, focusing on the Russian Federation

8.3.1 *Long-term perspectives on industry growth*

Twenty-five years ago, under a planned economy, the former USSR held 4th place in world paper and paperboard output and accounted for 5.2% of global output. By the mid-1990s this share had been reduced to 1.1% (for the Russian Federation): it has since expanded and in 2009 was about 2%. By contrast, neighbouring Chinese and Finnish industries grew rapidly over the same period (using large volumes of pulpwood imported from the Russian Federation).

Given the Russian Federation's vast forests, the potential of the Russian pulp and paper industry to contribute to global pulp and paper output goes far beyond the current 2%. Despite the fact that many of its forests are inaccessible economically, those that can be accessed offer a reliable raw material base for further development of the pulp and paper industry. Available forest resources make possible provision of both the pulp and paper industry and woodworking industry, with wood raw material for meeting internal needs for forest and paper products as well as for exporting these products in large volumes.

Currently, the entire Russian pulp and paper industry is in the private sector whereas Russian forests remain State property. Forest land is leased. In terms of resource volume, the forest sector of the Russian Federation has considerable potential for further development.

Among the most important forest sector policy developments of 2004-2009 in the Russian Federation were the following:

- All pulp and paper mills became part of the private sector (no longer state-owned enterprises).
- The Forestry Complex Council, headed by the First Vice-Premier Minister V. Zubkov, was established.
- The Russian Forestry Technological Platform was established with a connection to the European Forestry Technological Platform.

In addition, the Russian Federation experienced a changing structure of forest and paper exports, caused in part by the global economic crisis and the changed exchange rate of ruble (compared to the euro and dollar), and facilitated by industry investments in the Russian Federation and international joint ventures such as the Ilim Group alliance (formed by International Paper Corporation and Ilim Pulp Enterprise in 2007).

The Russian Federation's relative economic and political stability since the major currency revaluation of 1998 and a more expansionary macro-economic policy in 1999, have created conditions that have allowed a continuous increase of pulp, paper and paperboard output from the late 1990s to 2008 with output more than doubling since 1996. Both consumption and output of pulp and paper products increased in the Russian Federation throughout the period 2004-2007 and into the first half of 2008. However, in the second half of 2008 there was a slump in production of pulp, paper and paperboard. This setback in production continued into 2009 (table 8.3.1). During 2009, the Russian Federation's total output of chemical pulp (both pulp for paper and paperboard and market pulp) decreased by 7.5%, the output of market pulp decreased by 11.9%, and the output of paper and paperboard decreased by 2.9%, including a 0.9% increase in output of newsprint.

TABLE 8.3.1

Output of pulp, paper and paperboard in the Russian Federation, 2008-2009

(1,000 m.t.)

	2008	*2009*	*Change %*
Chemical pulp total:	5 913	5 472	-7.5%
Market pulp	2 286	2 014	-11.9%
Paper and paperboard	7 364	7 154	-2.9%
Total Market pulp, Paper and Paperboard	9 650	9 168	-5.0%
Paper total including:	4 004	3 923	-2.0%
Newsprint	1 988	2 006	0.9%
Offset paper	426	403	-5.4%
Paperboard total:	3 360	3 231	-3.8%
Corrugated board	2 599	2 541	-2.2%

Source: Goscomstat of the Russian Federation; PPB-express, author's data handling, 2010.

8.3.2 *CIS and the Russian Federation balance of trade*

Exports of paper and paperboard from the CIS region increased in 2009 while imports declined (table 8.3.2). Meanwhile, imports and exports of woodpulp both decreased in 2009.

TABLE 8.3.2

Paper, paperboard and woodpulp balance in the CIS, 2008-2009

(1,000 m.t.)

	2008	*2009*	*Change %*
Paper and paperboard			
Production	9 270	8 943	-3.5%
Imports	2 836	2 444	-13.8%
Exports	2 937	3 020	2.8%
Net trade	100	575	473.5%
Apparent consumption	9 170	8 368	-8.7%
Woodpulp			
Production	7 254	6 825	-5.9%
Imports	224	200	-10.7%
Exports	2 035	1 715	-15.7%
Net trade	1 812	1 516	-16.3%
Apparent consumption	5 443	5 310	-2.4%

Source: UNECE/FAO TIMBER database, 2010.

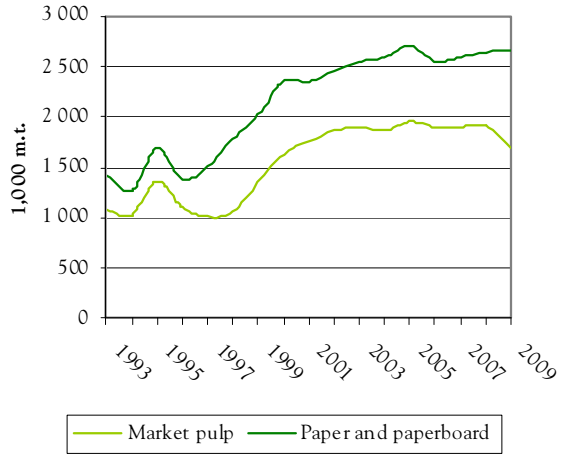
For the Russian Federation, exports of pulp and paper products hold a dominant position among forest-based products in terms of value, but overall forest product exports still have a pronounced raw material character. In terms of roundwood equivalents, roundwood and sawn wood exports accounted for 83.8% of the Russian

Federation's exports in 2006, while pulp and paper accounted for only 16.2% of exports.

In 2005-2009, the Russian Federation's exports of paper and paperboard levelled off, while exports of market pulp decreased (graph 8.3.1). Total exports of pulp, paper and paperboard had reached peak levels in 2005. Although volumes increased over the past decade, Russian exports as a percentage of production remained largely unchanged since 1996, with exports comprising about 80% of output for market pulp, and around 40% for paper and paperboard. Major export destinations for these Russian products were China (market pulp, kraft linerboard), Ireland (market pulp, kraft linerboard), India (newsprint), and Turkey (newsprint).

GRAPH 8.3.1

Exports of market pulp, paper and paperboard from The Russian Federation, 1993-2009

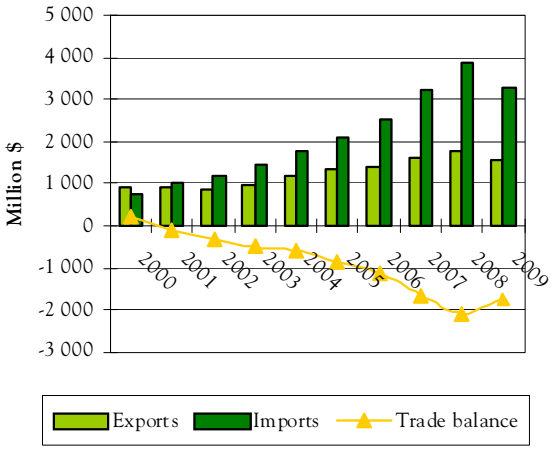


Sources: Goscomstat of the Russian Federation, PPB-express, Moscow, author's estimates, 2010.

Although the tonnage of Russian paper and paperboard exports greatly exceeds the tonnage of imports, the trade balance in terms of value has continued to deteriorate, as the Russian Federation has generally expanded its imports of higher value paper products. The annual trade deficit in paper and paperboard has been negative since 2001. In 2008 it was about $2,000 million (graph 8.3.2). The higher value of imports of paper and paperboard as compared to their exports was mainly due to the fact that the Russian Federation was importing high-value products such as quality materials for container and packaging, coated paper, and tissue, whereas exports consisted mainly of lower-value commodity products such as newsprint and kraft linerboard.

GRAPH 8.3.2

Value of The Russian Federation exports and imports of paper and paperboard, 2000-2009



Sources: State Customs Committee, Pulp. Paper. Board Magazine, PPB-express, PPB Exports, PPB Imports, author's estimates, 2010.

8.3.3 *Implications of global financial crisis for the Russian Federation*

The export-oriented nature of the Russian Federation's forest sector and the fact that it relies heavily on exports of unprocessed logs and pulpwood meant that the global financial crisis had a powerful impact on the whole forest sector. In late 2008 to early 2009, a drastic change took place both in the structure of exports of forest and paper products and in the internal market. The slump in industrial production in other countries (importers of Russian roundwood) coupled with increased duties on exports resulted in a sharp fall in roundwood exports, mainly to Finland. Lower consumption of consumer goods in the US and western Europe led China to cut back production, and this resulted in slower growth in China's consumption of packaging paper and paperboard and, consequently, a decline in Russian exports of kraft linerboard to China. There was also a simultaneous shrinkage of market pulp exports from the Russian Federation to China.

Compounding the effects of the global financial crisis, high energy prices, and the Russian Federation's position as a leading supplier of energy feedstocks caused significant appreciation the ruble against both the euro and the dollar. Thus, foreign competition in a number of product areas has increased (office paper, newsprint, etc.) both in the internal and external markets. The ongoing economic crisis has actually produced a stoppage of a number of so-called priority projects developed in recent years that were oriented toward more in-depth processing of wood in areas of abundant resources in the Russian Federation.

Tissue paper products were a notable exception. In recent years, tissue paper accounted for more than 20% of total paper and paperboard imports to the Russian Federation. The rise in the exchange rate of the ruble contributed to increasing output of tissue paper grades in the Russian Federation. New capacities were put into operation at the Syassky Pulp and Paper Mill in 2008 in Syktyvkar. In 2009 a new tissue paper enterprise of the SCA Company also began operating not far from Moscow.

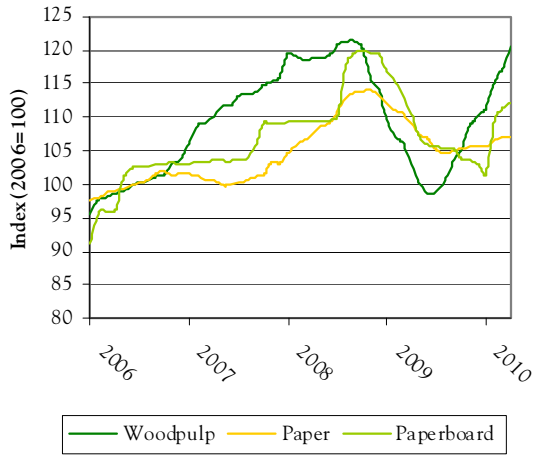
8.4 North America subregion

8.4.1 Prices rebound in second half of 2009

As an indicator of improved sector performance as described below, US price indices for paper, paperboard and woodpulp were on the rebound in the second half of 2009 and first half of 2010 (graph 8.4.1). Prices collapsed in 2009 after peaking in the third quarter of 2008. However, even at the bottom of the curve, prices were still better than in the early part of 2006. As reported last year, woodpulp and recovered paper prices were the first to level out and then began to increase by mid-year 2009. Prices subsequently rebounded for most paper and paperboard commodities in the second half of 2009. Prices for fibre input commodities such as market pulp were fully recovered (to 2008 peak levels) by the first half of 2010.

GRAPH 8.4.1

US monthly price indices for woodpulp, paper and paperboard, 2006-2010



Sources: US Department of Labor, Bureau of Labor Statistics, Producer Price Indices, 2010.

More than any other wood product, paper prices seem to be highly cyclical so price fluctuations are not entirely unexpected: it is in the nature of the industry. The fact that market pulp and recovered paper prices led the market rebound suggests that this was driven as much by global demand and limited fibre supply, as it was by the fairly modest rebound in domestic paper and paperboard demand. Factors contributing to limited fibre supply included generally reduced volumes of paper recovery for recycling because of reduced paper consumption in Europe and North America, unusually wet weather that constrained pulpwood harvest in the US South in the winter of 2009-2010, and the severe Chilean earthquake in February of 2010 that curtailed market pulp supplies from Chile for several months. In any case, although consumption and demand were only modestly improved, commodity prices were much improved by mid-year 2010 relative to price levels of one year earlier. The price rebound is attributable also in part to capacity withdrawals in the form of mill shutdowns and mill downtime, higher export demand, and the effect of growing pulp, paper and board consumption in Asia. In 2009, the tonnage of US paper and paperboard exports exceeded imports for the first time in modern memory. In terms of trade value, the US has been running a surplus in net trade of pulp, paper and board products since 2008, and the trade surplus rose from $1.2 billion in 2008 to $3.3 billion in 2009 (US Census Bureau, 2010). Although markets were on the rebound, US paper and paperboard capacity declined by 2.5% in 2009, and it was reported that 14 US mills were permanently closed in 2009, along with a total of 27 paper and paperboard machines (AF&PA press release, 22 March 2010).

North American production of paper and board declined by 11.5% in 2009 (table 8.4.1), while separately US output fell by 10% and Canadian output by a larger margin. However, demand and prices were on the rebound by the second half of 2009.

TABLE 8.4.1

Paper and paperboard balance in North America, 2007-2008

(1,000 m.t.)

	2008	*2009*	*Change %*
Production	95 967	84 926	-11.5%
Imports	16 325	13 099	-19.8%
Exports	23 996	20 803	-13.3%
Net trade	7 671	7 704	0.4%
Apparent consumption	88 296	77 221	-12.5%

Source: UNECE/FAO TIMBER database, 2010.

8.4.2 *Newsprint demand continues secular decline while modest rebound occurs in demand for other graphic papers*

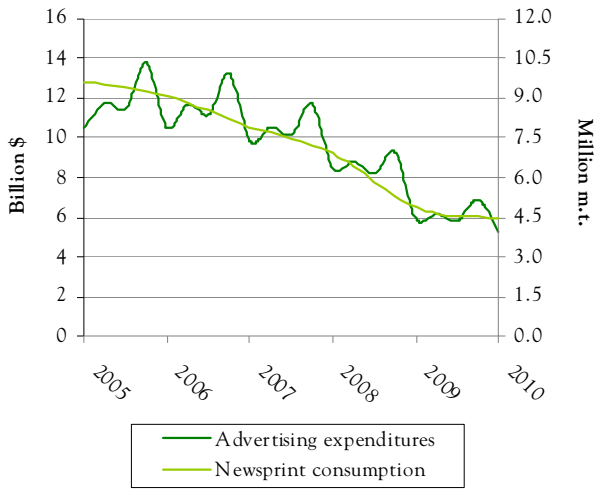
Print advertising expenditures are traditionally the leading source of revenue for US newspapers, and over the past decade a decline in print advertising expenditures at US newspapers was a leading contributor to a secular decline in US newsprint demand. The ongoing decline of newsprint consumption in North America accelerated in 2008 and 2009 and continued into 2010.

There is a close correlation between the general trend in print advertising expenditures at US newspapers and annual US newsprint consumption (graph 8.4.2). Newspaper advertising expenditures have a seasonal cycle, generally peaking in the last quarter of each year during the holiday season, but the general long-term trend has been downward for both print advertising expenditures and newsprint consumption. Both have declined by about 50% since early 2005.

US newsprint consumption continued to decline into the first half of 2010 despite the more general rebound of demand for other pulp, paper and paperboard commodities. The secular decline for newsprint is a reflection of a broad structural change in advertising media, chiefly a shift of advertising expenditures away from print media such as newspapers toward electronic media such as television and Internet (Newspaper Association of America, 2010).

GRAPH 8.4.2

Quarterly US newspaper print advertising expenditures and annual US newsprint consumption, 2005-2010



Sources: Newspaper Association of America, American Forest & Paper Association, 2010.

Apart from newsprint, demand for the other graphic papers (printing and writing paper) also experienced a significant decline in North America in 2008-2009, but a modest rebound of demand for printing and writing paper was underway by the first half of 2010. Nevertheless, printing and writing paper consumption in the US has declined by about 25% since 2005. Total North American (US and Canadian) graphic paper consumption declined in 2009 by 19.4% relative to 2008.

8.4.3 *Rebound for other paper and paperboard*

Apparent consumption of packaging paper and board in North America declined by 10.2% in 2009 relative to 2008, while production declined by 8.6%. The decline in production for Canada was 14.4% while US production declined by 8.1%. Demand for packaging paper and board rebounded in the second half of 2009 along with the rebound in US industrial production. According to the American Forest & Paper Association's (AF&PA) April 2010 Containerboard Report, US production of containerboard (case materials) from January to April 2010 had increased by 13.5% over the same period in 2009, generally reflecting the ongoing rebound in US industrial production, while the containerboard operating rate for April 2010 rose to 95.0%, roughly ten percent higher than the average for 2009 (AF&PA, 2010). Increases in US production and operating rates were similarly reported for all other categories of paperboard. Higher operating rates contributed to the rebound in paperboard commodity prices in late 2009 and early 2010.

8.4.4 *Woodpulp, pulpwood, and recovered paper market trends*

North American production of woodpulp declined by 11.5% from 2008 to 2009, with Canadian production dropping by 16.0% and US production by 9.8%. Exports from the US declined by just 3.5%, to 6.8 million m.t., while Canadian exports dropped by 26.9% to 7.0 million m.t., trends that were driven in part by relative currency values. From 2005 to 2009, a period when the Canadian dollar was historically strong relative to the US dollar, US pulp production declined by 13.0% (7.1 million m.t.), while Canadian pulp output declined by 32.3% (8.2 million m.t.), North American pulpwood supply since 2005 has been negatively impacted by the housing downturn, because lower sawnwood and plywood production reduced supplies of pulpwood chips from sawmills and plywood mills. The downturn in chip supply was reflected in a temporary increase in pulpwood prices. However, the reduction of pulpwood supply was overshadowed in 2008 and 2009 by large declines in pulp output and fibre demand. Thus, the latest pulpwood price cycle generally peaked in North America in the second half of 2008 in most US regions (or earlier in that year in Canada). By April of 2009 US delivered pulpwood prices had dropped by about 10% from the peak levels of

November 2008 (according to the US Bureau of Labor Statistics, pulpwood producer price index), but by April of 2010, the pulpwood price index was fully recovered as woodpulp prices rebounded (as shown in graph 8.4.1 above).

Source: M. Fonseca, 2009.

The AF&PA announced that a record high 63.4% of the paper consumed in the US was recovered for recycling in 2009 (AF&PA, March 2010 press release). This was a substantial increase from 57.4% in 2008. However, total fibre consumption at US paper and paperboard mills (including woodpulp, recovered paper and non-wood fibre) was reported to have declined by 10.5% in 2009 to 72.6 million m.t., reflecting the 10% reduction in US paper and paperboard production (AF&PA Annual Fiber Consumption Report, 2010). US exports of recovered paper nevertheless increased from 17.7 million m.t. in 2008 to 19.0 million m.t. in 2009.

8.4.5 *Global trade issues gain attention*

Global trade issues related to the pulp and paper sector gained more attention in North America in 2009-2010. The US Department of Commerce reached preliminary countervailing and antidumping duty determinations against certain coated paper product imports from China and Indonesia. The determinations stemmed from petitions filed in 2009 by several North American paper producers alleging unfair trade practices.

The original petitions alleged that subsidies were being provided to Chinese paper producers, including low interest loans, tax subsidies, input subsidies, land use programmes, grants, and export tax subsidies, along with pervasive undervaluation of China's currency (Paper Age, September/October, 2009). Similarly, the petitions alleged that Indonesian paper companies were benefiting from timber provided from government-owned land at below-market prices, a ban on log exports, government loans, debt forgiveness, and tax incentives for certain encouraged businesses (Ibid.). In March 2010 , the US decided to impose preliminary countervailing duties ranging from 3.92 to 12.83% on coated paper imports from China and Indonesia (Reuters press, 2010).

Amid global trade issues there was also emerging concern about exploitation of intellectual property rules as an aggressive new form of restraint on free trade. In 2010, the US identified "indigenous innovation" policies as a serious concern (USTR 2010 Special 301 Report). Such "indigenous innovation" policies would require that research and development (R&D) on products be conducted at least partially within a country to be accredited for government procurement within that country. Products that were developed by R&D outside the country (e.g., that were patented entirely outside the country) could be denied accreditation for government procurement.

In November 2009, for example, Chinese government agencies issued the "Circular on Launching the 2009 National Indigenous Innovation Product Accreditation Work", requiring companies to file applications by December 2009 for their products to be considered for accreditation as "indigenous innovation products." This Circular, and revisions to it issued in April 2010, provide for subsequent catalogues to be issued that give preferential treatment in government procurement to any products that are granted this accreditation. Provinces and municipal governments have also reportedly issued their own "indigenous innovation" catalogues related to government procurement.

As reported by the Office of the US Trade Representative, "The US is deeply troubled by the development of policies that may unfairly disadvantage U.S. intellectual property rights holders by promoting 'indigenous innovation' including through, among other things, preferential government procurement and other measures that could severely restrict market access for foreign technology and products" (USTR, 2010). In addition, the US Trade Representative, Ambassador Ron Kirk, stated, "We are seriously concerned about China's implementation of 'indigenous innovation' policies that may unfairly disadvantage U.S. intellectual property right holders. Procurement preferences and other measures favouring 'indigenous innovation' could severely restrict market access for American technology and products" (USTR, 2010).

The tax credit received by US pulp makers for use of black liquor in boilers during 2008 and 2009 expired at the end of 2009. The credit, which was intended for car and truck users, provided a credit for mixing diesel fuel with an alternate fuel. Pulp mills obtained several billion dollars in tax credits for use of black liquor used jointly with some diesel fuel.

US pulp producers received a tax credit for combustion of black liquor in boilers in 2008 and 2009. However, the tax credit programme expired at the end of 2009. The tax credit stemmed from provisions of the 2005 Highway Bill, a US law that provided tax credits for alternative fuels that could replace gasoline or diesel, including liquefied petroleum gas (LPG), compressed or liquefied natural gas (LNG), liquefied hydrogen, and liquid fuel from coal, as well as biomass-based liquid fuels (but not ethanol, methanol, or biodiesel, which have separate tax provisions). In 2008 it was also applied to black liquor, a combustible by-product of the pulping process. The US Internal Revenue Service determined in 2009 that combining black liquor with diesel fuel creates an "alternative fuel mixture" for purposes of the alternative fuel credit (IRS, 2009). Thus, a tax credit was provided for combustion of black liquor as an alternative fuel when mixed with diesel fuel. Pulp producers may have obtained over $8 billion in black liquor tax credits in 2009 (Accuval, 2010).

8.5 References

Accuval. 2010. Black liquor tax credits: The end of a loophole for the pulp and paper industry. Available at: www.accuval.net/insights/featuredarticle/detail.php?ID=61

American Forest & Paper Association. 2010. Press releases and industry statistics. Available at: www.afandpa.org/ and http://www.statmill.org

Confederation of European Paper Industries (CEPI). 2010. CEPI Preliminary Statistics 2009. Available at: www.cepi.org/Content/Default.asp?pageid=4

CEPI. 2010. Production statistics 1st quarter 2010. Available via: www.cepi.org

Federal State Statistics Service and Goskomstat of the Russian Federation. 2009. Available at: www.gks.ru/wps/portal/english

Newspaper Association of America. 2010. Advertising Expenditures of US newspapers. Available at: www.naa.org/TrendsandNumbers/Advertising-Expenditures.aspx

PPB-Express, PPB Exports, PPB Imports. Pulp Paper Board (PPB) magazine (of Russia). 2010. Available at: www.cbk.ru/eng/cbk_mag.php

UNECE/FAO TIMBER database. 2010. Available at: www.unece.org/timber

US Internal Revenue Service. 2009. Black liquor; Excise tax credits. Available at: www.irs.gov/pub/irs-wd/0941011.pdf

US Office of the Trade Representative. 2010. Special 301 report. Available at: www.ustr.gov/about-us/press-office/reports-and-publications/2010-3

Chapter 9
Government policies increasingly promote renewable energy sources: Wood energy markets in the UNECE region, 2009-2010[52]

Highlights

- Sustainability issues about wood fuels are increasingly being debated, but the European Union has decided not to impose EU-wide sustainability criteria for solid biomass.
- United Kingdom energy companies plan massive increases in their utilization of wood energy, further fuelling European demand for wood energy.
- In order to increase control of the value chain, European energy companies are investing in large-scale wood pellet production facilities, particularly in North America.
- Wood energy use and pellet production levels are increasing in the Russian Federation, despite the overall regression of the Russian forest sector up to 2010.
- Russian federal and regional governments are actively implementing policies on energy efficiency and renewable energy supply, increasing wood energy use and production.
- The United States has suddenly become the world's leading producer of wood pellets through the construction of a number of the world's largest pellet plants.
- The US Biomass Conversion Assistance Program introduced in 2008 as a tool to promote the use of wood residues for energy purposes has been put on hold in 2010 due to high costs and fears that it causes market distortion.
- The large export-oriented Canadian wood pellet industry is evolving with increased utilization of non-traditional raw materials (i.e. not sawmill co-products) and growing domestic pellet demand.
- Although federal policy measures about wood energy are largely absent in Canada, provincial governments are becoming increasingly proactive in promoting bio-energy market development.

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Secretariat introduction

As the world emerges from the economic and financial crisis of 2008-2009, demand for energy is rising, as well as the costs. Increasing fossil fuel costs provide incentive for lower-cost wood-based fuels. In addition to these market forces, government policies to promote renewable energy continue to promote wood for energy. Sometimes these policies raise competition for readily available wood supply. However, in the medium and long term, the forests in the UNECE region can support greater harvests to satisfy the growing need for paper and wood products, as well as wood energy.

In addition to this chapter, the UNECE/FAO Forestry and Timber Section has other activities in the wood energy field. We conducted a second Joint Wood Energy Enquiry in the UNECE region and expect to publish results in 2010. Then we intend to launch a third enquiry for our region. We held a workshop in 2009 and 2010: "Estimating potential sustainable wood supply"[53], "Strategies for increased mobilisation of wood resources from sustainable sources."[54], "Current and future woody biomass for energy – Monitoring use and understanding technology"[55], and "Policy options for wood energy"[56] in Croatia and "Policy options for wood energy"[57] in Belarus. We are embarking on a new long-term outlook study for the forest sector, which will include scenarios for wood-energy supply and demand, something not included in the 2005 outlook study.

We are pleased to have the wealth of expertise of the authors and contributors to this chapter. The lead author of the European section and chapter coordinator again was Mr. Olle Olsson,[58] Ph.D. student, School for Forest Engineers, Swedish University of Agricultural Sciences (SLU). His advisor Dr. Bengt Hillring,[59] Associate Professor, SLU, continues to inject his knowledge.

The Canadian analysis was thanks again to Dr. Warren Mabee,[60] Assistant Professor, Energy & Environmental Policy, Queen's University, Ontario, together with Dr. Christopher Gaston,[61] National Group Leader, Markets and Economics, and Ms. Antje Wahl,[62] Scientist, both FPInnovations-Forintek Division, Vancouver, British Columbia. They highlight the important trade links between Canada and Europe, as well as the fast developing domestic market.

Dr. Kenneth Skog,[63] Project Leader, Economics and Statistics Research, USDA Forest Service, Forest Products Laboratory, led the US analysis again. He was joined again by Mr. Henry Spelter,[64] Research Scientist, who also works in the Economics and Statistics Research Unit, and also by Dr. Francisco Aguilar[65], Assistant Professor at the University of Missouri, Columbia, Missouri.

The Russian Federation energy section was written again by Dr. Rens Hartkamp[66]. He works together with Mr. Hans Jansen of the UNECE Economic Cooperation and Integration Division on a project on development of biomass action plans in Russia. They have been active in this field since 1998. Supplemental information was provided by Dr. Nikolai Burdin, Director, OAO NIPIEIlesprom, as he does to other chapters in this *Review*.

Our sincere appreciation goes to all of these experts.

9.1 General energy market developments

In oil markets, prices have recovered in mid-2010 to a high but relatively steady level of $70-80 per barrel (graph 9.1.1). This is in contrast to the considerable fluctuations in 2008-2009 (IMF, 2010). It is expected that prices will

53 http://timber.unece.org/index.php?id=128

54 http://timber.unece.org/index.php?id=158

55 http://timber.unece.org/index.php?id=195

56 http://timber.unece.org/index.php?id=256

57 www.fao.org/regional/SEUR/events/minsk/minsk_en.htm

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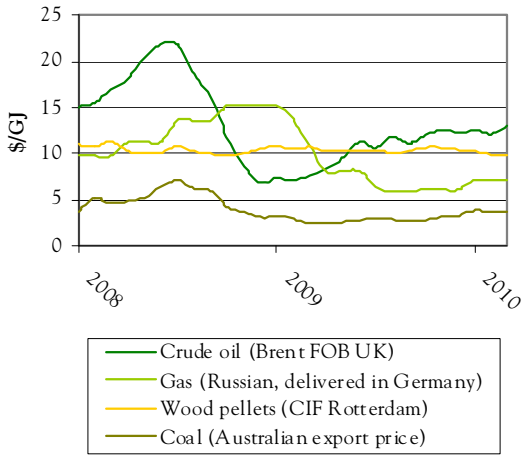
remain or increase from this level in the medium term as the global economic recovery picks up speed (Baldwin, 2010). Another factor that might affect oil markets in the coming years is the large oil spill in the Gulf of Mexico beginning in April 2010. It could result in tougher environmental standards for deep-sea projects, which in turn may increase production costs (Doggett, 2010).

In the increasingly global natural gas market, the boost in the United States production of unconventional natural gas – especially shale gas – has made the US surpass the Russian Federation as the world's leading country in natural gas production (Upstream Online, 2010).

GRAPH 9.1.1

Fuel price development, 2008-2010



Sources: IMF for coal, crude oil & natural gas prices; and Pellets@las for pellets, 2010.

9.2 European wood energy developments

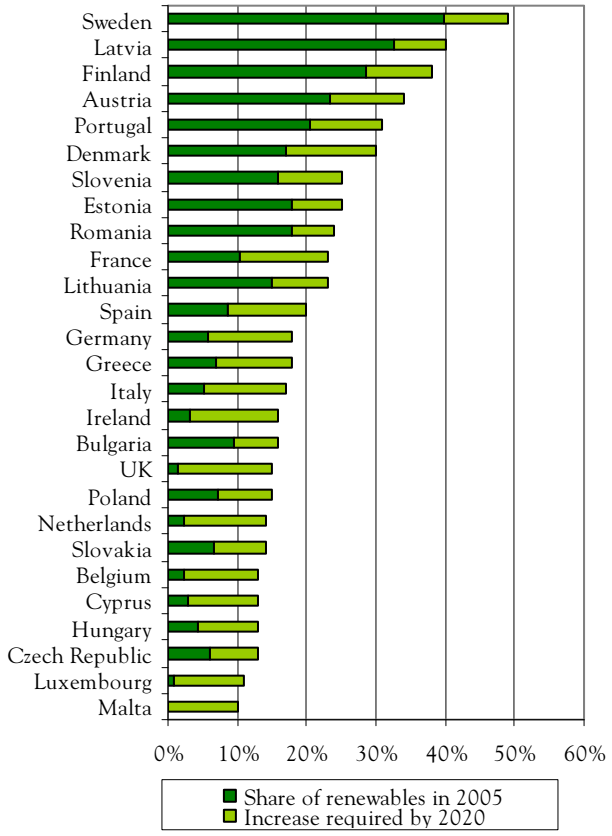
9.2.1 Europe: policies driving markets

9.2.1.1 Policies promoting renewable energy

According to the goals of the European Union energy and climate package, by the year 2020, the 27 Member States are to achieve a 20% reduction in greenhouse gas (GHG) emissions, a 20% share of renewable energy in gross final consumption and a 20% reduction in primary energy use. The EU Renewables Directive (2009/28/EC), laying out the details for the planned increase in the share of renewables, is to be implemented in the national legislation of the respective Member States in December 2010. For the 27 Member States to meet their targets, current shares of renewable energy in gross final consumption of energy will have to increase dramatically (graph 9.2.1).

GRAPH 9.2.1

EU-27 targets for renewable energy in 2020



Source: Renewables Directive (Directive 2009/28/EC 2009), 2009.

Most countries expect to reach the goals that have been set and several countries forecast that they will reach even higher levels than are required by the Renewables Directive (EurActiv.com 2010a). Eventually, the Renewables Directive will also be implemented in Iceland, Liechtenstein and Norway, but discussions on how this is to be done are still ongoing (EEA Council, 2009).

In the countries of southeastern Europe (SEE) – Albania, Bosnia and Herzegovina, Croatia, The FYR Macedonia, Montenegro and Serbia – wood energy is garnering increasing attention, especially as a means to reduce the region's dependence on expensive fossil fuel imports. Feed-in tariffs for renewable electricity production have been introduced in all the SEE countries except Albania and Montenegro, which are currently in the process of designing appropriate policy programmes (Glavonjic, 2009).

9.2.1.2 Sustainability criteria and standardization

The EU Renewables Directive defines sustainability criteria for liquid biofuels but does not specify criteria for

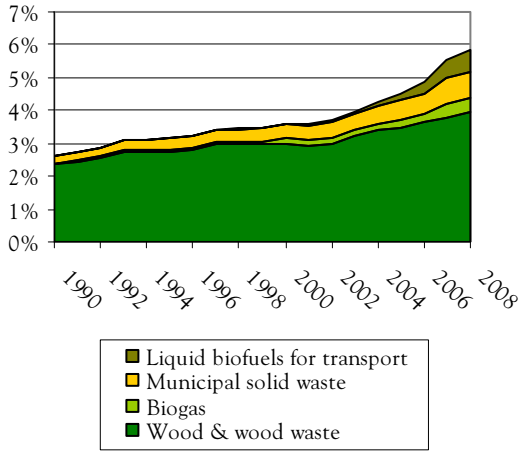
solid and gaseous biomass. Instead, in February 2010, the European Commission provided recommendations for the individual Member States to use in the development of national criteria (European Commission, 2010). This could, however, lead to development of heterogeneous systems in the EU Member States, which may well become a barrier to international bioenergy trade (Junginger, 2010). Aiming to establish globally harmonized sustainability criteria for bioenergy, the International Organization for Standardization (ISO) initiated a project, ISO/PC 248, *Sustainability criteria for bioenergy*, in January 2010 (ISO, 2010). Another important development in the field of bioenergy standardization is the publication of a Europe-wide standard for solid biofuels, EN 14961, that will supersede existing national standards (Alakangas, 2010).

9.2.2 *Europe: market developments*

The share of biomass and wastes in the gross inland energy consumption of the EU-27 countries increased from 2.7% in 1990 to 5.85% in 2008 (Eurostat 2010a). The majority of the use of biomass for energy is made up by wood energy (graph 9.2.2).

GRAPH 9.2.2

Development of the share of biomass and wastes in gross inland energy consumption in the EU-27 countries, 1990-2008



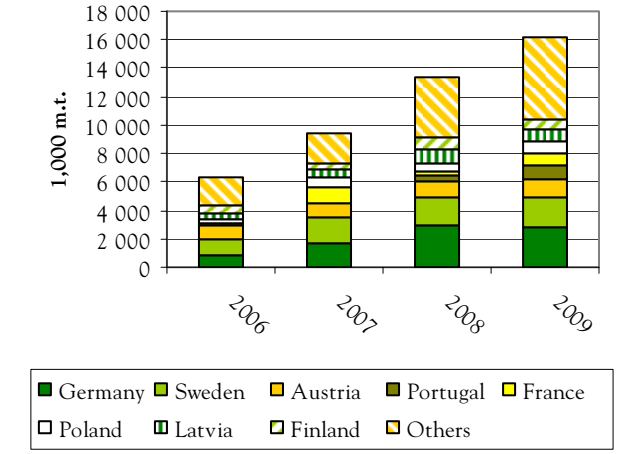
Source: Eurostat, 2009.

9.2.2.1 *Wood pellet market development*

In the European market for wood pellets, production capacity continues to increase (graph 9.2.3). According to Ljungblom (2010), wood pellet production in Europe (excluding the Russian Federation) was about 16 million metric tons (m.t.) in 2009, which means that production capacity has almost doubled since 2007.

GRAPH 9.2.3

European wood pellet production capacity, 2006-2009



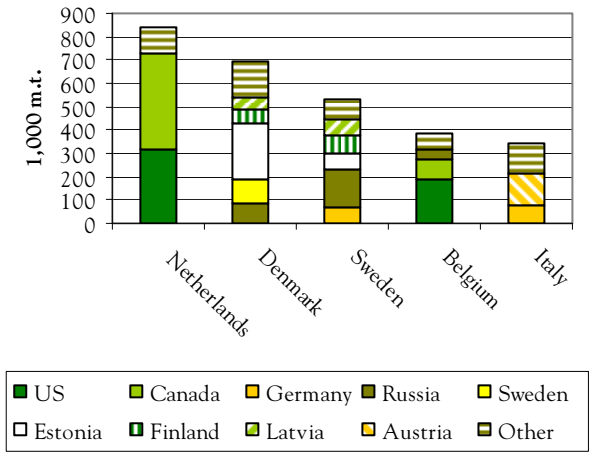
Source: Ljungblom, 2010.

However, it is important to distinguish between production capacity and actual production, and exact production volumes are hard to find. The average utilization rate – i.e. the ratio between production and production capacity – for Germany, Sweden and Austria, the European countries with the largest production capacity, was roughly 65% in 2009 (Rakos, 2010; DEPI, 2010; PiR, 2010).

Since January 2009, Eurostat has reported trade flows of wood pellets. Since there still seem to be some discrepancies in the statistics, the figures should be treated with caution (Sikkema et al., 2009). Nevertheless, this is an important development in wood fuel market transparency. According to the reported data, international internal and external EU-27 trade in wood pellets was approximately 3.8 million m.t. in 2009. The EU imported wood pellets amounting to 1.76 million m.t. Three countries – the US, Canada and the Russian Federation – are the sources for more than 80% of the wood pellets imported into the EU. However, there is also a large trade of wood pellets between EU countries (graph 9.2.4) (Eurostat, 2010b).

GRAPH 9.2.4

Major European pellet importing countries and their suppliers, 2009

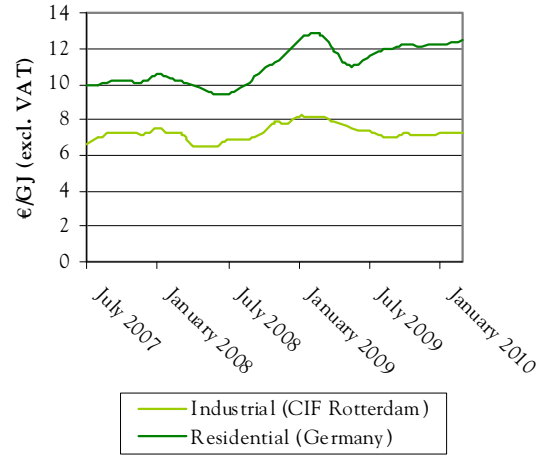


Source: Eurostat, 2010b.

The prices for industrial pellets in Rotterdam – a market dominated by imports from North America – have remained fairly stable in recent years (graph 9.2.5). This is especially true if compared to the volatile prices of oil, natural gas and coal, as shown in graph 9.1.1.

GRAPH 9.2.5

Price developments for residential and industrial wood pellets, 2007-2010



Sources: Pellets@las 2010; DEPV, 2010.

Prices for pellets used in small-scale residential heating have been on the increase since summer 2009 in Germany, the country with Europe's largest pellet market. Increased costs of raw material have pushed production costs upwards and reduced producer profit margins (EUWID, 2010). In 2009, 30% of the raw material supply for German wood pellet production consisted of roundwood (DEPI, 2010).

9.2.2.2 Market trends

Europe's energy companies continue to invest heavily in wood energy. This strategy is carried out both through a continuation of the established procedure of replacing existing power stations using fossil fuels with new plants using wood fuels and through investment in the wood energy value chain. Examples of this trend are the German RWE company's $148 million (€120 million) investment in a wood pellet production facility in the southern US, French company GDF Suez's joint venture with Pacific Bioenergy, and Swedish Vattenfall's 50% stake in a wood pellet plant in Miramichi in Canada (McDavid, 2010; Comfort, 2010). According to Mr. Leonhard Birnbaum of RWE, "If you don't control the value chain, you can't make money in biomass" (Comfort, 2010).

Although wood pellets have been dominating international wood fuel trade, there is a growing interest in long-distance international trade in wood chips. UK production of electricity from biomass is expected to increase greatly in the coming years as a response to the country's ambitious 2020 targets for renewable energy as shown in graph 9.2.1. This is expected to bring about a fivefold increase in UK biomass power generation capacity by 2013, compared with 2009 levels (Argus Biomass, 2010). Many of the planned projects are to be based on chips rather than pellets (Moore, 2010; Shankleman, 2010). Also, the company *Biowood Norway* will use wood chips imported from Canada and Africa to supply raw material for its 450,000 m.t. wood pellet plant on the west coast of Norway (Markhus, 2010). Although wood chips are less costly to produce, they are much more expensive to transport, as pellets have a four times higher volumetric energy density. In effect, this means that the choice of wood chips over wood pellets comes with an increased vulnerability to freight cost volatility (Reesinck, 2010).

9.3 Russian Federation wood energy developments

9.3.1 *Russian Federation: policies driving markets*

The Russian federal and regional governments are actively implementing policies on increasing the nation's energy efficiency and on stimulating the use of renewable energy sources (RES). The basis for this development was formed by Presidential Decree No. 889 of 4 June 2008 on "Various measures aiming to increase the energy and ecological efficiency of the Russian economy" (Rossiyskaya Gazeta, 2008). The federal government

targets are to improve the nation's energy efficiency by 40% and to increase the share of RES (excluding hydroelectric power) in electricity generation to 4.5% by 2020. During the past year, President Medvedev repeatedly stressed the high priority of these issues (at official meetings and in the mass media). In relation to these targets, one of the main topics of importance is the reconstruction and modernization of the municipal heating sector. At present, it consumes a substantial part of the fossil fuels the country produces. The district heating plants and transportation networks are in general extremely wasteful. These often old and worn systems provide heating to the homes of 73% of the population (Mezhevich, 2010).

One of the most important, recently-issued laws is Federal Law No. 261 on "Energy saving and energy efficiency, and on implementing changes in several Russian laws" (Russian Government, 2009). Accordingly, regional executives are to adopt a list of measures leading to energy savings and increased energy efficiency, which are to be integrated into regional and municipal programmes and should stimulate the use of RES.

The Ministry of Energy states the draft bill on "Heat Supply" will address measures for development of RES. On 18 February 2010, a roundtable of the Council of Federation of the Federal Assembly was held on the regulatory framework of the district heating sector. Over the years, many district heating plants have been privatized. The draft bill stipulates that the sector shall provide high quality, efficient and reliable heating supply (Ministry of Energy, 2010). In order to increase district heating efficiency, the draft bill recommends managing the district heating providers by putting in place supervising organizations. Moreover, draft bill 111741-5 on "Implementing changes in several legislative acts, in order to increase the energy and ecological efficiency of the Russian economy" is now in second reading in the Duma. This draft bill proposes transferring the responsibility of the heating supply sector to the regional governments.

In 2009, the financial crisis had a major impact on the Russian forest and woodworking sector. Fewer investments were made in the forest sector than in the years before, and many important projects were cancelled. In 2009, domestic demand was minimal. In comparison to 2007, forest harvesting volumes dropped by 30%. But the situation improved in 2010. According to the Russian Ministry of Industry and Trade, the production index in the woodworking sphere rose by 12.1% in the first quarter of 2010, as compared to the first quarter of 2009 (Ministry of Industry and Trade, 2010).

Regardless of the poor investment climate and reduced availability of wood waste, the wood-energy market was one of the branches of the forest and woodworking sector that has had rising demand and supply since 2007.

In reaction to the investment malaise in the forest and woodworking sector, several regional governments have developed subsidizing mechanisms, which directly or indirectly stimulate the wood-energy market. Some international organizations are also actively supporting investment and development programmes in Russia. The European Bank for Reconstruction and Development is lending $37 million to modernize heating systems in the Khanty-Mansiysk region. At present, there are several European and bilateral projects on the development of the wood-energy sector, and, for example, UNECE is assisting Russian regional governments in developing biomass action plans.

In line with the developed legislation, the economic availability and possible production and use of wood energy are being studied in several regions of Russia. Two such studies have been done for the Arkhangelsk region: one by the St. Petersburg Forest Research Institute (commissioned by the federal "Fund for Information on Forest Resources") and another by the Finnish PBI Research Institute (commissioned by NEFCO) (Arkhangelsk Government, 2009). Several regional governments have started implementing concrete plans for developing the wood-energy market and for modernizing of boiler plants. In Arkhangelsk such a project has begun, with the support of the federal and regional governments (Arkhangelsk Government, 2010a). The regional development programmes will certainly contribute to a gradual increase of domestic wood-energy production and use.

Source: Metsäliitto, 2010.

The Russian pellet market is developing steadily but still depends mainly on exports to Europe. Therefore the RES policy of the EU, as mentioned in section 9.2.1.2, is of great importance for this market.

Several biomass certification schemes have already been developed. At present, some large Russian and European pellet producers and electricity companies are already demanding sustainable forest management certificates. FSC certification already has been possible in the Russian Federation for a decade. The first PEFC certificate was issued in February 2010 (PEFC, 2010).

Joint implementation projects under the Kyoto protocol and transfers of Renewable Energy Certificates are not possible in the Russian Federation yet. In November 2008, the Ministry of Energy issued Regulation No. 187 on the "Transfer and redemption of Renewable Energy Certificates". This regulation came into force in 2009 and is expected to be reviewed later this year.

9.3.2 *Russian Federation: market developments*

The export price for pellets has been stable and at present is $140 (€115) per ton FOB (port of St. Petersburg) (Ivin, 2010). Some studies state the annual production level of wood pellets rose to 960,000 m.t., and export levels to 700,000 m.t. in 2009 (RBC, 2010). However, professionals working in the field find the data used for these estimations inexact and optimistic.

Production capacity is much higher than production and has been growing. New enterprises are founded while others close and this evolution occurs in all regions, including those with good export possibilities.

The trend of increased production capacity per enterprise continues. Not only are larger production plants being built, but existing ones are expanding too. Additionally, small production sites are more prone to go bankrupt. The larger sites are being equipped with high quality wood pelletizing machinery (Glukhovskiy, 2010).

There are a few enormous pellet enterprises under construction. In the Arkhangelsk region two pellet plants are planned with a capacity of half a million m.t. a year (Arkhangelsk Government, 2010b). In the Leningrad region the companies Vyborgskaya Cellulose and Ekman & Co are building the world's largest pellet plant, with a production capacity of one million m.t. (Vyborgskaya Cellulose, 2010). The company is located near the Finnish border with good access to export routes However, it seems unfeasible to concentrate such enormous quantities of raw material. The company plans to transport roundwood by train from distant regions of the Russian Federation and Belarus. Considering the distance from raw material supply, a production capacity of 250,000 m.t. a year would already be a great challenge.

Domestic demand for all kinds of wood waste, pellets and wood briquettes is growing steadily. The trend of enterprises, cottages, and homes using small-sized wood-fired boilers (with automatic feeders) is continuing. Furthermore, production levels of products with higher added value, such as charcoal and litter granules, can be expected to rise.

The increased export tariffs on unprocessed wood, and the decline in wood processing, resulted in a surplus of roundwood in 2009. Some of these logs were chipped and exported as wood fuel.

Forest operations with the goal of harvesting energy wood are becoming more common. This makes sustainability an increasingly topical issue. Large amounts of wood for energy can be harvested after forests have been hit by fires and disease, or to improve forest stand development. The "forest reconstruction" management category regulations can, however, be misused to purchase wood easily and inexpensively (they are less demanding than for regular harvesting).

In 2009, the Finnish Forest Research Institute "Metla" issued a detailed, pioneering study on the economic availability of wood for energy in northwest Russia (Metla, 2009). It considered, among others, the use of stumps and branch and top wood, which are not used in Russia yet but possibly will be in the near future.

Source: Metsäliitto, 2010.

The drop in prices for fossil fuels, and especially the low price for natural gas, had a negative impact on the wood-energy market. The gas supply network is being expanded and several new gas-fuelled electricity plants have been built in 2009-2010. Additionally, since the 2009 *Review*, the exchange rate of the ruble recovered by 13%, constraining export revenues. Nonetheless, considering the feasibility of wood-energy use in Russia and the government policy on stimulating the use of RES, the domestic wood-energy and export-driven pellet markets can be expected to develop steadily in the coming years.

9.4 US wood energy developments

9.4.1 US: Policies driving markets

This section reviews three aspects of evolving federal policy and provides an overview of state policies. At the federal level we consider the Biomass Crop Assistance Program (BCAP) to support use of biomass for energy, developments concerning "carbon neutrality" of biomass bioenergy, and developments in the US Senate on climate change legislation on the definition of wood biomass and its role in reducing GHG emissions.

9.4.1.1 Biomass Crop Assistance Program

The federal BCAP was set up in 2008 to expand biomass energy use by offering incentives for the collection, harvest, storage and transport of biomass feedstock, and offering incentives to grow crops for bioenergy. The intention was to increase use of biomass left on the forest floor or cropland and stimulate production of energy crops for power and heat generation or liquid fuel production. The programme began in 2009 and goes to 2012. The initial estimated cost was $70 million over three years.

By early 2010, 450 facilities had been approved as eligible biomass conversion facilities. These included not only intended users such as combined heat and power facilities and power plants, but non-energy producers that burn biomass for process steam or heat including about 85 pulp and paper plants, 40 sawmills and a dozen plywood mills.

By May 2010, the cost had grown to $185 million; 80% was for forestry waste but included 16% for other waste, including $10.4 million for "sawdust and shavings" that was possibly diverted from use by existing industries.

Given the unexpected direction of the programme and criticism from the wood industry whose inputs were disrupted, the US Department of Agriculture stopped accepting applications in February 2010, and will not accept more until the final BCAP rule, expected in mid-2010. The final rule may contain modifications that allow the wood supply only from debris that has no or little market value and will stimulate growth of new bioenergy feedstocks.

9.4.1.2 Carbon neutrality of biomass energy

In the national GHG sinks and emissions accounts prepared by countries as called for by the UN Framework Convention on Climate Change or accounting required under the Kyoto protocols, the emissions from wood biomass burning are contained in the land area portions of the accounts. The reduction of biomass on the land accounts for their emissions of CO_2 to the atmosphere. The emissions from wood burning for energy do not appear in the industrial emissions accounts and it appears that wood-energy emissions do not cause a net CO_2 emission to the atmosphere.

Searchinger et al. (2009), however, point out that this type of accounting is not sufficient when assessing the net emissions effect of individual activities such as biomass burning for energy. Accurate accounting must include the effect of changes in land emissions (or carbon changes) and bioenergy emissions, in addition to fossil fuel emissions offsets. They note that some sources of wood used for energy, such as logging residue, or wood plantations established on non-forestland could result in net reductions in emissions. However, wood that comes from forestland disturbed to establish an intensive plantation for energy may release soil carbon that negates the benefit of fossil fuel emissions offsets for many years depending on existing stand and soil conditions.

Whether or not use of wood energy from existing forests in place of fossil fuels results in a net emissions reduction depends on a range of factors identified by Marland (1992). Attaining a net decrease depends on the age of the forest when harvests begin, the forest growth rate, the maximum carbon the forest can store, the efficiency of converting wood to energy, the efficiency of converting the replaced fossil fuel to energy, and the time span of forest growth used to compute the change in net emissions. The longer the time period considered, the greater the likelihood of a net emissions decrease.

Source: M. Fonseca, 2010.

Biomass carbon neutrality is being considered in rulemaking by the US Environmental Protection Agency (EPA). Without federal legislation to control GHG emissions, the EPA is required by a 2007 US Supreme Court ruling to consider GHG emissions as pollutants under the Clean Air Act and to control their emission. EPA actions have included development of guidelines to restrict emissions from certain stationary sources, such as electric power plants. The uncertainty about the carbon offset benefits of wood sources was considered in a rule

released by EPA which identifies stationary GHG emissions sources that need to have permits to emit GHGs (USEPA, 2010).

EPA received requests for exemptions for biomass combustion/ biogenic emissions but decided not to allow any exclusions. The special life cycles of many biomass sources were considered but it was determined that the information available does not provide a sufficient basis to exclude emissions of CO_2 from biogenic sources. EPA will seek more information on the life cycles associated with biomass emissions.

9.4.1.3 *US Congress discussion on greenhouse gas emission regulations and the role of biomass*

Senators Kerry and Lieberman have released a discussion draft climate change bill (US Senate, 2010) that would be the companion to the Waxman-Markey Bill (H.R. 2454) passed by the US House of Representatives. A number of provisions address concerns about the definition of renewable biomass and the impact of expanding bioenergy use on indirect emissions.

The draft definition of renewable biomass allows for more biomass use than under the Energy Independence and Security Act of 2007, but it calls for a report from the National Academy of Sciences to evaluate how sources of renewable biomass contribute to the goals of increasing energy independence, protecting the environment, and reducing GHG emissions.

It asks for the Administrator of the EPA and Secretary of Agriculture to review the report and submit recommendations concerning possible modification of the non-federal land portion of the definition of renewable biomass.

9.4.1.4 *State policies*

Common policy instruments that influence wood biomass use for energy include: (a) rules and regulations including renewable portfolio standards, (b) financial incentives, and (c) programmes supporting research, outreach and education (Aguilar and Saunders, 2010). In addition states have policies to support sustainable use of wood biomass including: (a) definitions of biomass that can be used for energy to meet regulatory targets or qualify for subsidies, (b) establishment of mandatory or voluntary best [forest] management practices for supplying wood biomass, and (c) requirement for a professional forest management plan before biomass can be removed and used to meet regulatory targets or qualify for subsidy.

Financial incentives are the most common policy instrument and used by at least 40 states, most commonly to support feedstock demand or supply or to lower cost of capital investments. Almost all are designed to support a range of renewable energy sources including wood or agricultural biomass, wind energy, or solar energy and do not focus exclusively on wood.

Rules and regulations are the second most common type of instrument. Thirty-six states and the District of Columbia have requests for proposals, which set targets for the percentage of energy generated (or publicly purchased) in the state that must come from renewable sources by certain dates. These targets are most commonly for percent of electric power from renewables but sometimes for percent of transportation fuels from renewables. In most cases they are fixed percentages for given years. In some cases targets are flexible.

Public service programmes including education, research and outreach are provided by 18 states, are least common, and are not specifically directed to support wood energy. Support is given to develop a range of technologies and for programmes to provide technical assistance to a range of businesses.

State policies supporting sustainability of wood-biomass supply include biomass definitions which are intended in part to limit competition for wood inputs with the forest products industry and to support use of underutilized material. A minority of states have developed wood biomass harvesting best management practices, including Maine, Michigan, Minnesota, Missouri and Wisconsin.

Source: M. Fonseca, 2010.

9.4.2 *US: Market developments*

In 2009, wood use for energy in the US was 2,094 petajoules (approximately 230 million m^3), down from 2,174 petajoules in 2008. Overall, use has been declining since 2006 and falls short of the peak of 2,848 petajoules in 1985 (USDOE, 2010b). The decline is due primarily to decreased industrial wood energy use – primarily in forest products industries. Since 2000, wood biomass has

accounted for about 3% of US energy production. Wood energy consumption has declined steadily as a share of all renewable energy consumption, from 45% in 1981 to 28% in 2008 to 25% in 2009.

Wood use for residential heating increased 20% for 2008 and 2009 over prior levels back to 2000. Wood use in commercial buildings has been stable since 2000. Industrial wood energy – primarily in the wood product industries – has declined about 18% since 2006. Wood-based electric power production increased from 136 petajoules in 1990 to 187 petajoules in 2008 and was 182 petajoules in 2009.

Source: M. Fonseca, 2010.

In contrast to these modest increases or declines, the intermediate wood energy product, wood pellets, used primarily for residential heating and export markets, has seen US production capacity increase from 600,000 m.t. in 2003 to over 4 million m.t. in 2009. Exports increased from under 50,000 m.t. in 2006 to more than 250,000 m.t. in 2008 with further expansion of capacity in 2009 for export markets (Spelter and Toth, 2009).

The 2010 Annual Energy Outlook projects that the current outlook for expansion of ethanol production into use of cellulosic feedstocks could be limited to 8-12 billion litres by 2022 if subsidies are not continued but could expand to the 61 billion litre target for 2022 by 2035 if subsidies are renewed and continued (USDOE, 2010a).

9.5 Canadian wood energy developments

9.5.1 Canada: Policies driving markets

In Canada, few national policies exist which act as incentives for greater wood energy use. Two important developments at the national level include the Pulp and Paper Green Transformation Program (announced August 2009) and the mandate for renewable fuels in the gasoline pool, which is scheduled to come into force in 2010. One federal policy that may have a large impact on biomass-to-energy projects in future is the recently announced phase-out of coal-fired electricity generation Canada-wide. This announcement, made by Environment Minister, Jim Prentice, in April 2010 would affect 21 plants across Canada. No legislation is currently in place to enforce this policy (McCarthy, 2010).

The Pulp and Paper Green Transformation Program is designed to provide funding for forestry companies to finance projects that will in turn deliver real environmental benefits, including renewable energy production and/or increased energy efficiency. The maximum funding is capped at Can$1 billion (US$ = 950 million) and at the individual company level is calculated based on a Can$0.16/litre credit for the volume of black liquor produced by their mills between 1 January 2009 and 31 December 2009. Firms have until 31 March 2012 to draw on funding to finance approved capital projects (Natural Resources Canada, 2010). This programme was largely introduced in response to alternative energy credits offered within the US for black liquor based energy production, which Canadian firms felt created an unfair advantage for their US-based competitors.

Canada's national Renewable Fuels Strategy (RFS) mandates an average of 5% renewable fuel content within the gasoline pool, which will provide an estimated incremental reduction of GHG emissions of about 1 million m.t. of CO_2-equivalent per year, over and above the reductions attributable to existing provincial requirements already in place. A second part of the RFS requires 2% renewable fuel in the diesel fuel pool by 2012, and regulations have also been proposed to enforce this mandate (Canada Gazette, 2010). Provincial mandates for renewable fuels are also in place in British Columbia (5% by 2010), Saskatchewan (7.5% since 2007), Manitoba (8.5% since 2008), and Ontario (5% since 2007). However, none of the renewable fuel mandates currently in place, at the provincial or federal levels, specify second-generation biomass to liquid biofuels that might be sourced from forest biomass.

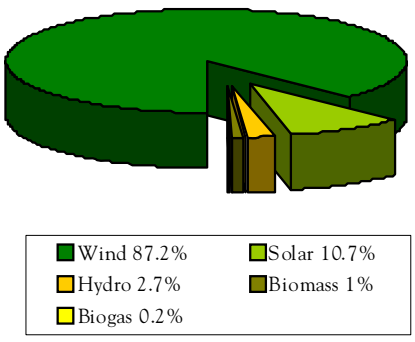
Provincial strategies are becoming more important in the development of bioenergy in Canada. The British Columbia government initiated the Bioenergy Call for Power, which so far has resulted in four electricity purchase agreements in 2009 with Canfor Pulp and PG Interior Waste to Energy in Prince George, Domtar Pulp and Paper Products in Kamloops, and Zellstoff Celgar Limited Partnership (Mercer International) in Castlegar. Also in British Columbia, the University of Northern British Columbia (Prince George, BC) has partnered with Canadian firm Nexterra to supply and install a turnkey biomass gasification system to heat its Prince George campus and anchor its new Northern Bioenergy

Innovation Centre, as part of a Can$14.8 million bioenergy programme. Nexterra is also partnering with the University of British Columbia (Vancouver, BC) on a 2 MW gasification demonstration project.

In Ontario, the Green Energy and Green Economies Act (Ontario Bill 150) was tabled at the Legislative Assembly on 23 February 2009 and passed into law on 14 May 2009. This Act spurred significant industrial activity in the first half of 2010, largely due to the inclusion of a Feed-In Tariff (FIT) programme, which provides incentives for electricity generation from a variety of renewable sources. The value of these incentives ranges from a low of Can$0.103/kWh (for landfill gas installations greater than 10 MW) to a high of Can$0.802/kWh (for roof-mounted solar panel installations under 10 kW); biomass-to-electricity (including wood-to-electricity) projects have been offered a relatively low incentive of Can$0.138/kWh (for projects less than 10 MW) to Can$0.13/kWh (for projects greater than 10 MW). On 8 April 2010, a total of 184 large-scale renewable energy projects were announced under the FIT programme, totalling slightly more than 2.4 GW of installed electricity generating capacity. Of these 184 projects, only two projects totalling 18.6 MW of installed capacity are based on woody biomass, while another five projects totalling 58.5 MW are awaiting the electrical connectivity test to determine if grid access is feasible (graph 9.5.1).

GRAPH 9.5.1

Ontario's renewable electricity portfolio by type, 2009



Source: Ontario Power Authority, 2010.

The Ontario government continues to be committed to closing coal-fired electricity generation in the Province by 2014. Ontario Power Generation (formerly the provincial power utility) has called for a sustainable supply of wood pellets for the Atikokan Power Plant, located in north west Ontario, targeting 150 million kWh and requiring approximately 100,000 m.t. of dried wood pellets annually (Energy Today, 2010). Ontario Power Generation is targeting 2012 as the year it will begin using renewable biomass as a replacement fuel for coal in some of its electricity generating units, including Atikokan. As a complement to this activity, the Province of Ontario has initiated a staged competition to provide access to available and unutilized Crown forest resources in the northwest, northeast and southern regions of the province, targeting wood supply that can be sustainably harvested but has not been used traditionally, including unused merchantable wood (timber) and unmerchantable wood (harvest residues or slash) such as tops and branches, cull and undersized wood.

9.5.2 Canada: Market developments

With strong demand from western Europe, the wood pellet sector in Canada continued to expand in 2009, despite the fact that the large number of sawmill closures has affected feedstock supply. The majority of Canada's wood-pellet capacity remains in British Columbia, with nine facilities producing almost 1 million m.t. annually (British Columbia Ministry of Energy, Mines, and Petroleum Resources, 2010). New capacity is rapidly being developed in eastern Canada, driven by a reduction in the cost of shipping pellets overseas, which is crucial for an industry that exports over 80% of its production, and increasing domestic demand driven by policy in Ontario. While European demand for pellets is expected to remain strong given the aggressive EU renewable energy targets for 2020, Canadian producers may not be able to rely almost entirely on the European market for growth. Production capacity is building within and outside Europe. Domestic demand may become more important in future years, as indicated in Ontario with prospective co-firing of wood biomass at the Atikokan plant presenting the first large-scale domestic use of wood pellets.

Several new pellet plants should open in the next year in Ontario. Woodville Pellet Corporation plans to open a plant near Kirkfield, Ontario which will produce 60,000 m.t. of wood pellets annually based on wood waste material, mostly serving the Ontario market. Canadian BioPellets (CBP) has proposed the country's largest bio pellet plant in Ingleside, Ontario. This plant is partially supported by the Ontario government, which is investing Can$5.3 million from the Forest Sector Prosperity Fund in the plant. The plant will consume up to 600,000 m.t. of wood fibre per year and produce at least 450,000 m.t. of pellets. The mill may be operational as soon as spring 2011.

Across Canada, dozens of sawmills have closed since the downturn in the economy, with British Columbia

facing the largest decline (17 mill closures as of summer 2009, representing 3.9 million m^3); overall, the sawmill industry has declined by more than 18% since 2008 (Butzelaar, 2010). Faced with declining sawdust supplies, many pellet producers now source at least part of their feedstock directly from the forest, mostly in the form of roadside logging residue and non-commercial roundwood. Even when timber markets improve, wood pellet producers and other biomass users are likely to continue to employ forest residues in their operations. The operating sawmills and other wood-processing plants increasingly install internal biomass energy systems, reducing the supply of co-products available to external users. Making the transition from low-cost sawmill co-products to higher-cost forest residues will be the biggest challenge for Canadian wood pellet manufacturers, especially those exporting to Europe, according to John Swaan of the Wood Pellets Association of Canada.

The Government of Canada, the Forest Products Association of Canada, and FPInnovations have joined forces to explore new market opportunities for bio-products. The Bio-Pathways project is investigating ways in which the Canadian forest products sector can build on its existing capacity and is assessing a range of options for renewal of the Canadian forest products industry. This project has involved Canadian experts in fields as diverse as bio-technology, investment banking and carbon pricing.

The project places wood products, especially sawnwood and pulp, at the heart of a new, green business model that has the potential to make the forest products industry a pivotal force in Canada's effort to become a clean energy super-power. One estimate is that the forest sector in Canada could eventually supply energy to meet the energy needs of 2.5 million homes, or one out of every five homes across Canada (FPAC, 2010).

9.6 References

1st Forest Industry Portal. 2009. Website 1st Forest Industry Portal. Available at: www.wood.ru/ru/lonewsid-26329.html

Aguilar, F.X. and A. Saunders. 2010. Policy instruments promoting wood-to-energy uses in the continental United States. Journal of Forestry 108(3):132-140. Available via: http://www.ingentaconnect.com/content/saf/jof/2010/00000108/00000003/art00009

Alakangas, E. 2010. European Pellet Standards – MultiPart Standard EN 14961. Bioenergy International, (44), pp.24-25.

Arkhangelsk Government. 2009. Official website Arkhangelsk Government. Available at: www.dvinaland.ru/prcenter/release/9836/?sphrase_id=1724

Arkhangelsk Government. 2010a. Official website Arkhangelsk Government. Available at: www.dvinaland.ru/prcenter/release/11323/

Arkhangelsk Government. 2010b. Official website Arkhangelsk Government. Available at: www.dvinaland.ru/prcenter/release/11768/?sphrase_id=1720

Baldwin, C. 2010. Oil price to average $80.22 a barrel in 2010. Reuters UK. Available at: http://uk.reuters.com/article/idUKLNE64O01A20100525

British Columbia Hydro. Bioenergy Initiatives. 2010. Available at: www.bchydro.com/planning_regulatory/acquiring_power/bioenergy_call_for_power.html

British Columbia Ministry of Energy, Mines and Petroleum Resources. 2010. What is bioenergy? Available at: www.empr.gov.bc.ca/RET/RenewableEnergyTechnologies/Bioenergy/Pages/default.aspx

Butzelaar, P. 2010. Canadian lumber producers go through the wringer. Logging & Sawmilling Journal, March 2010. Available at: www.forestnet.com/LSJissues/march_10/Lumber%20Producers.pdf

Canada Gazette. 2010. Renewable Fuels Regulations. Canada Gazette Part 1: Notices and Proposed Regulations, Vol. 144, No. 15, April 10, 2010. Available at: http://www.gazette.gc.ca/rp-pr/p1/2010/2010-04-10/html/reg1-eng.html

Comfort, N. 2010. RWE to Build World's Largest Pellet Plant to Cut Carbon Output. Bloomberg. Available at: http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a30Bq95dIVeU

DEPI. 2010. Marktreport Heizen mit Pellets. German Pellet Institute. Available at: http://www.depi.de/depi-veroeffentlichungen.php

DEPV. 2010. Webpage of the German Energy Pellet Association. Available at: www.depv.de/

Doggett, T. 2010. Scenarios: BP spill to prompt many new regulations. Reuters. Available at: http://www.reuters.com/article/idUSN049453520100504

EEA Council 2009. Conclusions of the 32nd meeting of the European Economic Area Council. Brussels. Available at: www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/.../111177.pdf

Energy Today. 2010. Major conversion. Available at: www.energytodaymagazine.com/index.php?option=com_content&task=view&id=7089&Itemid=31

EurActiv.com. 2010a. EU nations confident on renewable energy goals. Available at: http://www.euractiv.com/en/energy/eu-nations-confident-renewable-energy-goals/article-189170

European Commission. 2010. Commission adopts biomass sustainability report (press release). Available at: europa.eu/rapid/pressReleasesAction.do?reference=IP/10/192

Eurostat 2010a. Share of renewables in gross inland energy consumption – %. Available at: http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdcc110

Eurostat 2010b. External trade detailed data: EU27 trade since 1998 by CN8. Available via: www.eurostat.com

EUWID. 2010. Depletion of high pellet stocks is taking longer than originally expected. EUWID Wood Products and Panels (8/2010). Available at: www.euwid-wood-products.com

FPAC. 2010. The Bio-Pathways Project: Major Findings. Forest Products Association of Canada. Available at: www.fpac.ca/index.php/publications/publication-viewer/166/.

Glavonjic, B. 2009. Wood energy: definition, objectives and challenges in South East Europe (Presentation at UNECE/FAO Workshop on wood energy in Southeastern Europe). Available at: http://www.fao.org/regional/SEUR/events/dubrovnik/docs/wood_glavonjic_en.pdf

Glukhovskiy, V.M. 2010. Technical Director "LesInTech". Personal Communication.

Hein, T. Beetle–Wood Mania. Canadian Biomass, Jan-Feb 2010. Available at: http://www.canadianbiomassmagazine.ca/index.php?option=com_content&task=view&Itemid=132&id=1555

IMF. 2010. IMF Primary Commodity Prices. Available at: http://www.imf.org/external/np/res/commod/index.asp

ISO. 2010. ISO standard to make bioenergy sustainable (Press Release). Available at: http://www.iso.org/iso/pressrelease.htm?refid=Ref1282

Ivin, E.L. 2010. General Director "LesInTech". Personal Communication.

Junginger, M. 2010. Biomass power & trade – conference summary. Available at: www.bioenergytrade.org/.../biomasspowerandtradeconferencesummary.pdf

Ljungblom, L. 2010. The Pellets Map 2009/10. Bioenergy International, (41).

Markhus, T., 2010. Presentation in Averoy, Norway, April 2010.

Marland, G. and S. Marland. 1992. Should we store carbon in trees? Water, Air and Soil Pollution. 64:181-195. Available at: www.springerlink.com/content/r1u44n2215284601/

McCarthy S. 2010. Ottawa tells energy firms to start powering down coal-fired plants. Globe & Mail, Sunday, 25 April 2010. Available at: http://www.theglobeandmail.com/report-on-business/ottawa-tells-energy-firms-to-start-powering-down-coal-fired-plants/article1546314/?cmpid=rss1

McDavid, K., 2010. Miramichi to construct wood pellet plant. Telegraph Journal. Available at: http://nbbusinessjournal.canadaeast.com/journal/article/1032784

Metla. 2009. Official website Metla. Available at: www.metla.fi/julkaisut/workingpapers/2009/mwp123.pdf

Ministry of Energy. 2010. Official website Ministry of Energy. Available at: www.minenergo.gov.ru/activity/vie/

Ministry of Industry and Trade. 2010. Official website Ministry of Industry and Trade. Available at: www.minprom.gov.ru/activity/avia/stat/26/4

Moore, C. 2010. The Future? A practioners ramble (Presentation at the Argus Biomass Markets Conference in Brussels, April 2010).

Natural Resources Canada. 2010. Pulp and Paper Green Transformation Program webpage. http://cfs.nrcan.gc.ca/subsite/pulp-paper-green-transformation

Ontario Power Authority. 2010. Renewable Energy: Feed-In Tariff program. Available at: http://fit.powerauthority.on.ca/Page.asp?PageID=1226&SiteNodeID=1058&BL_ExpandID=260

Pellets@las 2010. Pellet Market Database. Available at: www.pelletsatlas.info.

PiR. 2010. Swedish Association of Pellet producers. Available at: www.pelletsindustrin.org.

Rakos, C. 2010. Aktuelle Entwicklung des österreichischen Pelletmarktes. Presentation at the European Pellet Conference in Wels, Austria. Available at: www.propellets.at/images/content/pdfs/marktdatenwels.pdf

Reesinck, R. 2010. The choice between wood pellets and wood chips for large scale users. (Presentation at the Argus Biomass Markets Conference in Brussels, April 2010).

RBC, 2010. Official website of RBC. Available at: //marketing.rbc.ru/news_research/26/05/2010/562949978558963.shtml

Rossiskaya Gazeta. 2008. Decree of the Russian President of 4 June 2008, No. 889. Available at: www.ieej.or.jp/aperc/CEEP/Russia.pdf

Russian Government. 2009. Federal Law of the Russian Government of 23 November 2009, No. 261. Available at: //www.rg.ru/2009/11/27/energo-dok.html

Searchinger. T.; Hamburg, S.; Melillo, J.; Chameides, W.; Kammen, D.; Likens, G.; Lubowski, R.; Obersteiner, M.; Oppenheimer, M.; Robertson, G.P.; Schlesinger, W. and Tilman, D. 2009. Fixing a critical climate accounting error. Science. 326:527-528. Available via: www.sciencemag.org › Science Magazine › 23 October 2009

Shankleman, J., 2010. Biomass boom threatens UK wood chip shortage. Available at: http://www.businessgreen.com/business-green/news/2261205/biomass-boom-threatens-fuel

Sikkema, R, Steiner M, Junginger M, and Hiegl W, 2009. Pellets@las: Final report on producers, traders and consumers of wood pellets. Available at: http://www.pelletcentre.info/pelletsatlas_docs/showdoc.asp?id=091222195350&type=doc&pdf=true

Spelter, H. and D. Toth. 2009. The North American wood pellet sector. Research Paper RP-FPL-656. USDA Forest Service, Forest Products Laboratory, Madison, WI. 21 p. Available at: www.fpl.fs.fed.us/products/publications/specific_pub.php?posting_id=17545

USEPA. 2010. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. Available at: www.epa.gov/nsr/documents/20100413final.pdf

USDOE Energy Information Administration. 2010a. Annual energy outlook. 2010. Report DOE/EIA-0383(2010). Available at: www.eia.doe.gov/oiaf/aeo/

USDOE Energy Information Administration. 2010b. Monthly energy review, April 2009. Available at: www.eia.doe.gov/emeu/mer/renew.html

US Senate. 2010. Discussion draft of the "American Power Act". Available at: http://kerry.senate.gov/americanpoweract/pdf/APAbill.pdf

Vyborgskaya Collulose. 2010. Official website Vyborgskaya Collulose. Available at: http://vybcell.ru/en/news.html

Chapter 10
Certification in a rebounding economy: Certified forest products markets, 2009-2010[67]

Highlights

- Between 2009 and 2010, the global area of certified forest increased by 8% to 355 million hectares, equal to 9% of the world's forests, with most of the recent growth in North America and the Russian Federation.
- Obstacles exist for certification of non-industrial forests necessitating increased levels of government and industry support and more consistent demand for certified products.
- Increased forest certification is hindered by the 2008-2009 economic downturn, as well as by public-sector support which could be constrained by governments' record budget deficits.
- In 2010, economic constraints are having an impact on the private sector, where certificate holders are facing financial challenges that could cause existing certificates to be discontinued.
- Competition for market share has increased between the Forest Stewardship Council (FSC) and the Programme for Endorsement of Forest Certification (PEFC) systems, despite the fact that over the years many of the issues that previously divided the systems have become much less distinct.
- Chain of custody (CoC) certification accelerated over the past year indicating strong trade interest in certification as a tool to demonstrate high environmental performance and to differentiate products in a depressed marketplace.
- The commitment of large publishers and other customers of the paper and packaging sectors has been the main factor driving growth in forest and CoC certification.
- Public-sector procurement policies, green building initiatives and legislation in the United States and European Union to prevent illegal logging are becoming more significant drivers of demand for certified forest products.
- The EU Forest Law Enforcement Governance and Trade's Voluntary Partnership Agreements negotiated with tropical forest countries include provisions for comprehensive legality verification and CoC systems that provide a foundation for independent forest certification.
- The COP 15 in Copenhagen in December 2009 made progress on Reduced Emissions from Deforestation and Degradation (REDD), which implies an important role for independent certification mechanisms that not only monitor forest carbon sequestration but also ensure that other environmental and social values are safeguarded through sustainable forest management.

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Secretariat introduction

The supply and demand for wood and paper products continues to undergo changes linked to certification of sustainable forest management and the production and sale of wood and paper products, including biomass for energy, that are certified to come from sustainably managed forests. Companies that produced or traded in certified forest products (CFPs) often had a market advantage during the 2008-2009 recession because, in a buyers' market, the buyers could be more selective in choosing their sources of supply. With the strengthening of legislation against illegal logging and trade of illegally-sourced products in the US and EU, certification received an impetus as the forest products trade sought to prove due diligence in its procurement practices.

We greatly appreciate the continued production of this chapter by two former authors, Mr. Rupert Oliver[68], Consultant, Forest Industries Intelligence Ltd, and Mr. Florian Kraxner[69], Research Associate, IIASA. They bring a wealth of experience and insight to the chapter, thanks to their professional responsibilities as analysts of forest certification and CFP markets. While based in Europe, they have a global overview of the developments.

Ms. Kathryn Fernholz[70], Executive Director, Dovetail Partners, Inc., joined the chapter production this year. Dovetail is located in Minneapolis, Minnesota, US, and Ms. Fernholz adds her knowledge of North American CFP markets and forest certification developments. She will present an update of this chapter at the 11-12 October 2010 joint Timber Committee and Society of Wood Science and Technology Market Discussions. We thank her for her contributions.

The authors incorporated information from many sources, most of which are included in the references. Some of the information on certification in the Russian Federation was furnished by Dr. Nikolai Burdin, Director, OAO NIPIEIlesprom, who has contributed to other chapters in the *Review*.

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10.1 Introduction

The UNECE region's certified forest products markets have been analysed in a chapter of the UNECE/FAO *Forest Products Annual Market Review* every year since 1998. This year's chapter provides an in-depth statistical overview of the market and trade of CFPs. Special focus is placed on the topics related to the theme of this *Review*, "Innovation for structural change recovery." The chapter also reviews the challenge of certifying non-industrial forest owners, which is identified as a key factor limiting growth in certification in the UNECE region.

CFPs carry labels demonstrating, in a manner verifiable by independent bodies, that they come from forests that meet standards for sustainable forest management (SFM). Consumers may find labels on furniture and wood products, while manufacturers can verify the sources through the certification scheme's chain-of-custody (CoC) procedures. Process certification schemes such as ISO14001 are not included in this comparative analysis. The chapter continues to focus on certification systems based in the UNECE region.

10.2 Growth in forest certification

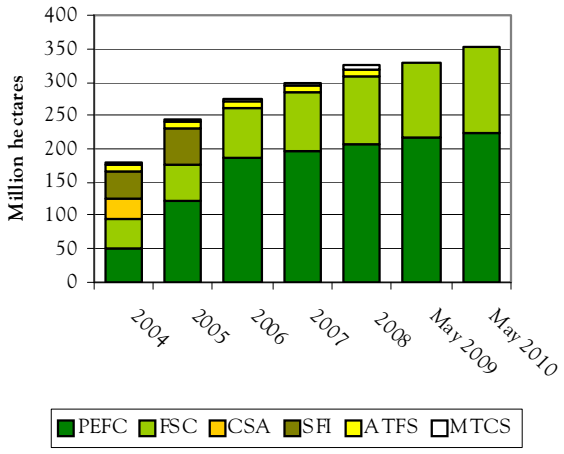
10.2.1 Overview

By May 2010 the global area of certified forest endorsed by one or other of the international frameworks – the Forest Stewardship Council (FSC) and the Programme for Endorsement of Forest Certification (PEFC) – amounted to 355 million hectares (graph 10.2.1). This represents an increase of approximately 28 million hectares (8%) since January 2009, which is in line with recent trends. After an increase in global certified forest area of 125 million hectares in the 2004-2005 period in response to industry-wide commitments in North America, the pace of growth in certification has slowed to an average of 23 million hectares per year since 2006.

Source: Metsäliitto, 2010.

GRAPH 10.2.1

Forest area certified by major certification schemes, 2004-2010



Notes: Data cover all FSC- and PEFC-certified forest land together with land certified under the following large national certification systems: Malaysian Timber Certification System (MTCS), American Tree Farm System (ATFS), Sustainable Forest Initiative (SFI) and Canadian Standards Association (CSA). Data for national systems subsequently endorsed by PEFC (MTCS, ATFS, SFI, CSA) are amalgamated into the PEFC data and not shown separately after the date of endorsement.

Sources: Individual certification systems, Certification Canada and authors' compilation, 2010.

The estimated potential global industrial roundwood supply from certified forest amounted to 472 million m^3 in the period May 2009- May 2010, a 10% increase over the same period the previous year (table 10.2.1). Certified forests are estimated to account for 26.4% of the world's industrial roundwood supply, up from 24% the previous year.

While PEFC remains the largest certification framework in terms of forest area, with approximately two thirds of the total certified area, growth in FSC certification has been more rapid in recent times. The FSC-certified forest area stood at 129 million hectares in May 2010, up from 107 million hectares in January 2009. Much of the increase in the FSC-certified area during the period took place in North America (+10.7 million hectares) and the Russian Federation (+4 million hectares).

In mid-2010, FSC-approved standards existed in 13 countries, with interim standards (Generic Forest Stewardship Standards) in a further 66 countries. FSC recently reached a milestone when the number of forest management certificates issued worldwide exceeded 1,000 for the first time. While FSC now penetrates most areas of the world, gaps remain in parts of tropical Africa and south-east Asia. The largest areas of FSC-certified forest are in North America, Sweden and the Russian Federation.

TABLE 10.2.1

Global supply of industrial roundwood from certified resources, 2008-2010

Region	*Total forest area (million ha)*	*Certified forest area (million ha)*			*Forest area certified (%)*			*Estimated volume of industrial roundwood from certified forest (million m^3)*			*Estimated proportion of global roundwood production from certified forests (%)*		
		2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
North America	613.2	181.7	180.3	199.8	38.6	29.4	32.6	232.5	175.6	194.6	14.6	9.8	10.9
Western Europe	166.2	84.2	82.2	85.0	54.1	46.5	51.2	173.4	238.1	261.7	10.9	13.3	14.6
CIS	835.3	24.6	25.2	29.9	2.7	3.0	3.6	4.3	4.9	5.8	0.3	0.3	0.3
Oceania	206.3	9.4	10.3	11.6	4.8	5.0	5.6	2.4	2.5	2.8	0.1	0.1	0.2
Africa	635.4	3.0	5.6	7.3	0.5	0.9	1.2	0.3	0.6	0.8	0.0	0.0	0.1
Latin America	924.2	15.0	14.6	14.4	1.6	2.1	1.6	2.6	3.6	2.7	0.2	0.2	0.1
Asia	571.4	2.0	3.0	8.6	0.4	1.4	1.5	0.8	3.1	3.4	0.1	0.2	0.2
World total	3 952.0	319.9	321.2	356.7	8.3	8.2	9.0	416.4	428.4	471.8	26.2	24.0	26.4

Notes: The reference for forest area (excluding "other wooded land") and estimations for the industrial roundwood production from certified forests are based on FAO's *State of the World's Forests 2009* data. Concerning roundwood production, the annual roundwood production from "forests available for wood supply" is multiplied by the percentage of the region's certified forest area (i.e. it is assumed that removals of industrial roundwood per ha of certified forests are the same as the average for all forest available for wood supply). However, not all certified roundwood is sold with a label. 2010 includes May 2009 through May 2010, and 2007 and 2008 are also from May to May. "World" is not a simple total of the regions.

Sources: Individual certification systems, Forest Certification Watch, Certification Canada, 2010, FAO, 2009 and authors' compilation. Information valid as at May 2010.

The PEFC-certified forest area increased from 220 million hectares to 225 million hectares between January 2009 and May 2010. By May 2010, PEFC had 28 endorsed national forest certification programmes in 25 countries, mainly in temperate and boreal forest regions. During 2009, national systems were endorsed for the first time in Gabon, Malaysia, and the Russian Federation. PEFC expects to endorse at least one more national scheme in 2010. In May 2010, new national systems in Belarus and Uruguay were at various stages of the PEFC endorsement process.

10.2.2 North America

There has been a noticeable shift in the balance of certified forest area between systems in North America since January 2009. The area of land certified by the PEFC-endorsed Canadian Standards Association (CSA) system declined from 83 million hectares in December 2008 to 64.5 million hectares in May 2010.

The decline in certified forest area under one PEFC-endorsed system has been offset by an increase in certified forest area under another – the Sustainable Forestry Initiative (SFI) Program. Between December 2008 and May 2010, SFI-certified forest area increased from 62 million hectares to 78.2 million hectares. Much of the increase in SFI-certified forest area (approximately 11 million hectares) occurred in Canada. The shift away from CSA in favour of SFI is related to rising consumer awareness of the SFI label in the key US market. In addition, the CSA has placed severe restrictions on the use of its logo for on-product marketing in the forest sector so that marketing of wood from CSA-certified forests is now tied to the PEFC label, which has yet to gain widespread recognition in North America.

Meanwhile, the FSC-certified forest area in North America has continued to rise steadily, up by over 10 million hectares from 38.2 million at the end of 2008 to 48.7 million at the end of April 2010. Much of this increase (approximately 6 million hectares) was in Canada (graph 10.2.2).

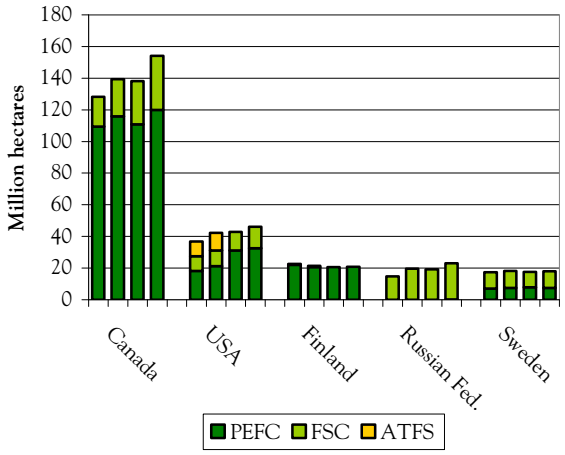
The distribution of FSC certification within the United States is skewed to just a few regions, being heavily concentrated in the upper midwest and the northeast. Just six certificates covering state lands in Maine, New York, and Pennsylvania and group schemes administered by the Michigan, Wisconsin and Minnesota Departments of Natural Resources account for 51% of all FSC-certified lands in the US.

10.2.3 The Russian Federation

The certified forest area has continued to expand slowly in the Russia Federation. FSC is still the leading system in terms of forest area, but progress is also being made to develop national certification frameworks endorsed by PEFC in the country.

GRAPH 10.2.2

Certified forest area in five countries within the UNECE region, 2007-2010



Notes: Bars for each country represent years from 2007 to 2010. The graph contains no overlap from double certification. Information valid as at May 2010.

Sources: Individual certification systems, country correspondents, Forest Certification Watch, Certification Canada, authors' compilation, 2010.

An FSC national office and working group and several regional working groups are now operational in the Russian Federation. Between December 2008 and May 2010, the FSC-certified area in that country rose from 18.3 million hectares to 23.0 million hectares. By May 2010, 15 of the 20 largest Russian forest companies had certified at least part of their forest area to FSC standards. Approximately 75% of FSC-certified forest is located in the European part of Russia, with 15% in Siberia and 10% in the Russian Far East.

Early in 2010, the first ever PEFC SFM certificate in the federation was issued to Metsäliitto Podporozhye for 177,000 hectares of forest in Leningrad Province north east of St. Petersburg. This is the first area certified under the system of the Russian National Council for Forest Certification which was endorsed by PEFC in March 2009. The assessment was performed by Inspecta, a Finnish auditing company.

PEFC-FCR (Forest Certification Russia) is hoping to build on this success through various capacity-building efforts in the Russian Federation including: auditor training programmes development of the Russian independent accreditation system; support for accreditation of Russian third-party certification companies; expansion of PEFC CoC certification, and promotional activities. A particular

priority is to develop procedures of regional certification in the Russian Federation, simplifying the forest management certification process for companies of various sizes.

10.2.4 Europe

The overall area of certified forest in Europe has changed little in recent times. The FSC-certified area across the continent increased from 30.4 million hectares in January 2009 to 34.1 million hectares in April 2010. The increase is due primarily to re-certification of areas in Poland and Sweden that had lapsed temporarily in December 2008. During this period, the area of FSC-certified state-owned forests has also increased in Belarus from 2.4 million hectares to 3 million hectares, and in Lithuania from 0.6 to 1 million hectares.

The PEFC-certified forest area in Europe increased from 54.4 million hectares in January 2009 to 59.2 million hectares in May 2010. Although incremental gains were recorded in the PEFC-certified area in several countries (France, Italy and Sweden), the certified area was static (Germany, Finland) or declining in others (Austria).

A significant new development came in February 2010 with the awarding of the first PEFC forest management certificates in the UK to 480 landowners managing 1.2 million hectares of forest through group arrangements with the Forestry Commission and private organisations. The first PEFC certificates were also awarded in Portugal and Estonia during the period, although the areas involved are relatively small.

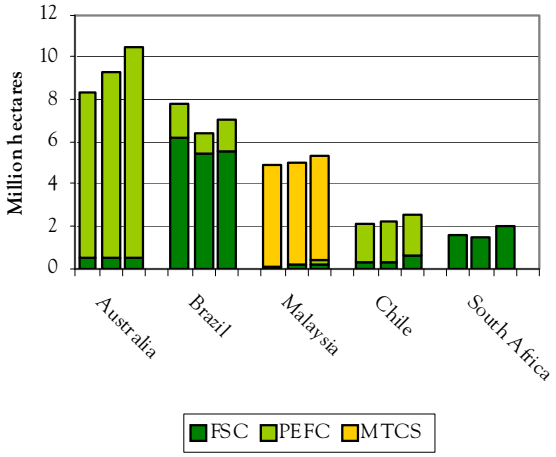
10.2.5 Regions outside the UNECE region

The most dramatic change in certified forest area outside the UNECE region in recent times has been in Australia (graph 10.2.3). Between May 2009 and May 2010, certified forest area in the country increased from 8.7 million hectares to 9.9 million hectares, the majority of the gain being made under the PEFC-endorsed Australian Forestry Standard.

Expansion of forest certification in tropical developing countries, a process driven mainly by demand for certified products in the EU and US, is proceeding only slowly. Certified forest area in tropical countries, with the sole exception of Malaysia, is dominated by FSC. In April 2010, approximately 13% (16.8 million hectares) of FSC-certified forest was in tropical or sub-tropical regions. The greatest increases in FSC-certified forest area in tropical countries in recent times have been in Gabon and Congo, although Brazil still remains host to the largest area. Between January 2009 and May 2010, the area of certified tropical forest actually declined in Bolivia and Cameroon.

GRAPH 10.2.3

Certified forest area in five countries outside the UNECE region, 2008-2010



Notes: The graph contains some overlap from double certification. Information valid as of May 2010.

Sources: Individual certification systems, country correspondents, Forest Certification Watch, Certification Canada and authors' compilation, 2010

There has been recent progress to increase the area of PEFC-certified forest land in the tropics. National systems in Malaysia, Gabon and Brazil all provide scope for certification of tropical forests and have already been endorsed by PEFC. As of May 2010, almost 1.2 million hectares of natural tropical forest were PEFC-certified, all in Malaysia.

While progress is slow, recent policy developments offer potential for future growth of tropical forest certification. The Forest Law Enforcement Governance and Trade (FLEGT) Voluntary Partnership Agreements that the European Union is currently negotiating with a range of tropical forest countries include provisions for comprehensive legality verification and CoC systems that should provide a foundation for independent forest certification. By May 2010, the EU had finalized Voluntary Partnership Agreements with Ghana, Congo and Cameroon.

Despite the fact that the United Nations Framework Convention on Climate Change, meeting in Copenhagen in December 2009, did not agree on a successor to the Kyoto Protocol, discussions on an international framework for Reduced Emissions from Deforestation and Degradation (REDD) seem to have made significant progress. There is an emerging consensus that projects involving sustainable timber harvesting, as well as forest preservation, should be rewarded through the REDD framework. This implies an important role for independent certification mechanisms that not only monitor forest carbon sequestration but also ensure that

other environmental and social values are safeguarded through active management.

The certification systems are clearly alive to this possibility. For example, in April 2010 FSC initiated the preparatory phase of a five-year project, 50% funded by the Global Environment Facility through UNEP, designed to test FSC forest management certification for ecosystem services including carbon sequestration, biodiversity conservation, watershed protection and recreational uses.

10.3 Growth in chain of custody certification

Growth in CoC certification continued at an accelerating rate between January 2009 and May 2010, indicating that trade interest in certification as a tool to demonstrate high environmental performance has remained strong despite the recession. In fact, increasingly intense competition coupled with a rise in the relative importance of public-sector consumption as private consumption has stalled, is likely to have increased pressure on companies to find new ways of differentiating product.

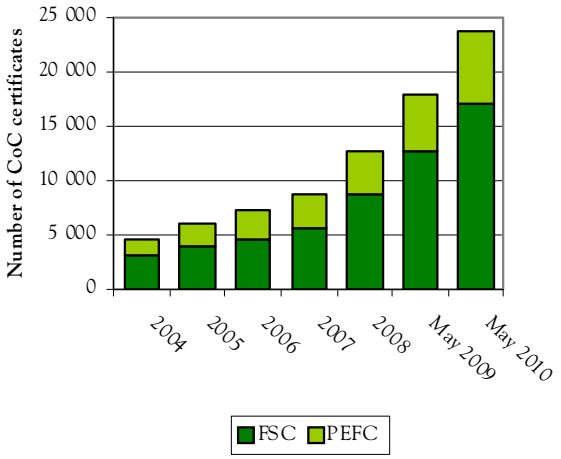
Between January 2009 and May 2010, the total number of PEFC and FSC CoC certificates issued worldwide increased by 88% to stand at 23,717 (graph 10.3.1). Although there has been rapid growth in both FSC and PEFC CoC certification, FSC remains the dominant brand. Regional differences, however, exist. For example, FSC dominates in Asia with approximately 3,000 certificates versus 350 for PEFC as at mid-2010. In Europe, they are closer with 5,700 PEFC certificates compared with 7,700 FSC certificates. North America had 4,500 FSC certificates in comparison to 550 PEFC certificates, although SFI certificates are not included in the PEFC figures, which would boost that figure.

The US, UK, Germany, France, Canada and the Netherlands continue to be the leading countries in terms of numbers of CoC certificates issued (graph 10.3.2). All these countries have experienced rapid growth in CoC certification over the last 18 months, although the pace of growth in the US has been particularly dramatic.

US growth is even more remarkable when it is considered that graph 10.3.2 excludes CoC certificates issued under SFI in North America. By May 2010, 976 SFI CoC certificates had been issued, up from approximately 500 in January 2009. These certificates cover over 2,000 locations, up from only 48 at the start of 2007. The vast majority of SFI CoC certificates cover locations in the US and Canada, although some locations also are covered in China, Colombia, Italy, El Salvador, France, Hong Kong SAR, Mexico, Switzerland and the UK.

GRAPH 10.3.1

Chain-of-custody certificates trends worldwide, 2004-2010

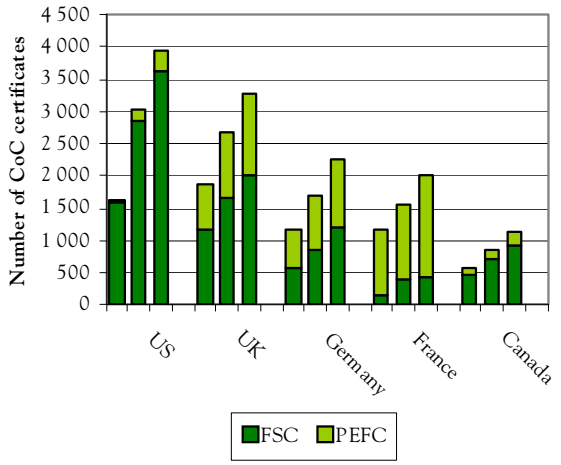


Notes: The numbers denote CoC certificates irrespective of the size of the individual companies or of volume of production or trade. Information valid as of May 2010.

Sources: FSC and PEFC, 2010.

GRAPH 10.3.2

Chain-of-custody certificates in five countries within the UNECE region, 2008-2010



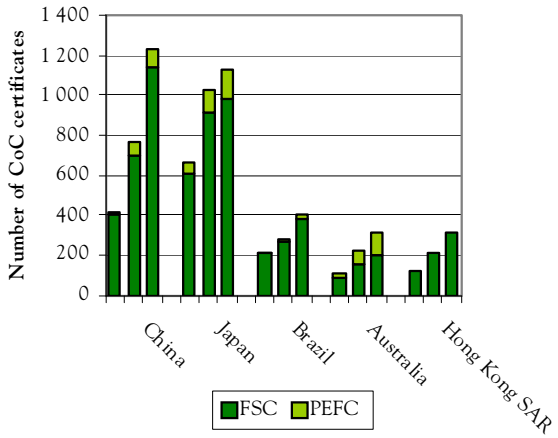
Notes: Bars for each country represent years from 2008 to 2010. The numbers denote CoC certificates irrespective of the size of the individual companies as of May 2010

Sources: FSC, PEFC and authors' compilation, 2010.

Outside the UNECE region, the pace of growth in CoC certification slowed in Japan during the May 2009-May 2010 period compared with the previous 12-month period (graph 10.3.3). However, there are signs that CoC certification is beginning to take off in China and Hong Kong SAR, where the combined number of CoC certificates increased from 976 in May 2009 to 1,545 in May 2010. The vast majority of CoC certificates issued outside the UNECE region are under the FSC system.

GRAPH 10.3.3

Chain-of-custody certificates in five countries outside the UNECE region, 2008-2010



Notes: Bars for each country represent years from 2008 to 2010. The numbers denote CoC certificates irrespective of the size of the individual companies as of May 2010.

Sources: FSC, PEFC and authors' compilation, 2010.

10.4 Key forest certification issues

10.4.1 Certification of non-industrial forest ownerships

Many of the world's most accessible and easily certifiable large state-owned and industrial forestlands in industrialized countries are now certified. The relatively slow pace of expansion of certified forest area in such countries since 2006 suggests that obstacles still remain to certification among non-industrial forest owners. Non-industrial forestland is a subset of private forests defined as forestland that is privately owned by individuals or corporations other than forest industry and where management may include objectives other than timber production. In both Europe and North America, non-industrial ownership represents about two thirds of the private forest.

It has been challenging to engage non-industrial forest owners in certification due to factors such as cost, accessibility, technical capacities, and supporting incentives. Steps are being taken to try to overcome these obstacles in future years, but much hinges on increased levels of government and industry support and on the emergence of more consistent demand for certified products. There is a strong role for local, state and national governments to assist in facilitating certification for non-industrial forest owners through incentives, technical assistance and service programmes. Private organizations, including non-government organizations, landowner associations and forestry cooperatives, are also important in enabling non-industrial forestland certification.

The certification of large numbers of small non-industrial forest ownerships in parts of western Europe and North America demonstrate that it is achievable where appropriate organizational structures exist and incentives are right. In the US, large group certification programmes administered by state agencies have been issued certificates by the FSC and American Tree Farm System (ATFS) programmes. Since 2008, the State of Wisconsin, Department of Natural Resources (a public agency) has administered a group certification programme that has enrolled 41,865 forest owners representing 2.2 million hectares (Bryan, 2009). The Wisconsin programme utilizes an incentive of reduced taxes to encourage landowner participation. The state's Managed Forest Law offers a reduction in property taxes when a landowner makes a commitment (25 or 50 years) to forest management. Group certification programmes based on existing tax laws have also been established in Indiana and Massachusetts.

Regional certification is an approach that has been developed by PEFC to address non-industrial forestland in Europe. It allows a landowner organization to apply for certification on behalf of its members. This approach has been used in Finland, where 60% of forests are privately owned and a network of forestry associations is available to support certification and management activities. Regional certification has also been applied by PEFC-endorsed programmes in Austria, Belgium, the Czech Republic, France, Germany, Italy, Latvia, Luxembourg, Slovakia, and Spain.

There are several developments expected in non-industrial forest certification. The Canadian Standards Association has completed the development of a smallholder standard and is expected to seek PEFC endorsement. The FSC programme has moved forward with an initiative to adapt standards to address small and low intensity managed forests. Revised FSC standards have been completed in several FSC regions, including parts of Canada, Germany and Sweden. Modified standards are in development in the US.

While the impact of these changes should become evident in coming years, additional creative approaches are likely to be needed to continue to increase the opportunities and benefits of certification for small owners. Innovations with the potential to reduce the direct costs of certification could include: modified sampling intensities and techniques during assessments and auditing; modified auditor return intervals; and adjustments in frequency and intensity of reporting requirements based upon management scale and

intensity. Other innovations could reduce the costs associated with management and monitoring activities, for example through the development of tools for more efficiently developing management plans, coordinating activities across ownerships and incentives for forestry practices.

Expanded use of the FSC Controlled Wood Standard (CWS) or the PEFC Controversial Sources Policy (CSP) could offer an entry-level, risk assessment option for some suppliers, including non-industrial forest owners. However, this is not full certification. The American Hardwood Export Council (AHEC) showed the potential of this approach by commissioning an independent risk assessment demonstrating that all hardwoods harvested in the US are low risk against all categories of wood to be avoided for conformity to both the FSC CWS and PEFC CSP.

Landowners in some regions have expressed an interest in certification as a mechanism for reducing regulatory oversight. Policy makers could respond to this interest by recognizing voluntary certification programmes as a means to address various legal requirements. Auditing and monitoring protocols being developed by carbon-offset programmes offer additional models for how to assess and track activities on non-industrial lands. Revenues from carbon-offsets or other ecosystem markets may be applied to the expansion of certification activities.

10.4.2 *Impact of the economic downturn*

The credit crunch and associated economic downturn beginning in 2008 are placing new obstacles in the way of forest certification. The upfront costs of forest certification, which are rarely translated into immediate market benefits in the form of price premiums or greater market share, mean that certification has often been heavily dependent on government support. This is true both of direct certification of state-owned lands and of measures designed to increase participation by non-industrial forest owners which might involve tax incentives or state-run extension programmes. The long-term viability of these programmes is open to question now that governments in many parts of the world face record deficits and budget challenges.

Current financial and economic constraints are also likely to have an impact on decisions in the private sector. The economic challenges that many certificate holders are facing increase the potential for existing certificates to be discontinued at the time of annual audits or at the five-year anniversary date. Certificates first issued in 2005, a strong growth year for forest management certification, particularly in North America, will come up for renewal in 2010. The reality of challenging economic times and the fact that FSC, SFI and PEFC have strengthened their standards in the ensuing five years adds to the uncertainty.

10.4.3 *Conflict between certification systems*

Friction between certification systems may also add to uncertainty. Competition for market share continues between the FSC and PEFC certification systems. Indeed, recent events suggest that the potential for compromise, constructive engagement and mutual recognition between the two systems seems as far away as ever.

For example, in October 2009 FSC and PEFC became engaged in a public dispute following a publication of an FSC report entitled "Comparative analysis between the FSC Controlled Wood requirements and PEFC, PEFC Germany and SFI". The report suggested that certification of systems endorsed by the PEFC is insufficient evidence of conformity to the FSC CWS and therefore cannot be mixed with FSC-certified material without further examination. The FSC report drew a response from PEFC International which described it as an attempt to undermine alternative approaches to certification, "disregarding" years of work to build an international consensus between forest certification schemes. The FSC report also had immediate practical implications because numerous wood traders supplying FSC percentage labelled products had relied heavily on PEFC-certified wood to demonstrate conformity to FSC CWS. These traders now have no option but to introduce additional potentially costly CWS risk assessment and verification procedures.

Source: F. Steierer, 2009.

The level of public discord between the two certification frameworks has been particularly intense in the US. A legal action filed in 2008 was associated with the distribution of settlement monies under the Softwood Lumber Agreement between the US and Canada. At issue was the award of some monies to one certification programme without equal consideration of programmes offering what were argued to be similar benefits or services. This action included FSC-US as a plaintiff. In 2009, Forest Ethics filed a complaint alleging abuse of non-profit regulations by SFI and misleading eco-label claims. These claims were filed with the Internal Revenue Service and Federal Trade Commission. Within weeks of the Forest Ethics filing, forest-sector companies responded with a complaint filed against the FSC and the US Green Building Council (USGBC) for misleading eco-label claims of their own and for exclusionary practice against equivalent certification programs.

Whether any (or all) of these legal actions have merit may be largely beside the point as such activity may serve to simply increase public and decision-maker cynicism about forest certification and dampen enthusiasm for certified wood use. Advocates of forest certification may be advised to observe the words of the US National Society of State Foresters in their October 2008 policy statement on forest certification:

"While in different manners, the ATFS, FSC, and SFI systems include the fundamental elements of credibility and make positive contributions to forest sustainability, proponents of individual certification programs often promote their option as the best or only option. This has little to do with quality and everything to do with marketing and selling their program. No certification program can credibly claim to be 'best', and no certification program that promotes itself as the only certification option can maintain credibility. Forest ecosystems are complex and a simplistic 'one size fits all' approach to certification cannot address all sustainability needs."

10.4.4 *Convergence between certification systems*

Over the years, many of the issues that previously divided the systems have become much less distinct. The largest certification systems now generally have the same structural programmatic requirements (table 10.4.1). Convergence has been driven in part by the need for the various systems to conform to equivalent international standards, either for mutual recognition under the PEFC framework or to ensure acceptance in various public – and private-sector procurement policies.

TABLE 10.4.1

Forest certification programme characteristics, 2010

	Third-party auditors	*Chain-of-custody*	*Public reporting*	*Stakeholder consultation*	*Independent governance*	*On-product label*
ATFS	Yes	Yes	Yes	Yes	Yes	No
CSA	Yes	Yes	Yes	Yes	Yes	Yes
FSC	Yes	Yes	Yes	Yes	Yes	Yes
PEFC	Yes	Yes	Yes	Yes	Yes	Yes
SFI	Yes	Yes	Yes	Yes	Yes	Yes

Note: CSA has adopted the PEFC on-product label and discontinued use of the CSA on-product label.

Source: Fernholz, Kathryn, et al, 2010.

This process of convergence is continuing. For example, PEFC is engaging stakeholders to develop a new standard setting out international requirements for SFM. This is a departure from PEFC's previous concept in which prominence was given to national forest certification standards developed in line with international sustainable forestry principles agreed through inter-governmental, multi-stakeholder processes. It represents a decisive move towards ground previously held by FSC, which, in its efforts to avoid WTO challenges to public authorities giving preference to FSC-certified wood, promoted the FSC Principles and Criteria as "the internationally recognized standard for forest management" (FSC, 2007). The PEFC standard clearly establishes the principle that there should be no infringement of "legal, customary and traditional rights" without free and informed consent. Furthermore, it includes optional proposals to include references to the concept of High Conservation Value Forests and a ban on the use of genetically modified trees. Thus, some remaining key distinctions between PEFC and FSC have been removed.

In a similar vein, FSC's certification agency, Accreditation Services International, is working to ensure full conformance with ISO 17011, the international accreditation standard, by 2011. This would remove another distinction with PEFC which requires that accreditation bodies conform to the ISO standard.

10.5 Demand drivers

10.5.1 Overview

In addition to the challenge of declining public-sector budgets and continuing costs of auditing and compliance, continued growth in market demand for certified products represents another challenge to the programmes. There are four main drivers of market growth for certified wood products. Although inter-related, these have differing dynamics and impacts on different sections of the forest products industry. They are: paper, publishing, printing and packaging; green public procurement; green building; and legislation against illegal logging.

10.5.2 Paper, publishing, printing, and packaging

To date, the commitment of large publishers and other customers of the paper sector has probably been the most significant factor driving growth in forest and CoC certification. Time Inc's commitment to increase the use of responsible paper sources (including certified paper as well as increased recycled content paper), beginning in 2004 with targets for suppliers to comply by the end of 2005, played an important role in encouraging certification activity throughout the major paper supplying regions of North America.

Source: Metsäliitto, 2010.

The impact of this and similar more recent commitments by other publishing houses on CoC certificates is evident. For example, at least one third of the 3,645 FSC CoC certificates issued in the US by May 2010 were to printing and publishing companies, while a further 20% were engaged in the supply of pulp and paper products. Similarly, 80% of the 976 SFI CoC certificates issued by May 2010, and almost half of the CoC certificates issued by PEFC UK, were in the paper and packaging sector. Inevitably, the impact has been far less pronounced in forest regions lacking production facilities in this sector.

10.5.3 Green public procurement

Green public procurement policies for forest products are a relatively new instrument, and implementation is still at an early phase in most countries. By May 2010, at least 12 national governments had operational green procurement policies including specific criteria for forest products. These include eight countries in Europe (Belgium, Denmark, France, Germany, the Netherlands, Norway, Switzerland and the UK). Countries outside Europe with policies include China, Japan, Mexico, and New Zealand.

Although several other countries are in the planning stage, the list of countries that have operational public-sector timber procurement policies has changed little since January 2009. Developments over the last 18 months mainly have been concerned with moves to strengthen and broaden the policies already in place.

For example, the UK Government recently expanded the scope of procurement requirements to include social issues alongside the existing environmental requirements. The Netherlands Government's minimum requirement that all wood must be verified legal was upgraded to a requirement for verified sustainable from 1 January 2010 onwards. In France, Government commitment to promoting increased wood consumption is matched by a requirement that 100% of wood purchased in government contracts must be "legal and sustainable" by 2010. The Government recently committed to amending its existing relatively flexible definition of "legal and sustainable" timber and to defining "the modalities for recognition of forest management certification schemes."

While the number of national governments adopting green timber procurement policies has not increased since January 2009, there have been significant developments at local levels. For example, the Olympic Delivery Authority specifies that PEFC- and FSC-certified timber will be used for all construction including buildings, transport and energy infrastructure for the 2012 London Olympics. In the Russian Federation, the Ministry of Natural Resources recently endorsed "green standards" for the 2014 Winter Olympics in Sochi, which specifies that FSC-certified timber will be used.

There are significant differences in the detailed legality and sustainability requirements of government procurement policies. This is a concern for timber producers supplying several markets. On occasions, consumer-country governments, responding to the wishes of their domestic stakeholders, have demanded that amendments be made to international certification standards and procedures before acknowledging sustainability credentials. This creates challenges for international certification frameworks when it is necessary to comply with internal rules and timetables for

review of standards and when a global consensus must be built for almost every change.

Despite these problems, the governing bodies of both FSC and PEFC certification frameworks have, in most cases, been successful in ensuring that their frameworks are accepted as conforming to the highest sustainability standards. As a result, achieving certification to both FSC or PEFC standards is the most effective way to overcome the potential barriers to trade presented by the diversity of national timber procurement policies.

10.5.4 *Green building*

The construction sector, which is estimated to account for over 50% of global carbon emissions, has become a key focus of government policies to tackle climate change. Economic stimulus packages in both the EU and US have earmarked funds for green building. The number of operational or planned National Green Building Councils, organisations established to promote green building practices at the national level, increased from less than 10 in 2007 to 66 in early 2010.

Source: APA-The Engineered Wood Association.

The development of certified wood markets in construction is now driven partly by credits awarded by green building programmes for the use of certified wood. As in green public procurement, there has been an increasing trend towards inclusiveness in green building initiatives so that a range of forest certification systems are credited. Green Globes (US and Canada), BREEAM (United Kingdom), Built Green Canada, Built Green Colorado, CASBEE (Japan) and the ANSI National Green Building Standard (US) all recognize multiple forest certification standards including FSC, PEFC, and SFI. The Green Building Council of Australia recently ended an FSC-only preference.

While most green building initiatives now credit wood certified through a range of frameworks, controversy continues to surround the approach adopted by the Leadership in Energy and Environmental Design (LEED) framework, which remains the dominant system in the US. To date LEED has offered a single credit for FSC-certified wood products and no credit for wood certified to any other forest certification system. A review of LEED's timber certification credit initiated in 2008 led to drafting of new proposals for the credit so that it no longer includes a direct reference to FSC and instead ranks certification systems against the USGBC "Forest Certification Benchmark". However, the review process seems to have left all interests dissatisfied. FSC has been pushing hard to maintain the concept of an FSC-only credit. Advocates of alternative certification systems maintain that the draft benchmark – a third version of which was issued for public comment in February 2010 – is so closely aligned to the existing FSC framework that certification systems from different cultural and technical perspectives will continue to be discriminated against.

While the outcome of this debate may have a significant long-term impact on future market share of different certification brands in the US, it should not be allowed to obscure wider issues surrounding the use of wood in the various green building programmes. In practice, green building programmes have fallen a long way short of fulfilling their potential to drive increased market demand for certified wood products. There are a number of reasons. Although growing rapidly in some countries, the increase in green building initiatives is still in the early stages. Furthermore, in nearly all systems the credits available for materials selection make up only a small proportion of the total credits available and are typically overwhelmed by credits for measures to improve the energy-performance of buildings during operation. The challenges associated with obtaining material credits often result in design teams grabbing for alternative credits instead. A broader problem is that some green building systems, including LEED, do not adequately consider life-cycle assessment in material specification and this puts all timber – irrespective of whether certified or not– at a disadvantage compared with other materials.

10.5.5 *Illegal logging legislation*

New legislation in consumer countries designed to minimize the risk of illegal wood entering supply chains has great potential to boost demand for certified wood products. In the US, an Amendment to the Lacey Act was introduced in May 2008, making it an offence within the US to import or purchase any plant products, including timber, in violation of domestic or international laws. In practice, the Lacey Act Amendment encourages US operators and their overseas suppliers to implement due diligence systems to minimize the risk of their handling illegally sourced forest products. Anybody supplying the US market from regions where there is a significant risk of illegal harvesting or wood trading now has a strong incentive to demand independently certified wood.

In the EU, political negotiations are well advanced towards introduction of similar legislation that would require EU importers to show appropriate "due diligence" with respect to all their timber supplies to reduce the risk that they are illegally sourced. This legislation is expected to provide explicit recognition that certified wood is low risk with respect to illegal logging and can be freely traded within the EU.

10.6 References

Bryan, R. 2009. Forest Management 2009 Annual Audit Report for State of Wisconsin Department of Natural Resources Managed Forest Law Tree Farm Group in Madison WI US. Rainforest Alliance/Smartwood. Richmond, VT. Available at: http://dnr.wi.gov/forestry/certification/pdf/2009_MFL_SmartWood_FSC_audit.pdf

Burdin, N. 2010. Certification of forests in the Russian Federation: present situation. Unpublished report issued to UNECE Timber Committee, 17 May 2010.

Certification Canada, 2010. Certification Status Report, Canada-wide, SFM, Year-end 2009. Available at: www.CertificationCanada.org

European Forestry Institute. 2010. EU FLEGT News, February/March 2010. Available at: http://news.efi.int/newsletter/view/efis-eu-flegt-news-february-march-2010

Fernholz, K. et al. 2010. Forest Certification: A Status Report. Dovetail Partners Inc. 23 March 2010. Available at: www.dovetailinc.org/reportsview/2010/sustainable-forestry/pkathryn-fernholzp/forest-certification-status-report

FSC. 2007. Specifying FSC in Public Procurement – In Line With WTO Rules. FSC Fact Sheet. Available at: www.fsc.org/fileadmin/web-data/public/document_center/publications/fact_sheets/Procurement_and_WTO-EN.pdf

FSC. 2009. Comparative analysis between the FSC Controlled Wood requirements and PEFC, PEFC Germany and SFI. October 2009. Available at: www.fsc.org/fileadmin/web-data/public/document_center/publications/PEFC_and_FSC/FINAL-Summary_Report_FSC_CW_and_PEFC-EN.pdf

FSC. 2010. Global FSC certificates: type and distribution. FSC Factsheet published May 2010.

FSC. 2010. FSC Certificate Database. Accessed 19 May 2010.Available at: http://info.fsc.org/

Forest Certification Watch. 2010. Available at: www.certificationwatch.org/

Mercker, D. C. 2007. Forest Certification and Non-industrial Private Forest Landowners: Who Will Consider Certifying and Why?. Vol. 45 No. 4 Journal of Extension. Available at: www.joe.org/joe/2007august/rb6.php

Moore, N. 2009. Timber Industry Certification. Report for the UK Timber Trade Federation. Available at: www.ttf.co.uk/Document/Default.aspx?DocumentUid=7D2AC347-5C05-4AAB-B7A9-B78C70CE77EC

Oliver, R. and Donkor, B. 2009. Draft report on the competitive position of tropical wood products vis-à-vis other products (wood and non-wood). Prepared for the International Tropical Timber Council, Yokohama, Japan. Available at: www.itto.int/direct/topics/topics_pdf_download/topics_id=2166&no=0

PEFC Council. 2007. PEFC Council Technical Document. Available at: www.pefc.org/index.php/standards/technical-documentation/pefc-international-standards/item/422

PEFC Council. 2009. PEFC News. Special Issue: 13th PEFC General Assembly. Available at: www.pefc.org

PEFC Council. 2010. PEFC Council Information Register. Accessed 19 May 2010. Available at: http://register.pefc.cz/statistics.asp

PEFC Council. 2010. Requirements for Sustainable Forest Management Standards – Part 1: Temperate, boreal and plantation forests. Enquiry draft of PEFC International Standard, version 1.0. 2010-04-06. PEFC ST 1003:200x. Part 1 (ED 1.0). Available at: www.pefc.org/images/stories/documents/revision/PEFC_ST_1003200x_Part_1_ED1.0_borealtemperate_forests__plantations_20100406.pdf

Siry, J. P., F. W. Cubbage, D. H. Newman. 2009. Global Forest Ownership: Implications for Forest Production, Management, and Protection. XIII World Forestry Congress. Buenos Aires, Argentina, 18-23 October. Available at: www.cfm2009.org/es/programapost/resumenes/uploads/global_forest_ownership_FD.pdf

Scheyvens, H. March 2006. PolicyBrief #003 Combating Forest Degradation - Certification as a driving force for amelioration- Challenges for small forest enterprises IFES Forest Conservation Project.

Seneca Creek Associates. 2008. Assessment of Lawful Harvesting and Sustainability of US Hardwood Exports. Report for American Hardwood Export Council. Available at: www.ahec-europe.org/sustainability/seneca-creek-study.html

SFI. 2010. Personal communication with K. Brandt and J. Metnick, Sustainable Forestry Initiative (SFI) Program, 19 May 2010.

Chapter 11
Tumultuous year for emitters but carbon markets grow: Forest sector carbon markets, 2009-2010[71]

Highlights

- In the voluntary carbon markets, forest-based activities feature prominently with over 400 projects in 40 countries, but their combined transaction volume (20.8 million tons of CO_2 equivalent), is negligible (less than 0.005%) in relation to the global trade of carbon.
- The Clean Development Mechanism (CDM) approved 14 forest carbon projects as of mid-2010, doubling from 2009; however, they only represent 0.5% of all CDM projects and thus far have not issued any carbon credits to the market.
- Global carbon market transactions moved 80% more carbon in volume in 2009 than in 2008, but due to weak prices, the value grew just 6%, mostly because cash-strapped European Union companies sold their allowances to raise funds under the EU-Emission Trading System (ETS).
- Carbon trade declined after the fifteenth Conference of the Parties (COP-15) was unable to reach a legally binding agreement on reducing greenhouse gas emissions; the non-binding Copenhagen Accord in December 2009, compounded with the financial crisis, lower industrial emissions, and criminal elements in the trade, negatively affected the development of the carbon market in 2009-2010.
- The EU-ETS cap-and-trade system is the major carbon trading scheme, having more than doubled in volume of CO_2 equivalent in 2009, netting a value of $119 billion; lack of an international legally binding agreement at COP-15 halted or postponed national cap-and-trade schemes in some key economies.
- In the United States, national climate change legislation stagnated in the turn of 2009-2010 and prospects to bring it into force before 2013 are small; nevertheless, up to one billion tons of CO_2 equivalent of land-use and forestry offsets could be deployed both domestically and in tropical countries.
- An unresolved question is whether Reduced Emissions from Deforestation and Degradation of Forests (REDD) will be implemented through a market mechanism or a fund; currently, REDD is traded either in Voluntary Carbon Standard credits or against a broad definition of emission reductions that later could be translated into a separate REDD commodity in the post-2012 market.

[71] By Mr. Jukka Tissari, FAO, Italy.

Secretariat introduction

The *Forest Products Annual Market Review* in 2009[72] introduced the topic of international carbon markets. That ground-breaking chapter described in detail the different carbon-trading schemes, market mechanisms, trade platforms and political processes that determine the market structure. They are not detailed again in this year's chapter.

This year's chapter explores recent developments in the different carbon-market segments and the political processes that transform the global carbon trade. For the sake of consistency, the chapter follows the structure of last year and uses the same data sources to the extent possible.

We thank the author, Mr. Jukka Tissari[73], Forestry Officer (Forest Products Trade and Marketing) of the FAO Forestry Department. While covering a wide range of marketing and trade issues in FAO, he focuses on the carbon-market sector in order to clarify what benefits and challenges the forest sector can expect. We appreciate his analysis again this year.

11.1 Introduction

This chapter looks at the highlights of the world of carbon trade in 2008-2009 and explains some of the more recent events in 2010. The prime event was the United Nations Framework Convention on Climate Change (UNFCCC) fifteenth Conference of the Parties (COP-15) in Copenhagen in December 2009. In the run-up to this marathon of negotiations, countries had announced their targets for reducing greenhouse gas (GHG) emissions. Some pledges were conditional on the success of COP-15, while others showed a varied degree of ambition. The leading emerging economies also laid out their reduction targets, often defined in terms of lowering the CO_2 intensity relative to GDP. The commitments of countries remained largely unchanged after the Copenhagen Accord was noted and the voluntary pledges were confirmed on 31 January 2010 (table 11.1.1).

Carbon traders naturally watched COP-15 closely, and the outcome was not positive for the market. The economic recession put its own flavour into the trading, which made the market volatile and inconsistent to some extent. The market milestones in various market segments are explained in the following sections. Forests were brought into the limelight and good progress was made towards giving due importance to Reduced Emissions from Deforestation and Forest Degradation (REDD+) enhancing forest carbon sequestration in developing countries as part of the climate solution. Prospects of national cap-and-trade schemes and other related policy processes are assessed at the end of the chapter.

The milestones in various carbon market segments are explained in the following sections. Prospects of national cap-and-trade schemes and other related policy processes are assessed at the end of the chapter. This year's chapter gives evidence of a tumultuous period, where market development was guided more by economic survival of emitters than by a concerted effort to curb carbon emissions. A widespread element of fraud, invalid credits and tax evasion also entered into the carbon trade.

TABLE 11.1.1

Emission reduction targets announced by main countries after COP-15, 2009

Developed country	*Announced target*	*Comments*
United States	17% below 2005	3.5% below 1990
European Union	20-30% below 1990	30% conditional to global agreement
Japan	25% below 1990	
Canada	17% below 2005	3% below 1990
Russian Fed.	15-25% below 1990	
Australia	5-25% below 2000	13% above 1990
New Zealand	10-20% below 1990	
Switzerland	20-30% below 1990	
Norway	30-40% below 1990	
Developing country		
China	40-45% cut in emissions/GDP	
Brazil	36-39% below 2020	below 2020 business-as-usual scenario
Republic of Korea	30% below 2020	below 2020 business-as-usual scenario
Indonesia	26% below 2020	below 2020 business-as-usual scenario
India	20-25% cut in emissions/GDP	

Source: Climate Action Tracker by Carbon Positive, 2009.

11.2 Copenhagen COP-15 outcomes

When this chapter was being written for the 2008-2009 *Review*, the world's political leaders and concerned citizens optimistically awaited COP-15 of the UNFCCC. A concerted global effort in 2009 was crucial to getting an internationally binding agreement to succeed the Kyoto Protocol and to curb GHGs. As COP-15 approached, expectations about reaching a comprehensive agreement began to fall. The non-binding

[72] http://timber.unece.org/fileadmin/DAM/publications/Final_FPAMR2009.pdf

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Copenhagen Accord was noted as an outcome, yet this led to great disillusionment about the way ahead, especially among the EU-27 group of countries. The momentum and timing were lost and the focus shifted to continued work for COP-16 in Mexico (29 November through 10 December 2010), and efforts to reach an agreement at COP-17.

11.2.1 *Wide recognition of forests in mitigation of climate change*

Even though the delegations at COP-15 did not reach a conclusive climate deal, they issued some concrete language about what needs to be done. First of all, capping global warming at 2 degrees Celsius above the pre-industrial levels was confirmed as the basic goal. Tangible pledges of progressive financial support to developing countries were agreed to help them maintain and enhance their forests and forest carbon.

Destruction and degradation of the world's forests is responsible for about 20% of global GHG emissions. Conserving and managing forests undoubtedly is an important interim goal in mitigation and adaptation work against the adverse impacts of climate change. REDD+, voluntary carbon offsetting and gradually also the Clean Development Mechanism (CDM) and the Joint Implementation (JI) with post-2012 compliance targets will provide the market mechanisms needed to encourage the forest sector to become engaged properly in mitigation work.

The political visibility of forests has now achieved an all-time high. Forestry was the sole sector that was specifically addressed in the Copenhagen Accord. COP-15 granted recognition to the crucial role of Reduced Emissions from Deforestation and Degradation of Forests (REDD), and this resulted in the subsequent agreement on establishing a mechanism for mobilizing financial resources from developed countries. This is envisaged to lead to the provision of a large volume of forest carbon offset credits from REDD+, which so far is a nascent segment of the carbon trade.

Larger than usual financing flows will come into the forestry sector as major donors begin to fulfil their COP-15 funding pledges to support the developing countries in reducing deforestation and forest degradation, one of the key activities eligible under REDD+. Conservation of forest carbon stocks is another likely recipient for much of the money flowing into the sector through the REDD+ mechanism. Other activities that will earn credits are the sustainable management of forests and the enhancement of forest carbon stocks.

This is envisaged to lead to the provision of a large volume of forest carbon offset credits from REDD+, which so far is an embryonic segment of the carbon trade. An unresolved question is whether REDD+ will be implemented through a market mechanism or a fund, or through a combination of both, to allow a coordinated roll-out. Further work is needed on improving the technical capacities in the developing countries so they can employ this funding.

Methodologies for assessing forest carbon were confirmed to follow IPCC 2006 Guidelines. There are more than 15 validated CDM methodologies and many REDD methodologies are available at least in draft form under the Voluntary Carbon Standard (VCS). Moreover, the VCS has developed a credible way to address the non-permanence problem with its buffer account. Lastly, the Climate, Community and Biodiversity (CCB) Standard has contributed a good framework for addressing the non-carbon impacts of projects. More work on REDD is needed on how to establish reference levels and assess mitigation potential, as well as on monitoring, reporting and verification.

11.2.2 *Key technical work*

The Subsidiary Body for Scientific and Technical Advice (SBSTA) feeds the results of methodological work to the UNFCCC. In COP-15 SBSTA was mandated to work on methods to review data on Harvested Wood Products (HWPs), which both store carbon and release emissions after service life. It was also requested to work on additional accounting methodologies in Land-use, Land-use Change and Forestry (LULUCF), and on the expanded scope for CDM. The latter could include in the future:

- Afforestation and reforestation (A/R) including wood produced from forests established under the CDM
- REDD
- Restoration of wetlands
- Sustainable management of forests and other sustainable land management activities
- Soil carbon management in agriculture
- Re-vegetation, cropland management and grazing land management.

The most important part of SBSTA's work is perhaps the new methodology for carbon accounting in forest management. That would, in many cases, increase the offsets from forests available to Annex 1 countries[74] of the Kyoto Protocol.

[74] 40 industrialized and countries in transition, of which 38 are within the UNECE region.

11.2.3 COP-15 pledges and financing

The Copenhagen Accord was "noted" by 29 heads of state and governments. Parties agreed to notify the UNFCCC Secretariat of approval of the Accord and their mitigation commitments by 31 January 2010. By the deadline specified in the Accord, 55 countries, which together account for 78% of global emissions from energy use, had formally submitted their national targets to cut and limit GHGs by 2020. Prominent countries that signed the Accord include China and the US, the two largest emitters, along with Australia, India, Japan and the EU. The pledges to the Accord are purely voluntary and there are no enforcement provisions for the signatory countries.

Following COP-15, an initial amount of $3.5 billion was committed to slowing, halting and eventually reversing deforestation in developing countries. This money was pledged by a group of countries comprising Australia, France, Japan, the UK, Norway and the US to kick-start REDD+. The funding pledges were upgraded to $4.0 billion on 27 May 2010 in the Oslo Climate and Forest Conference, and will grow to $30 billion per year in 2010-2012, reaching $100 billion/year by 2020. A new structure called the Copenhagen Green Climate Fund was established to administer these funds. A Technology Transfer Mechanism was also established.

Source: M. Mielke, 2010.

An interim REDD+ Partnership Agreement was adopted on 27 May 2010 in Oslo. In the beginning, it will comprise 50 countries on the basis of a voluntary, non-legally binding framework. Partners are mainly rainforest countries and other developing countries, complemented by 16 leading donors pursuing REDD+ negotiations. Both the World Bank and UN-REDD were requested to provide the secretariat services to the REDD+. One of the first operational measures is to establish a voluntary public database on financing, actions and results of REDD+.

11.3 Major market milestones reached in 2009-2010

11.3.1 Moral setback after COP-15

COP-15 outcomes proved that there is a long way to go until carbon markets become fully functional under the current incomplete political framework. The vision of a global network of compatible national carbon markets in the leading economies has met with difficulty and delays.

The EU was left more isolated than before in pressing ahead with its ambitious climate change targets set forth in 2008, i.e. to reach unilaterally a 20% emission reduction target and produce 20% of energy from renewable sources by 2020. It may continue to operate the only major cap-and-trade scheme (EU-ETS) for a number of years, and is most likely to continue barring cheap and non-permanent forest carbon credits, which it fears could flood the market.

Systemic flaws were also discovered. Hungary sold two million UN-certified emissions reductions that already had been counted in the EU's emissions trading scheme. This brought evidence of the possibility of double-counting recycled credits, which undermines market security. Japan bought these credits, which Hungary first traded from Certified Emission Reductions (CERs) to Assigned Amount Units (AAUs). Since 2007 Japan has become the biggest buyer of AAUs in an attempt to meet its Kyoto Protocol commitments. Russia has claimed that, similarly to Japan, Spain and Italy may begin buying AAUs. Since AAUs are in oversupply from eastern Europe and former CIS countries, such credits sold do not always represent actual emissions reductions, and are called unflatteringly "hot air". (Financial Times, 15 March 2010).

11.3.2 Total carbon market size

Despite all those negative drivers, the global market in carbon rose to 8.7 billion tons of CO_2 equivalent (CO_2e) in 2009 (80% above 2008 levels), and netted a value of $144 billion (up by 6% only). All of this growth came from the allowances markets, EU-ETS and the Regional Greenhouse Gas Initiative (RGGI).

The World Bank's *State and Trends of the Carbon Market 2010* (released at Carbon Expo, Cologne, Germany, 26 May 2010) underlines the fact that the global economic crisis also affected the demand side of carbon (World Bank, 2010). The economy slowed down, as did the emissions of Europe's large-scale industries. Emissions dipped commonly below the regulatory caps, which effectively halted heavy industry's demand for additional European Union Allowances and Emission Reduction Units in 2009. Yet, these carbon papers were

sold at lower prices in excessive volumes from heavy industries to power plants to liquidate the assets and keep companies afloat in the midst of the recession.

The year 2009 marked a major decline in new carbon project development. The Carbon Markets & Investors Association estimated that "new investments in carbon offset projects in the developing countries fell by 30-40% in 2009 and will continue to drop in 2010" (CMIA, 2010).

11.3.3 *Regulatory and allowances markets*

EU-ETS continued to drive carbon markets with a doubling of volume to 6.3 billion tons in 2009 (table 11.3.1). Falling prices throughout 2009 meant that trading value grew only modestly, to $118.5 billion (up 18% from 2008). EU-ETS largely sets the direction of the world carbon markets in the currently incomplete system.

TABLE 11.3.1

Carbon markets, 2008-2009

Market segment	*2008*		*2009*	
	Volume million tons CO_2e	Value million $	Volume million tons CO_2e	Value million $
Project-based transactions subtotal:	429	6 878	237	3 032
Primary CDM	404	6 511	211	2 678
JI	25	367	26	354
Voluntary markets subtotal:	127	728	94	387
OTC	57	422	53	338
CCX	69	307	41	50
Secondary CDM	1 072	26 277	1 055	17 543
Allowances markets subtotal:	3 209	101 183	7 320	122 773
EU-ETS	3 093	100 526	6 326	118 474
NSW	31	183	34	117
RGGI	62	198	805	2 667
AAUs market	23	276	155	2 003
Alberta's SGER	3	34	5	61
Total carbon markets	**4 840**	**135 143**	**8 719**	**143 735**

Notes: 2008 numbers have been readjusted by the World Bank in 2010. Figures may not add up due to rounding. CDM = Clean Development Mechanism. JI = Joint Implementation. OTC = Over the Counter. CCX = Chicago Climate Exchange (the US, global): tradable unit Carbon Finance Instrument (CFI). EU-ETS = European Union Greenhouse Gas Emissions Trading System. NSW = New South Wales (Australia). RGGI = Regional Greenhouse Gas Initiative (10 states in the US): tradable unit Regional Gas Allowance (RGA).

Sources: World Bank: State and Trends of the Carbon Markets 2010, Bloomberg New Energy Finance, 2010.

The RGGI achieved an impressive 13-fold growth in anticipation of a federal carbon regulation scheme in the US. It reached 805 million tons of CO_2e, which brought it close to the secondary CDM market size. Its market value of just $2.2 billion is not, however, commensurate with EU-ETS, but rather is equal to the primary CDM market.

The Kyoto Protocol's flexible mechanisms CDM and JI created much less excitement in 2009 than in 2008. As the Kyoto Protocol successor agreement remains undecided, financing for new CDM project generation in the developing countries ground to a halt. Primary CDM projects contracted to 50% in volume and to 41% in value from 2008 to 2009.

JI stayed as a low-key carbon market segment as usual. AAUs from the Annex B[75] countries of the Kyoto Protocol showed promising trade growth and compensated some of the waning interest in the offset markets. Finally, the secondary CDM market, which was a growth segment in 2008, declined by 30% in value as the value of those papers in the derivatives market evaporated.

11.3.4 *Voluntary carbon markets*

The voluntary carbon markets include over-the-counter (OTC) transactions helped by brokers and trading in the Chicago Climate Exchange (CCX). The year 2009 brought the voluntary carbon markets down to 94 million tons of CO_2e (26% less than in 2008). Their value plummeted to $387 million (down 47%). CCX especially lost ground last year, and now OTC and CCX trade volumes are fairly even.

Based on an Ecosystem Marketplace survey, the value of forestry OTC transactions was about $130 million (15.3 millions tons of CO_2e), as recorded in their survey up until 2008 (Hamilton, K., et al, 2010). Most of the credits (worth $112 million) were sold by project developers, and the rest by intermediaries. In 2009 forestry had a share of 24% of voluntary OTC transactions, equivalent to 12.2 million tons of CO_2e. In 2009 additions included high-profile deals by blue-chip companies (e.g. Disney, News Corporation, Dell). In their 2008 survey Ecosystem Marketplace reported on 226 projects in 40 countries, with a combined transaction volume estimated at 20.8 million tons of CO_2 equivalent over the past 20 years. Their sample was 52% of the total 434 forest projects that have been identified in all types of carbon markets in mid-2010.

The good news is that the relative importance of forestry in voluntary carbon markets continues to rise. According to the Forest Carbon Offsetting Report (2010) by EcoSecurities plc, corporate off-setters look favourably on forest projects. The attraction of carbon buyers to forest projects is explained by more activities being

[75] http://unfccc.int/kyoto_protocol/items/3145.php

eligible under VCM than in compliance markets, including: Afforestation and Reforestation (AR); Reduced Emissions from Deforestation and Forest Degradation (and more broadly, REDD+); Improved Forest Management (IFM); and carbon stocks associated with Harvested Wood Products (HWP).

Purchasers furthermore appreciate the ability of forest projects to generate positive benefits for community livelihoods, biodiversity conservation, etc. The forest carbon credits can be certified against recognized standards. All these factors make forest projects highly appealing to large corporations that want to integrate voluntary carbon offsetting into their corporate social responsibility (CSR) reporting.

11.3.5 *Forest carbon markets*

In mid-2010, the CDM has approved 14 forest carbon projects, doubling their number from the previous year; albeit they still represent just 0.5% of all CDM projects. However, none of the CDM forestry projects has issued any CER credits thus far. There are natural risks associated with the length of forest carbon storage in trees, soil and other forest biomass. CDM does not assume that carbon is stored indefinitely in those sinks. The implication is that CERs are sold either as temporary (expiring in five years) or on long-term basis (expiring in 30 years), after which time they can be renewed. This is an essential reason why they are not considered appealing to buyers, resulting in low prices of temporary CERs. For example the World Bank is buying CERs *ex-ante* at $5 per ton of CO_2e.

Considering the nature of the temporary credits generated from AR CDM projects, verification and issuance of credits are only expected in 2011. It takes on average more than three years for any CDM project to pass through the regulatory and administrative processes to the issuance of credits (CERs).

There are registered AR CDM projects also located in the UNECE region, for example in Albania (table 11.3.2). JI projects include one Track I project in Romania, where the first verification was carried out – and credits were bought by the World Bank's Prototype Carbon Fund.

Other forest carbon market pilot projects exist in North America, but also in Europe, for example in Switzerland, using Improved Forest Management (IFM). The main issue is the question of who holds the carbon right, and whether double counting is accepted, because these host countries already account for forest area as per article 3.3 of the Kyoto Protocol.

A forest area of 2.1 million hectares was reported to have been influenced by activities in forest carbon sequestration or avoided emissions (Hamilton, K., et al, January 2010). The most common types of projects transacted are AR (63%), followed by REDD projects (17%) and IFM at 13%. AR also sustains the forest carbon market by generating most new sources (projects) for credits. It is becoming more common that a forestry project combines REDD, AR and IFM. Planting of indigenous trees was a major activity, accounting for 60% of AR and IFM projects in 2008. Trends in 2009 looked similar.

TABLE 11.3.2

CDM forestry projects registered since September 2009

Project	*Host party*	*Other party*	*Reduction in CO_2e*
Reforestation of croplands and grasslands in low income communities	Paraguay	Japan	1 523
Afforestation and reforestation on degraded Lands	China		23 030
Reforestation, sustainable production and carbon sequestration project	Peru		48 689
Humbo Ethiopia assisted natural regeneration	Ethiopia	Canada	29 343
Assisted natural regeneration of degraded lands	Albania	Italy	22 964
International small group and tree planting program	India	United Kingdom	3 594
Forestry project for the basin of the Chinchiná River, an environmental and productive alternative for the city and the region	Colombia		37 783
Nerquihue small-scale CDM afforestation project using mycorrhizal inoculation	Chile	United Kingdom	9 292

Note: Estimated emission reductions in metric tons of CO_2 equivalent per annum as stated by the project participants.

Source: UNFCCC, 2010.

11.3.6 *Carbon prices*

The worsening economic crisis in late-2008 started a freefall in carbon offset prices, which bottomed out in February 2009. A slight price recovery followed throughout the rest of 2009, maintained by heavy industries selling their unused carbon allowances to power plants. After the COP-15 results, prices declined again. However, there was no collapse because the expectations in the markets on COP-15 were low to begin.

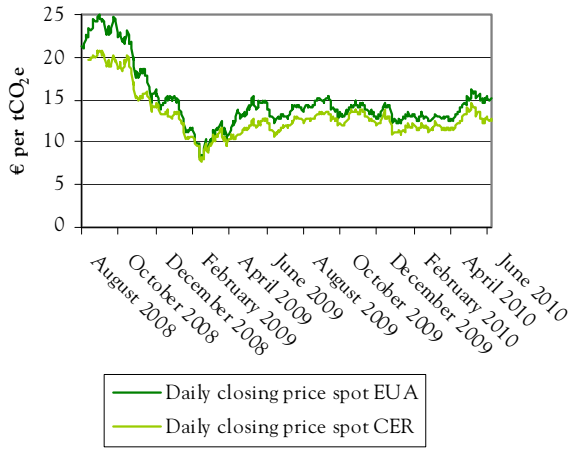
The 2010 price curve has moved upwards again (graph 11.3.1). Prices of carbon started to recover in March 2010, but this reflected more the financial strain caused by the slump in the global economy than the supply and demand dynamics of the carbon market itself. In April 2010, the EU carbon market hit a seven-month high of $17 (€14) for CERs and of $19.67 (€16) for European Union Allowances.

In mid-2010 rising natural gas and oil prices have driven the carbon market higher. There have been more energy and power sector compliance buyers looking ahead into future years when tighter caps are to be expected. Carbon pricing is decided between those who cash-in their excess allowances in need of short-term financial remedy, and those who are willing to pay for a future hedge against tighter compliance rules.

Some carbon credit buyers are increasingly speculating on the upside potential of carbon prices on the pre-compliance market; they do not buy for their own offsetting purposes, but instead take positions towards the post-2012 market and rely on a future binding climate agreement.

GRAPH 11.3.1

Carbon prices, 2008-2010



Notes: EUA = European Union Allowance. CER = Certified Emission Reductions.

Source: BlueNext, 2010.

Prices for voluntary carbon credits differ greatly from \$0.2 to \$111/ton of CO_2e. Renewable energy credits (solar, biomass, methane) earn the highest prices. IFM projects were valued on average at \$7.3/ton of CO_2e (OTC transactions in 2009). AR was traded at \$4.6/ton of CO_2e. Avoided deforestation, which will be the main REDD+ project type, was priced at \$2.9/ton of CO_2e. (Hamilton, K., et al., June 2010).

11.3.7 Market integrity issues: fraud and carbon standards

The European Commission had to tighten the rules that govern the EU-ETS after a series of cyber attacks and fraudulent actions on allowances were discovered in early 2010. "Phishing" attacks were made in several countries on national carbon registries, to acquire details on account holders. Such information was obtained in some cases and was subsequently used to carry out transactions on allowances contained in those registries. For instance, 250,000 tons of CO_2e were stolen from the German registry. Other national registries that have been subjected to fraud include those of Norway, the Netherlands and Denmark. A \$6.35 billion tax fraud added to the concerns of rogue trading. This series of events revealed the weaknesses of current carbon market oversight.

On the project level, carbon standards are supposed to alleviate any concerns over the integrity of carbon offsets being generated. This is increasingly relevant to any forest carbon project developer, because the burdensome nature of the CDM project cycle is turning more interest towards voluntary carbon markets, where project-based avoided deforestation activities help conceptualise REDD on the field level. Preferred standards need to be on a par with the Kyoto Protocol's CDM and JI mechanisms in their carbon accounting rigour.

Carbon standards do differ in their scope and sophistication. The VCS is a pure carbon standard, which puts less emphasis on addressing the project's wider impacts. CCB Standard and California's Climate Action Reserve (CAR) are rated the other two premium standards available for forest project developers in the voluntary carbon market. However, the CCB Standard does not issue tradable carbon credit certificates for the carbon benefits it verifies. CarbonFix is also a robust carbon verification standard and addresses the social and environmental benefits and impacts of a project. Plan Vivo takes a slightly different approach by building small-scale community-based projects.

VCS and the CCB Standard were the most widely used voluntary carbon standards in forestry, but in total their numbers are few (VCS has three registered forestry projects).

The chosen standard matters in the carbon market. It becomes a determinant of the price and leads to price differentiation. The wider a standard considers the forest carbon project's multiple benefits and impacts, the higher a price it should command.

11.4 Policy discussion

11.4.1 Future of climate change negotiations: implications for forest carbon trade

In the COP-15 there were deep divides between and within the negotiating groups, which stalled the international climate change negotiation process. In the final day of the marathon meeting, a few countries broke away from the core process and started putting together a much smaller pact, led mostly by the dynamics between

the US and China, the world's two largest emitters. India, Brazil and South Africa seconded.

The global economy also negatively affected the carbon trade's policy foundation. Industrial emissions fell by 11% in Europe in 2009, which put them below the caps that had been set in the EU-ETS. Fears that its caps were too generous proved real, because they gave away an overall surplus of allowances of 62 million tons of CO_2e. This benefited heavy industry, which has on average a 30% surplus of permits to emit, while the power sector runs a shortage. Surplus permits can be banked indefinitely and set against future targets or sold at a profit. In other words, heavy industries will not have any incentive to invest in clean technologies or reduce their emissions by other means. The International Energy Agency, energy firms and market analysts have pointed out that the price for carbon should be doubled from current levels in order to stimulate the adoption of greener technology in the industries.

Major pulp and paper companies are among those energy-intensive industries that receive EU Emission Allowance Units (EAUs) from their governments and must comply with these caps on an annual basis. For the technically most advanced mills, it has been relatively easy to emit below these thresholds and sell the excess EAUs on the carbon market. For example, the Orion pulp mill in Uruguay of the Finnish UPM company has sold excess permits at a profit. It created CDM credits at the mill in Uruguay, and then "imported" them for sale into EU-ETS.

Source: W. Ciesla, 2010.

The European Commission and Member States are in the process of defining CO_2 emission trading benchmarks for industrial sectors in Europe, including the pulp and paper sector. These benchmarks will provide the basis for allocating the emission rights among the pulp and paper mills across Europe after 2012. Work involves specifying the performance levels of the top 10% of the mills as a benchmark, with different benchmarks made for different product groups. If a mill emits more than the benchmark value, it has to buy additional credits from the market or at the government auctions that are to be organized. The Confederation of European Paper Industries is involved as a key stakeholder in the process.

11.4.2 Varied progress in national carbon trade schemes

In the US, there are now two bills being prepared to incorporate a cap-and-trade scheme, namely last year's Waxman-Markey bill (American Clean Energy and Security Act), which the House of Representatives passed in June 2009, and the Kerry-Lieberman bill (American Power Act) being considered by the Senate (unveiled in May 2010). Forestry's abatement potential and provisions for REDD integration are being debated.

The original tone of the lawmakers was to encourage the domestic and foreign land-use and forestry offsets as a cost-efficient mechanism. Apparently the forestry sector will play a smaller role than had been anticipated in the early rounds of the legislative process. The total international offset quota may be settled between 0.5-1.0 billion tons of CO_2e per annum. Final decisions are still to be made, but in any case this would be a welcome stimulus to forest carbon markets.

The forestry sector has become a more abundant source for voluntary carbon markets in the US. This may open up the door to "the major league", as pre-compliance market activity spurs demand for forest carbon. In 2009 the US became the biggest originator of voluntary carbon offset credits, despite the tighter corporate budgets to spend on CSR and voluntary off-setting. At a State-level, the California Air Resources Board (CARB) adopted the Climate Action Reserve's (CAR) new guidelines for forestry projects in 2009. This opened the door for private landowners, public lands and out-of-State projects to engage in forest carbon activities. For example Sierra Pacific Industries started to formulate a conservation plan for 20,000 giant sequoia trees on its lands. Carbon offsets generated are eligible for the California State cap-and-trade scheme, called the AB 32.

On the sidelines of the legislative process, a public debate is brewing as to whether a cap-and-trade system should be replaced by a cap-and-dividend principle. The difference between the two is fundamental:

- In cap-and-trade, the reduction of GHGs is made via mandatory caps on emissions (i.e. when CO_2 "leaves the economy" and enters the atmosphere). The system provides emitters flexibility in how they comply. Emitters are free to buy and sell, trade, and bank caps for future use.
- In cap-and-dividend, the caps are set where CO_2 "enters the economy" in the form of a fossil fuel. The

permits are auctioned, but the revenues do not go to the government; they go back to citizens in the form of dividends, distributed equally among everyone. Cap and dividend system treats the actual emissions reductions (hot air) as a managed commons, of which everyone owns a share.

This debate continues in 2010 in Europe, where indeed cap-and-trade led to higher prices for consumers and profits for polluters, especially in the electricity sector. A hybrid system has also gained some support. After setting a carbon price floor, utilities would pay a tax if prices under the European cap-and-trade scheme fall below a certain level.

Canada's House of Commons passed, by a narrow margin, the Climate Change Accountability Act on 5 May 2010. The new act will still need to pass the Senate later in 2010. The new law would require Canada to reduce GHG emissions to 25% below 2005 levels before 2020, and 80% lower by 2050. These targets represent a more ambitious reduction than the Copenhagen Accord, to which the Canadian Government had agreed. Canada is closely watching the progress of its neighbour, i.e. the passing of the climate legislation in the US.

Australia froze its cap-and-trade plan, known as the Carbon Pollution Reduction Scheme until 2013, through a government decision in April 2010. The scheme would perhaps be the world's most comprehensive, covering 75% of the country's carbon emissions and involving 1,000 of the biggest polluters. The targeted reduction of GHGs is 5-15% of 2000 levels by 2020. This is considered a modest objective, but the Government is unlikely to intensify it for fear of upsetting major polluters, such as the coal, steel and cement industries.

Source: D. Haugen, 2010.

New Zealand slowed down its plans until Australia moves ahead and launched its Emission Trading Scheme on 1 July 2010. It will gradually extend to regulate the six GHGs by 2015. New Zealand has a system in place that allows emission credits from forestry to be turned into tradable Assigned Amount Units (AAUs). International entities have already been major purchasers of New Zealand's forestry carbon assets. In a recent deal, Denmark bought 22,000 emission units from nine forestry projects in New Zealand. The deal was agreed as a transfer of AAUs between the Danish Energy Agency and Permanent Forest Sink Initiative, a New Zealand-based firm that specializes in long-term carbon forests. Australia's Westpac Bank has started to buy carbon offsets from New Zealand forest owners with the aim of selling them to big polluting firms as part of the Australia's emissions trading scheme. Japan also purchased forestry AAUs from New Zealand in a landmark deal in 2009.

Japan's Government has taken the policy to reduce total CO_2 emissions by 60-80% by 2050 by moving into a low-carbon society. A trial voluntary carbon market was launched in October 2009. This Integrated Domestic Market for Emissions Trading trades in Offsetting Carbon Credits in OTC transactions, starting with 202 compliance participants. These could be the forerunners to a national cap-and-trade scheme at a later stage. In mid-2010 the new Government looks set to postpone a cap-and-trade scheme until 2011-2012.

China's central Government has set binding targets on energy savings and emission reductions in the 11th Five Year Plan. They were articulated in savings per unit of output, i.e. reducing energy intensity by 20% by 2010 compared with 2005 levels. Just before the COP-15 in December 2009, the government announced that by 2020 China would cut its carbon intensity by 40% to 45%.

11.5 References

BlueNext. 2010. Statistics. Available via: www.bluenext.fr

Carbon Positive. 2009. Climate action tracker. Available at: www.wri.org/publication/comparability-of-annexi-emission-reduction-pledges/chart

Carbon Markets and Investors Association. 2010. Available at: http://cmia.net.

EcoSecurities. 2010. Forest carbon offsetting report 2010. Available via: www.ecosecurities.com/Standalone/Forest_carbon_offsetting_report_2010/default.aspx

Ecosystem Marketplace. 2009. State of the forest carbon markets 2009. Available at: http://moderncms.ecosystemmarketplace.com/repository/moderncms_documents/SFCM.pdf

Ecosystem Marketplace & Bloomberg New Energy Finance. 2010. Building bridges: State of the voluntary carbon markets 2010. Available at: www.ecosystemmarketplace.com/pages/dynamic/resources.library.page.php?page_id=7585&section=our_publications&eod=1

Financial Times. 2010. The latest carbon offset problems: Recycled CERs and Chinese wind. Available at: http://blogs.ft.com/energy-source/2010/03/15/the-latest-carbon-offset-problems-recycled-cers-and-chinese-wind

Oslo Climate and Forest Conference. 2010. REDD+ Partnership. Available at: www.oslocfc2010.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=24924

World Bank. 2010. State and trends of the carbon market 2010. Available at: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_of_the_Carbon_Market_2010_low_res.pdf

UNFCCC. 2010. Project search. Available at: http://cdm.unfccc.int/Projects/projsearch.html

UNFCCC. 2010. Appendix I of the Copenhagen Accord. Available at: http://unfccc.int/home/items/5264txt.php

Chapter 12
With 2010 forecasts positive, manufacturers look to better times: Value-added wood products markets, 2009-2010[76]

Highlights

- Furniture manufacturers are preparing for a better market in 2011-2012 as they try to turn the unrestrained cost inflation of past years to cost savings through relocating production and redesigning product lines and manufacturing facilities.
- Furniture trade value for the five largest importers declined by 20%, or $6.7 billion dollars, in 2009; markets are now focused on developments in the United States, the leading market both in size and openness to imports, and the first positive signs are appearing in 2010.
- Implementation of the US Lacey Act Amendment is increasingly affecting the value-added wood product trade; its regulation of the furniture trade was postponed from the original date until April 2010, with enforcement to be phased in from April to September 2010.
- US import duties on Chinese wooden bedroom furniture are likely to be extended for another five years; importers and retailers question the effectiveness of the duties as their review begins.
- In 2009 United Kingdom furniture imports fell by 26.2%, the second consecutive year of decline, German imports fell by 8.5% and French imports dropped by 15.9%.
- Steep declines in the profiled wood markets continued in 2009, with an overall decline of 20%: French and UK imports declined by 30%, US by 25% and Germany by 20%.
- Mouldings and builders' joinery and carpentry products imports continued declining, but there is a possibility that with an increase in housing construction they would rebound swiftly.
- US imports of profiled woods in 2009 have now declined from the record year of 2006 by 61%; the decline is larger than the other top five importers' total trade value, with considerable negative effects in the producer countries dependent on the US market.
- Forecasts for engineered wood products (EWP) markets are positive, in conjunction with increasing North American housing starts in 2010.
- Innovative EWPs keep the forest sector relevant, especially in the face of competition from alternative building materials, and include next-generation oriented strand lumber and parallel strand lumber.

[76] By Mr. Craig Adair, APA – The Engineered Wood Association, US, Dr. Christopher Gaston, FPInnovations-Forintek Division, Canada, and Mr. Tapani Pahkasalo, Indufor Oy, Finland.

Secretariat introduction

This chapter on value-added wood products (VAWPs), which are also called secondary-processed products, covers part of the demand for the primary products covered in the previous chapters. Sawnwood and panels may be further processed into furniture and joinery products (specifically builders' joinery and carpentry and profiled wood), which are covered in the first section of this chapter. Sawnwood and structural panels may undergo further processing to form engineered wood products (EWPs), which are covered in the second section. By means of these innovative products, wood continues to be a viable material in today's competitive marketplace.

The 2010 Timber Committee Market Discussions will be held jointly with the Society of Wood Science and Technology. The Society promotes innovation in wood and paper products and thus this chapter is especially relevant to the forthcoming Discussions.

Government and trade-association policies often promote value-added production to earn greater returns than are available from commodity primary products. Until the recent economic crisis, particularly in housing construction, increasing imports of VAWPs by UNECE region countries indicated that the policies were working for both temperate and tropical products.

The secretariat sincerely appreciates the continuing contributions of the author of the first section, Mr. Tapani Pahkasalo[77], Forest Economist, Indufor Oy. He analysed the VAWP markets. As an international consultant, his expert analyses have been presented at a number of forums, including the Timber Committee Market Discussions. He is a member of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing. Formerly a marketing assistant for the *Review*, in 2009 he was its Project Leader.

Mr. Craig Adair[78], Director, Market Research at the APA–The Engineered Wood Association and Dr. Christopher Gaston,[79] National Group Leader, FPInnovations, analysed EWP markets. Both are members of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing; Dr. Gaston was the Team's first Leader. The EWP analysis is limited to North America because comparable statistics are not available yet for other regions. EWPs enable wood to meet existing as well as new needs.

12.1 Introduction

Value-added wood products are wood products that have been further processed into higher-value products, including profiled wood, builders' joinery and carpentry products, furniture and engineered wood products. Housing construction activity is the principal driver for most value-added wood products. VAWP demand, in turn, is a direct demand driver for sawnwood and wood-based panels, used in manufacturing the products. VAWPs include EWPs, which in this chapter include I-beams with their I-shaped cross section, glulam, made up of sawnwood glued into beams, and laminated veneer lumber, which is formed from gluing together sheets of veneer and then resawing to desired dimensions.

Traded amounts of value-added wood products directly reflect the severity of the economic recession. VAWPs are processed products requiring significant labour inputs and are therefore increasingly produced outside the UNECE region, in countries where costs are lower. When VAWP demand fell, largely driven by depressed housing construction, the traded volumes also decreased rapidly. Because a large percentage of VAWP production takes place outside the UNECE region, it has somewhat mitigated the economic effects of the reduced VAWP demand on the region but extended the effects of the region's housing construction slump to less developed producer countries.

Prior to the 2008-2009 economic and financial crisis, VAWP manufacturers faced rapid cost inflation. Heightened global competition meant sales prices remained steady, squeezing profit margins. Industry rationalization occurred during the crisis and now in mid-2010, as the costs of energy, chemicals and transportation are more stable, surviving companies are expecting to make decent profits. The author expects that when demand on world markets picks up, the unutilized capacity can and will be brought on-stream and companies should enjoy better profitability for some time. However, fierce competition for the nascent market shares will guarantee that product prices will not increase swiftly. Insecurity related to energy costs (and other oil-derived factors of production, e.g. adhesives) restricts expanded production. Energy prices have risen from their low point, and costs of other raw materials such as wood have also seen some upward movement.

Russia's value-added wood products markets are mainly domestic. Its share of exports and imports on a global scale

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is rather small. Russia has, however, started incentives to increase the volume of value added-wood products production. For example, one aim of the increased roundwood export taxes is to attract investment in secondary wood manufacturing facilities in Russia.

12.2 Imports of value-added wood products

12.2.1 Wooden furniture imports in major markets

Furniture markets continue to open up and globalization of trade flows is a continuing trend, although the 2008-2009 economic downturn has taken its toll on both production and trade. Global furniture production was estimated at $376 billion in 2009, while global trade stands at $92 billion after a severe 20% contraction in the same year (CSIL Milano, 2010). Global exports passed the $100 billion mark in 2008 and are not forecast to reach this value again before 2012; the forecast for 2010 is for a modest 2% growth (CSIL Milano, 2010).

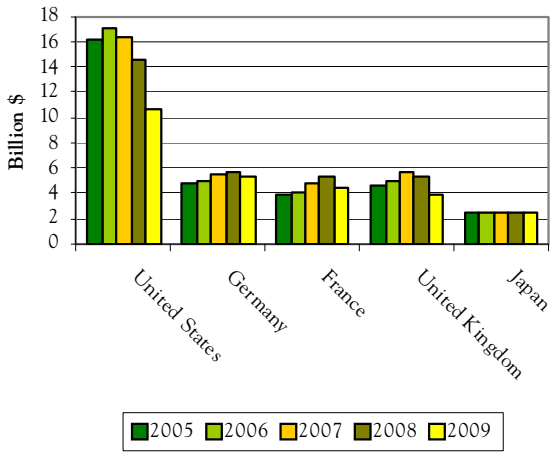
In the years prior to the 2008-2009 recession, furniture trade grew much faster than demand, and the market share of Asian producers became increasingly pronounced in several markets. Asia (China and Viet Nam in particular) has for years been the leading foreign supplier to the United States, while Europe has been supplied by local and regional European production. In 2009, Asia exceeded Europe to become the leading supplier to United Kingdom markets. Germany and France still predominantly rely on domestic and European supply, although a similar trend towards more overseas imports can be observed.

The US remains by far the largest importer of furniture globally, with a total import value of $10.7 billion. However, the market experienced a 26.4% drop in furniture imports from 2008 to 2009 and a 34.9% drop from 2007 to 2009. In 2009 UK furniture imports fell by 26.2%, the second consecutive year of decline, German imports fell by 8.5% and French imports dropped by 15.9%. Japan imported 5.2% less furniture than the year before, continuing a fourth consecutive year with almost flat development in the import markets. Together, the five largest furniture importers' trade declined 20%, or by $6.7 billion in value (graph 12.2.1 and table 12.2.1).

In the furniture markets, the focus is now on developments in the US, the leading market both in size and openness to imports, and US forecasts are being carefully scrutinized by all market actors. The latest statistics from February 2010 report a welcome increase of 13% in US furniture orders compared with February 2009 (Smith Leonard, 2010). November 2009 was the first month since the beginning of the economic and financial crisis that the orders did not fall year on year.

GRAPH 12.2.1

Furniture imports for the top five importing countries, 2005-2009



Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, International Trade Administration, United States International Trade Commission, 2010.

TABLE 12.2.1

Furniture imports for the top five importing countries, 2008-2009

(Market shares in percentage and values in US dollars)

	United States		*Germany*		*United Kingdom*		*France*		*Japan*	
Exporting regions	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*
Asia	71.0	71.7	15.4	16.9	45.5	49.6	16.8	16.5	84.4	87.7
North America	12.4	11.5	0.2	0.1	1.4	1.2	0.3	0.3	1.3	0.9
Europe	10.3	10.8	83.1	81.9	50.8	46.6	79.9	80.5	14.2	11.3
Latin America	6.1	5.6	0.6	0.7	1.8	2.0	2.1	2.0	0.0	0.0
Others	0.2	0.3	0.7	0.4	0.5	0.5	0.9	0.7	0.2	0.1
Total imports in billion $	14.5	10.7	5.8	5.3	5.3	3.9	5.2	4.4	2.5	2.4
Of which furniture parts, billion $	2.2	1.4	1.4	1.2	0.9	0.6	0.9	0.7	0.5	0.4

Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, United States International Trade Commission, 2010.

The latest market surveys show that more than half of US consumers desire new home furniture and thus there is significant pent-up demand (The 2010 Consumer, 2010). According to the survey, 19% of consumers can afford new home furnishings at present. While 30% are not sure when they will spend money on new furniture, already 22% think they will be able to do so later during the year. Another 16% cite 2011 as the year they will be able to afford new furniture.

12.2.2 *Furniture manufacturers are preparing for better times*

12.2.2.1 UNECE region

The US bedroom-furniture anti-dumping dispute began in mid-2004, when a group of domestic manufacturers accused the Chinese wooden bedroom-furniture exporters of charging prices below normal market values (see coverage of this issue in past *Reviews* beginning in 2005). In early 2010 it seems unlikely that the US Government will lift the import duties on Chinese bedroom furniture as it begins the 5-year review (so called "Sunset Review"). The domestic industry has continued to shrink and job losses have continued, accentuated by the economic crisis. The US Department of Commerce has supported continuing the duties for another 5 years (Furniture Today, 2010). Retailers and importers are questioning the effectiveness of the policy. According to them, the duties have not helped the domestic industry to become more competitive, and in turn, production is shifting from China to other low-cost countries and the duty is becoming ineffective. As reported in the *Review* in 2009, the Byrd Amendment allows companies that supported a successful petition to get the funds collected from an anti-dumping action. Since 2006, approximately $20 million to $30 million has been distributed annually to companies that supported the petition.

Implementation of the US Lacey Act Amendment affecting furniture trade was postponed until 1 April 2010 and enforcement will be phased in from April through September 2010. There are many doubts and questions about how this will work, and the first shipments are now being documented and revised under the new rules.

The furniture sector is dynamic in Europe. Western Europe accounts for approximately one third of world furniture production whereas eastern Europe's share is only 6%. The six largest furniture manufacturing countries in Europe are Italy, Germany, France, UK, Spain and Poland. (World Furniture Online 2010.)

The Europe subregion wooden furniture trade takes place largely inside the region. Europe accounts for approximately half of the world's furniture imports and the leading European importers are Germany, UK and France with nearly equal shares of imports, which was about $5 billion each in 2008[80]. The largest European exporters are Germany $5.8 billion in 2008, Italy $5.2 billion in 2008 and Poland $4.6 billion in 2008, making them the three largest wooden furniture exporters in the UNECE region.

Despite the economic downturn, Italian wooden furniture exports increased by $1 billion between 2008 and 2009: Italian imports too increased in the same period. In other European countries trading in wooden furniture, imports and exports decreased in 2009 as a result of the recession. This was after a steady period of growth in the 2000s with the exception of UK, whose exports reacted to the downturn in the world economy in 2008.

Central and eastern EU countries have profited from the process of joining the EU through removal of trade barriers and strengthening investor confidence. Foreign investments in the Polish furniture industry have supported the steady growth and strengthened Poland's position as one of the largest furniture producing countries (World Furniture Online, 2010.)

Many companies manufacturing and exporting come from Europe, mainly Italy, Germany, France and Denmark (by value) (World Furniture Online 2010). The European furniture industry has a long tradition of using local wood raw material. Among the 15 largest furniture producing countries in Europe, Denmark, Finland and Sweden are recognised for their wooden furniture design. One company, Ikea, has many suppliers from eastern Europe and the Russian Federation producing furniture and furniture parts for the entire UNECE region. The result is valuable economic development for the wood-manufacturing sector in those areas.

12.2.2.2 UNECE trading partners

Since export markets collapsed, the number of furniture factories in China has fallen, as many manufacturers have not survived the extended downturn. Large numbers of workers have shifted to other sectors of the economy. Now in mid-2010, when export markets are reviving, the supply may become tight (Furniture Today, 2010). The whole supply chain in the furniture industry has been in low gear since 2008, and it seems the demand is picking up faster than forecast. Raw material costs, ocean freight costs and labour costs are rising rapidly and the whole supply chain is being stretched. It will take time to adjust the supply chain to the new market conditions, for example the current lack of ocean freight capacity, which is already restricting trade.

[80] http://www.unece.org/timber/mis/fp-stats.htm

China was able to maintain economic growth through the economic crisis, thanks partly to government stimulus measures. Chinese consumers are buying increasing amounts of furniture also (see also chapters 1 and 2). This helped some furniture manufacturers to survive the deepest decline in exports. However, producing for domestic markets requires changing the furniture production lines in terms of styles and sizes to meet local tastes, creating a brand recognized by the Chinese furniture consumers and expanding the current retail network to serve all the potential customers (World Furniture, 2010; CSIL Milano, 2010). Now, as furniture exports are growing rapidly again, domestic demand and the domestic-oriented production lines are increasing the pressure on export-oriented production and its supply chain. The market recovery may therefore be partly restricted by the unavailability of products. The Government of China is further encouraging furniture exports by an increased value-added tax refund; in effect since June 2009 Chinese furniture producers have received a 15% rebate on exported goods, just two percentage points short of the full 17% value-added tax (CSIL Milano, 2010).

Some companies have used the downturn to prepare for better times in the markets, and it seems their investments in capacity expansion are finally paying off. The largest furniture manufacturers are re-positioning themselves and reshaping their cost structures. In China, labour costs and benefits (especially relative to productivity) are becoming high in the main furniture-producing regions, and there were previously even labour shortages. Viet Nam has been the usual destination for furniture production shifting from China but other new emerging economies are also attracting furniture manufacturers. In Bangladesh, for example, where the textile industry has already operated for years, the labour costs are only 40% of those of China. Bangladesh, although it lacks the necessary infrastructure and supplier network for furniture production, just as China did 15 years ago, is seeing the first international furniture companies arrive (Furniture Today, 2010). Naturally, since the same products cannot be produced with an unskilled labour force, companies are expanding lower-end furniture manufacturing in the new producer countries. This follows the model of production in China, which started with simple designs until the factories' management and labour force were in a position to begin producing more complex pieces of furniture. India, too, as a lower-cost manufacturer, is attracting international furniture manufacturers.

12.2.3 *Builders' joinery, carpentry and profiled wood markets*

The rapid erosion of the builders' joinery and carpentry (BJC) import markets within the UNECE region continued, and the import value of the five largest importers fell by 20%, or $1 billion, in 2009. The US import market fell by 30% in 2009, after a 25% rebound during 2008. In Europe, the decline in imports started later than in the US; however, the markets are considerably different in structure. In Europe BJC supply is much more domestic and regional, whereas imports in the US are more globalized, coming notably from Asia and Latin America. New housing construction activity will in turn quickly reverse the trend of declining imports. The overriding trend is that production is increasingly geographically separated from consumption (graph 12.2.2 and table 12.2.2).

TABLE 12.2.2

Builders' joinery and carpentry imports for the top five importing countries, 2008-2009

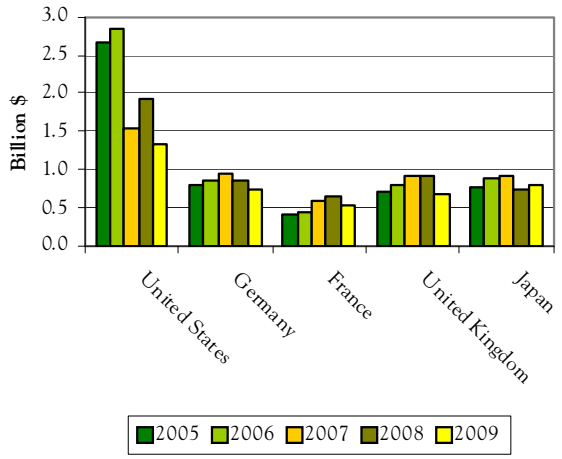
(Market shares in percentage and values in US dollars)

	United States		*Germany*		*United Kingdom*		*France*		*Japan*	
Exporting regions	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*
Asia	25.9	29.6	11.4	12.0	28.2	30.4	13.6	14.5	60.3	61.7
North America	55.0	50.6	0.3	0.3	4.6	2.9	1.2	0.5	4.6	3.7
Europe	4.8	4.7	86.9	86.6	60.9	60.6	79.3	80.4	29.4	29.8
Latin America	14.2	15.0	0.2	0.2	4.0	3.6	5.6	4.1	0.0	0.0
Others	0.2	0.1	1.2	1.0	2.2	2.5	0.4	0.6	5.6	4.8
Total imports in billion $	1.9	1.3	0.9	0.7	0.9	0.7	0.6	0.5	0.7	0.8

Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, United States International Trade Commission, 2010.

GRAPH 12.2.2

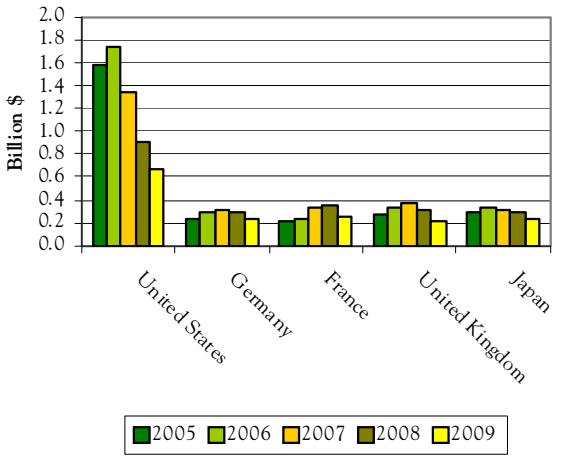
Builders' joinery and carpentry imports for the top five importing countries, 2005-2009



Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, International Trade Administration, Under-Secretary for International Trade of the US Government, 2010.

GRAPH 12.2.3

Profiled wood imports for the top five importing countries, 2005-2009



Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, United States International Trade Commission, 2010.

Steep declines in the profiled wood markets continued in 2009, with an overall decline of 20%. French and UK imports declined by 30%, US imports by 25% and German imports by nearly 20%. US imports have now declined from the record year of 2006 by 61% or by over $1 billion in value (graph 12.2.3 and table 12.2.3). The decline is larger than the other top five importers' trade value in total. In the producer countries, thousands of jobs have been lost and hundreds of producing facilities have been closed. The 2009 *Review* featured the situation of Brazil and Chile, the major foreign suppliers to the US, and the situation certainly did not improve during 2009. Domestic US demand has been able to offset some of the absent market demand, but for large export-oriented producers there has not yet been any significant improvement. However, the early months of 2010 saw signs of recovery in the markets.

Source: Metsäliitto, 2010.

TABLE 12.2.3

Profiled wood imports for the top five importing countries, 2008-2009

(Market shares in percentage and values in US dollars)

	United States		*Germany*		*United Kingdom*		*France*		*Japan*	
Exporting regions	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*	*2008*	*2009*
Asia	22.9	20.7	21.3	25.9	54.1	54.9	13.9	13.2	76.2	78.0
North America	17.3	13.8	1.5	1.8	3.7	4.2	0.4	0.7	7.4	8.1
Europe	3.6	3.0	69.3	67.2	40.0	38.9	55.4	60.9	10.3	9.2
Latin America	55.7	58.8	3.5	3.1	1.9	1.4	29.2	23.8	4.8	3.3
Others	0.5	3.7	4.3	2.1	0.3	0.6	1.1	1.4	1.2	1.3
Total imports in billion $	0.9	0.7	0.3	0.2	0.3	0.2	0.4	0.2	0.3	0.2

Sources: Eurostat, Trade Statistics of Japan by the Ministry of Trade and Customs, United States International Trade Commission, 2010.

12.3 Engineered wood products market developments in North America

12.3.1 Introduction

Engineered wood products (EWPs) for this chapter include glulam timber or beams, I-beams (also called I-joists) and laminated veneer lumber (LVL), all of which are heavily dependent on new residential construction. Another major market is non-residential building construction, including schools, restaurants, stores and warehouses. A third market is repair and remodelling of homes. The chapter covers North America only because comparable information for the other subregions is not available.

New residential construction in the US is finally expected to improve. Down from peaks of over 2 million, there were only 554,000 starts in 2009; but the forecast for 2010 is 615,000.

In contrast, construction of non-residential buildings increased for five years in a row and in 2008 totalled over $500 billion. However, 2009 witnessed a decline of nearly 5%, and a further drop of 9% is forecast for 2010. While non-residential construction is dominated by concrete and steel, an estimated 25% is wood-framed, and there remains considerable room for growth, especially with the emergence of new products and systems.

Repair and remodelling of homes in the US has also declined as the recession has progressed. One of the large uses of engineered wood is the construction of room additions. Additions can easily cost $50,000 and require bank financing or use of an owner's home equity line of credit. With home values declining, banks are reluctant to loan to homeowners and banks are also closing off access to home equity. Use of wood for repair and remodelling is expected to return to historical levels in the coming years.

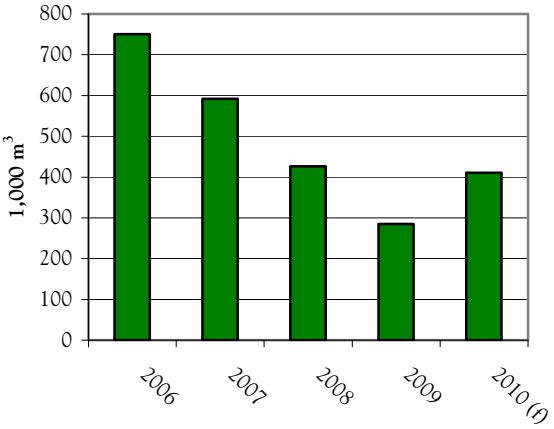
In recent years, the market for EWPs in North America has weakened considerably due to the dramatic decline in building construction. The information presented in this section on the use of EWPs is available from reports on new residential construction and repair and remodelling in North America recently published by the Wood Products Council. These reports are noted in the references (section 12.4).

12.3.2 Glulam timber

From 2006 to 2009, overall production of North American glulam timber steadily declined from 750,000 cubic metres to 285,000 cubic metres. However in 2010, production is forecast to rebound to 410,000 cubic metres (APA, 2010). While demand from non-residential construction has held up well, demand from residential construction has declined (graph 12.3.1, table 12.3.1 and graph 12.3.2).

GRAPH 12.3.1

Glulam production in North America, 2006-2010



Notes: f = forecast. Conversion factor: 650 board feet per cubic metre.

Source: APA – The Engineered Wood Association, 2010.

TABLE 12.3.1

Glulam consumption, production and trade in North America, 2008-2010

(1,000 m³)

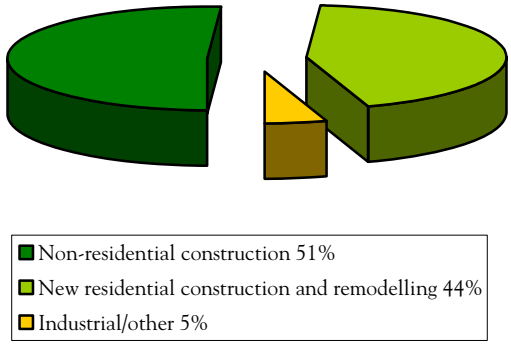
	2008	*2009*	*2010(f)*	*% change 2008-2010*
US consumption				
Residential	192.3	135.4	161.5	-16%
Non-residential	233.8	210.8	187.7	-20%
Industrial, other	20.2	18.5	20.0	0%
Total	446.2	364.6	369.2	-17%
Exports	1.5	1.5	1.5	0%
Imports	-6.2	-4.6	-6.2	0%
Inventory change	-47.7	-104.6	7.7	-116%
Production	**393.8**	**256.9**	**372.3**	5%
Canada				
Consumption	24.6	18.5	23.1	-6%
Exports	7.7	9.2	15.4	100%
Production	**32.3**	**27.7**	**38.5**	19%
Total production	426.2	284.6	410.8	-4%

Notes: f = forecast. Conversion factor: 650 board feet per cubic metre. Canadian imports assumed to be minimal.

Source: APA – The Engineered Wood Association, 2010.

GRAPH 12.3.2

Glulam end-uses in North America, 2009



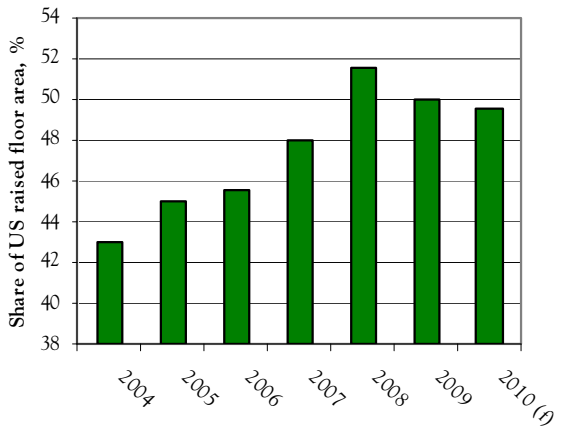
Source: APA – The Engineered Wood Association, 2010.

12.3.3 I-beams

I-beams are over 80% dependent on single-family home construction. Builder surveys indicate that the I-beam share of raised wood floor area (not including concrete floor area) reached its highest level in 2008 at nearly 52%, after many years of growth (graph 12.3.3). For example, I-beam market share was only 16% in 1992 and by 1998 it had grown to 31%. During this period, builders interested in new technology were rapidly switching from sawnwood to I-beams.

GRAPH 12.3.3

I-beam market share in the US, 2004-2010



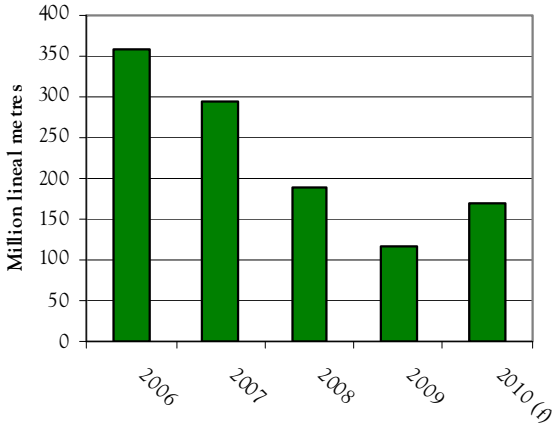
Notes: Wooden I-beam market share of total raised floor area, single family homes. f = forecast.

Sources: NAHB builder surveys, APA – The Engineered Wood Association, 2010.

I-beam peak demand was in 2005 and I-beam plants operated at maximum capacity at that time (graph 12.3.4 and table 12.3.2). However, when the housing bubble burst, I-beam demand and production declined. In 2009, just over 100 million linear metres were produced, with modest increases forecast for 2010.

GRAPH 12.3.4

I-beam production in North America, 2006-2010



Notes: f = forecast. Conversion factor: 3.28 linear feet per metre.
Source: APA – The Engineered Wood Association, 2010.

Most I-beams, 79%, are used for floors in new residential construction (graph 12.3.5), with 5% used to construct thick, straight walls and roof rafters. Another 5% are used in non-residential building construction and 11% are used in repair and remodelling.

TABLE 12.3.2

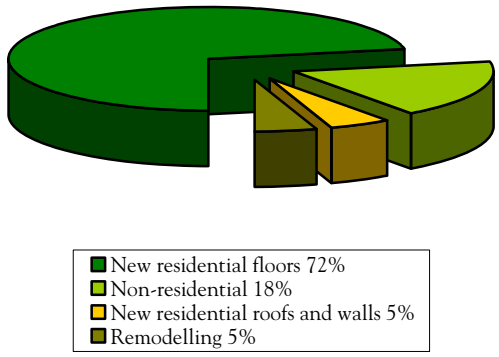
Wooden I-beam consumption and production in North America, 2008-2010
(million linear metres)

	2008	2009	2010(f)	% change 2008-2010
US consumption				
New residential	110.1	67.4	74.4	-32%
Repair & remodelling	25.6	17.4	18.0	-30%
Non-residential	20.4	16.8	13.7	-33%
Total	156.1	101.5	106.1	-32%
Canada consumption	50.9	36.3	44.8	-12%
All exports	197.9	130.8	142.1	-28%
Inventory change	-31.7	-33.5	6.1	
US production	129.3	78.4	114.3	-12%
Canada production	58.2	37.5	54.9	-6%
Total North American production	**187.5**	**115.9**	**169.2**	**-10%**

Notes: f = forecasts. Conversion: 3.28 linear feet per metre.
Source: APA – the Engineered Wood Association, 2010.

GRAPH 12.3.5

I-beam end-uses in North America, 2009



Source: APA – The Engineered Wood Association, 2010.

12.3.4 Laminated veneer lumber

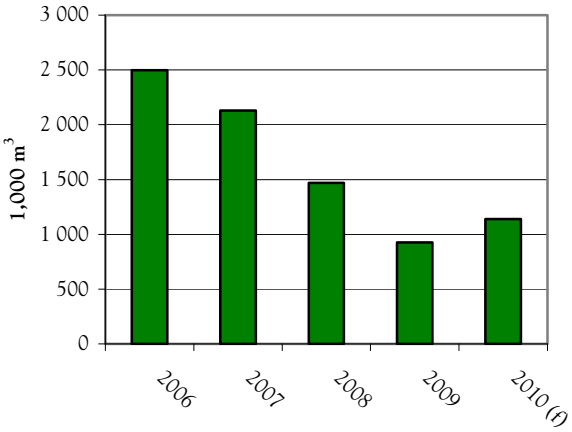
As with I-beams, approximately 80% of all laminated veneer lumber (LVL) is eventually used in new home construction, with 29% used in I-beam flanges. Heavy-duty beams together with headers over windows and doors use 64%. Another 5% is classified as industrial, a category that includes scaffold planks and furniture parts, and 2% is used for rim boards. Rim boards are used on the perimeter of an I-beam floor system to provide a fastening point for I-beams and to assist in the distribution of loads from walls. Production peaked along with the US housing market in 2005 at 2.6 million cubic metres (graph 12.3.7 and table 12.3.3). Since the dramatic fall in house construction, LVL production has declined along with I-beam production. In 2010, an estimated 1.1 million cubic metres will be produced in North America, down 23% from 2008.

LVL is well accepted for beams and headers, and growth should return with an improved housing market. Like other EWPs, LVL allows the use of longer spans and fewer pieces to carry the same loads as conventional sawnwood.

In addition to the EWPs discussed here, there are other structural composite lumber products manufactured in North America. These include Parallel Strand Lumber (PSL), Laminated Strand Lumber (LSL) and Oriented Strand Lumber (OSL). Each of these products is made from strands of wood of varying lengths and widths to achieve different strength and stiffness properties. PSL and LSL have been manufactured for several years, primarily by one company, and production volumes have been relatively low compared with other EWPs. In 2008, one new plant began producing OSL in a converted oriented strand board (OSB) plant. Uses for OSL are expected to be the same as solid sawnwood and include beams, headers, rim boards and structural framing sawnwood.

GRAPH 12.3.7

LVL production in North America, 2006-2010



Notes: f = forecast. Conversion: 35.3137 cubic feet per cubic metre.
Source: APA – The Engineered Wood Association, 2010.

Source: APA – The Engineered Wood Association, 2010.

Another new product that is being investigated by North American manufacturers is Cross Laminated Timber (CLT). This is a massive engineered wood panel that replaces steel reinforced concrete, and is therefore capable of all-wood construction of ten storeys or more. Already in existence in parts of Europe, it will be interesting to track its uptake in the US and Canada.

TABLE 12.3.3

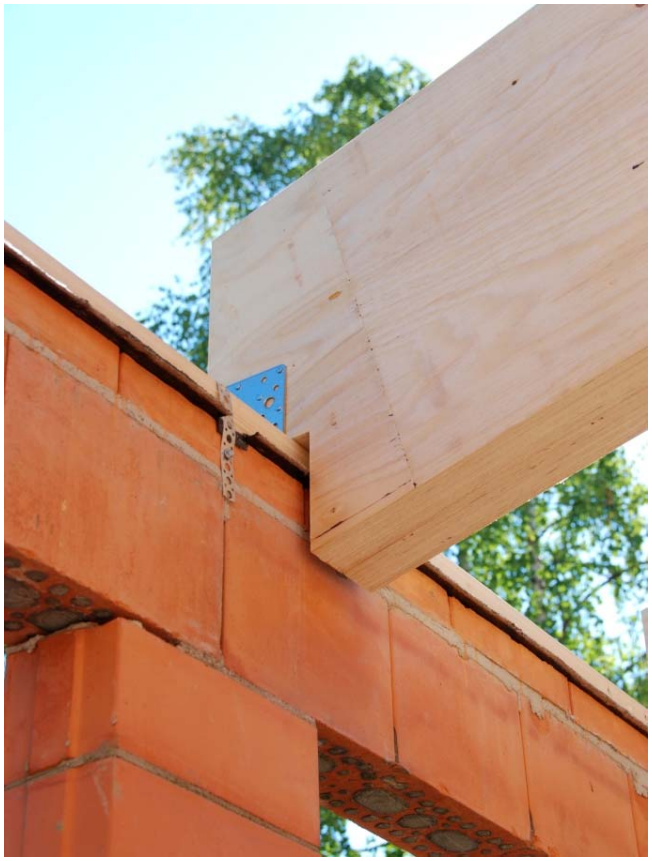
LVL consumption and production in North America, 2008-2010

(Thousands of cubic metres)

	2008	2009	2010(f)	% change 2008-2010
Demand				
I-beam flanges	455.9	257.7	362.5	-20
Beams, headers, others	1 013.8	668.3	775.9	-23
Total demand	1 469.7	926	1 138.4	-23
Production				
United States	1 330.9	835.4	1 025.1	-23
Canada	138.8	90.6	113.3	-18

Note: Conversion: 35.3137 cubic feet per cubic metre.

Source: APA – The Engineered Wood Association, 2010.



Source: Metsäliitto, 2010.

12.4 References

Acimall. 2010. Order trend analysis, fourth quarter 2009. Available at: www.acimall.com.

APA – The Engineered Wood Association. 2010. Structural Panel and Engineered Wood Yearbook. APA Economics Report E175. Available at: www.apawood.org.

CSIL Milano. 2010. World Furniture Outlook. Available at: www.csilmilano.com/docs

EUROSTAT. 2010 External Trade. Available at: http://epp.eurostat.ec.europa.eu

Furniture Today. March 2010 and April 2010. Available at: www.furnituretoday.com

Furniture Today. 2010. The 2010 Consumer. Available at: www.furnituretoday.com

National Association of Home Builders. 2010. Available at: www.nahb.org

Smith Leonard. April 2010. Furniture Insights. Available at: www.smithleonardcpas.com

Trade Statistics of Japan, Ministry of Finance and Customs. 2010. Japan Imports of Commodity by Country. Available at: www.customs.go.jp/toukei/info/tsddl_e.htm

United States International Trade Commission. 2010. Available at: www.usitc.gov

WoodWorks. 2010. Information for designing non-residential buildings. Available at: www.woodworks.org

Wood Products Council. 2010. Wood used in residential repair and remodelling, US and Canada. Available at: www.apawood.org

Wood Products Council. 2009. Wood used in residential repair and remodelling, US and Canada. Available at: www.apawood.org

World Furniture. 2010. International Markets Review. Available at: www.worldfurnitureonline.com

Chapter 13
Tropical timber market improves slowly from economic crisis: Tropical timber trends, 2008-2010[81]

Highlights

- In response to depressed global market demand, trade in tropical roundwood, sawnwood, veneer and plywood plunged in 2008 and remained low in 2009.
- China and India dominated tropical log imports in 2007 to 2009, although China's imports declined while India's growth slowed during the period; due to their strong domestic markets the tropical roundwood demand is expected to be sustained in both countries.
- China's tropical sawnwood imports increased in 2009, as higher domestic demand more than compensated for the depressed export demand.
- Japan's tropical wood product imports were affected by a 28% plunge in housing starts in 2009, which reduced construction activity and dampened demand for tropical wood products.
- In 2009, as economic conditions in most European Union countries continued to deteriorate and consumption declined further, tropical sawnwood imports plunged to 1.7 million m^3, the lowest level recorded by the International Tropical Timber Organization.
- In 2009, as the impact of the global recession resulted in major closure of wood-processing production capacity, log export regulations were relaxed in many African producer countries to maintain revenues and business under poor trading conditions.
- Although tropical producer countries, particularly in the African region, are under-represented in the global supply of environmentally certified wood products, the increase in area of certified forests in West Africa and the Congo Basin, to 5 million ha in 2009, implies increased production and exports of certified wood products from Africa.
- A log export ban introduced by Gabon in 2010 is expected to lead to a readjustment of sources of supply and prices in 2010, with major impacts on the tropical plywood industries in China and France, which use large volumes of okoumé veneer.
- Price volatility was evident for tropical primary wood products during 2008 and 2009, reflecting certain reluctance by buyers to make long-term forward purchasing contracts during a period of economic uncertainty and fluctuating exchange rates and ocean-freight costs.
- Although wood product prices trended downwards because of weak demand, tropical exporters restricted supplies, preventing prices from falling further.

[81] By Ms. Frances Maplesden, Consultant, New Zealand; and Mr. Jean-Christophe Claudon, International Tropical Timber Organization, Japan.

Secretariat introduction

This chapter presents insight into a marketplace outside the UNECE region. However, it is relevant to discuss the developments of the tropical timber markets, as government policies and consumption within the UNECE region have a major influence on producers and exporters outside UNECE region as well as importers, manufacturers and consumers within the region. Tropical timber markets are influenced by developments in the UNECE region in the following areas: policies and laws governing the trade of timber to ensure its legal harvesting and procurement (European Union's Forest Law Enforcement, Governance and Trade policy and United States Lacey Act Amendment); increased market pressure for corporate responsibility; trade channels between UNECE region countries and countries outside the region; and consumer-preference trends for primary and secondary-processed wood products.

The UNECE/FAO Forestry and Timber Section welcomes the continued cooperation with the International Tropical Timber Organization (ITTO). We are grateful for the opportunity to continue working with Ms. Frances Maplesden[82], the lead author, who recently left the ITTO to consult in timber marketing. As before, Mr. Jean-Christophe Claudon[83], Statistical Assistant, ITTO, prepared the statistics for the chapter.

This chapter is based on the ITTO's *Annual Review and Assessment of the World Timber Situation 2009*[84], which contains a complete analysis of trends in production, consumption and trade of primary and secondary tropical timber products in relation to global timber trends. More up-to-date information comes from ITTO's bi-weekly Market Information Service[85], where readers may find additional information on developments highlighted in this chapter. Data were collected via the UNECE/FAO/ITTO/Eurostat Joint Forest Sector Questionnaire. Some of ITTO's terminology in this chapter differs slightly from that in other section of the *Review*. For example, in the roundwood product group, ITTO analyses only logs (sawlogs and veneer logs). A breakdown in the roundwood definition appears in the annex "Components of wood products groups".

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[84] Available via: www.itto.int.

[85] Available at: www.itto.int/en/market_information_service.

13.1 Introduction

This chapter reviews the market for tropical timber, focusing on logs, sawnwood and plywood. The base year for the analysis is 2008 because data for tropical timber production and trade after 2008 are generally unavailable or unverified. Where possible, information for 2009 and the first quarter 2010 has been included.

The economic downturn was the most important influence on tropical timber market trends. In addition, increased interest in battling illegal timber and creating policies to support legal and sustainable timber were especially evident in some timber-producing countries.

In 2009, as economic conditions in most EU countries continued to deteriorate and consumption declined further, tropical sawnwood imports plunged to 1.7 million m^3, the lowest level that ITTO has recorded since it began documenting statistics on the tropical sawnwood trade.

Some price volatility for tropical primary wood products during 2008 to March 2010 reflected reluctance by buyers to make long-term purchasing contracts in a period of economic uncertainty and fluctuating exchange rates and ocean freight costs. In response to a downward trend in wood product prices resulting from weak demand, tropical exporters restricted supplies to prevent prices from falling further. In 2009, demand for African roundwood species remained relatively low in the EU, but prices remained firm (albeit at a relatively low level) or trended upward (in euros) as roundwood supplies and imported product inventories dwindled, and as suppliers exported instead to China and India, where demand was more stable.

Source: M. Mielke, 2010.

13.2 Production trends

Tropical timber trade suffered during the global economic and financial crisis of 2008-2009 (table 13.2.1).

TABLE 13.2.1

Production and trade of primary tropical timber products, ITTO total, 2007-2009
(million m³)

	2007	2008	2009	% Change 2007-2009
Logs				
Production	141.8	141.0	140.0	-1.3
Imports	15.1	12.9	11.0	-27.0
Exports	13.1	11.8	11.4	-12.8
Sawnwood				
Production	43.3	44.0	43.7	+0.01
Imports	8.9	8.1	7.2	-19.4
Exports	11.8	10.0	10.0	-15.4
Plywood				
Production	20.0	18.3	18.4	-7.7
Imports	8.0	6.7	6.7	-16.6
Exports	9.7	8.0	8.0	-17.5

Notes: Total of producer and consumer countries. ITTO categorizes its 60 member countries into 33 producers and 27 consumers (non-tropical), which together account for 95% of all tropical timber trade and over 80% of tropical forest area. A full list of members is available on www.itto.int.

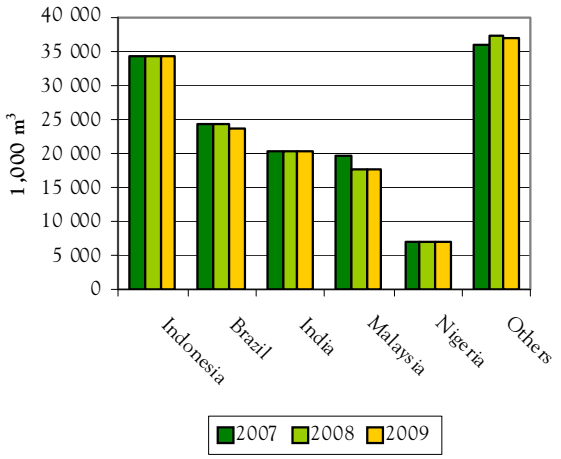
Source: ITTO *Annual Review and Assessment of the World Timber Situation*, 2010.

13.2.1 Logs

In response to depressed global market conditions, the production of tropical industrial roundwood ("logs") in ITTO member countries declined in 2008 and 2009, reaching 140.0 million m³ in 2009 (down from 141.8 million m³ in 2007). Four countries – Indonesia, Brazil, India and Malaysia – accounted for almost three quarters of total ITTO production in 2009 (graph 13.2.1). Indonesia's production, which had increased between 2006 and 2007 in response to GDP growth and domestic demand from the construction industry, levelled in 2008 and 2009 at 34.1 million m³. Although increasing unemployment in Indonesia is expected to bring pressure to convert natural forests to agriculture, and although Indonesia's log export ban was amended to allow plantation-grown logs to be exported due to low returns from domestic consumption, Indonesia's roundwood production will continue to be supply-constrained. The wood processing sector already has overcapacity and reports of fairly high rates of illegal roundwood consumption continue.

GRAPH 13.2.1

Major tropical log producers, 2007-2009



Source: ITTO, 2010.

Malaysia's tropical log production has declined rapidly in recent years, dropping to 17.8 million m³ in 2008, a drop of 10%. Production is now less than half of the level of the early 1990s and it is expected that production figures for 2009 will also be low, in line with depressed global economic conditions and government policy to implement sustainable forest management. Brazil's tropical roundwood production is mainly concentrated in the northern states of Pará, Amazonas and Mato Grosso, with the plantation estates located in the non-tropical south and south-east regions of the country. Production remained relatively stable at around 24 million m³ in 2007 and 2008, with strong domestic demand compensating for dwindling export demand. Log production estimates from Brazil and Indonesia are likely to be considerably higher taking into account unrecorded illegal harvests.

Source: P. Bolstad, 2010.

The Asia-Pacific region produced about 63% of ITTO members' tropical hardwood logs in 2008. Latin America's share of production was about 23%, and the African region accounted for the remainder of about 14%. During the period 2007 to 2009, there were regional differences in production growth trends: Africa's production increased, whereas that of Asia-Pacific and Latin America declined. Anecdotal reports for 2009 suggest that production may have declined considerably in West Africa in 2009, with demand from both domestic sawmills and traditional export markets diminishing rapidly. The increase in area of certified forestry concessions in West Africa and the Congo Basin (Cameroon, Gabon and Congo), from a zero base in 2006 to approximately 5 million ha in 2009, implies that an increase in production of certified wood products from the African region will be expected.

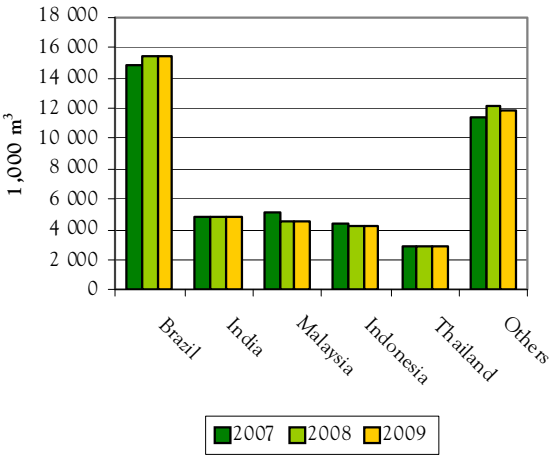
13.2.2 Sawnwood

The output of tropical sawnwood from ITTO producer countries was 41.6 million m^3 in 2008, a marginal increase on the 2007 level (graph 13.2.2). Tropical sawnwood production in these countries decreased to 41.1 million m^3 in 2009, with most of the decrease occurring in the Asia-Pacific region. In spite of many African producer countries having introduced log export restrictions and requirements for further processing, the region continues to provide only a small proportion of ITTO tropical sawnwood production (11% in 2008 and 2009). The sawmilling industries in the region were reported to have been severely impacted by declining prices (although prices picked up in 2009) and reduced demand in traditional export markets, and mill closures and cessation of construction of new mills were reported in Cameroon, Côte d'Ivoire and Gabon. The economic crisis in the developed economies also resulted in less foreign direct investment in the region, constraining the development of internationally competitive wood-processing facilities.

Production in Latin America, which accounted for 44% of ITTO production in 2008 , grew by 6% between 2007 and 2008 to 18.5 million m^3 and is expected to remain level in 2009. With the exception of Mexico, all the major producers in the region increased production in 2008, although Brazil accounted for the bulk of the increase, as economic growth and a strong construction sector fuelled domestic demand. Sawnwood production in the Asia-Pacific region declined 4% in 2008 to approximately 18.4 million m^3 and dropped again in 2009 to 18.0 million m^3. This, however, is speculative, given the lack of data on sawnwood production in India, Indonesia, Malaysia and Thailand for this period (). In 2008, the Asian region accounted for about 44% of tropical sawnwood production.

GRAPH 13.2.2

Major tropical sawnwood producers, 2007-2009



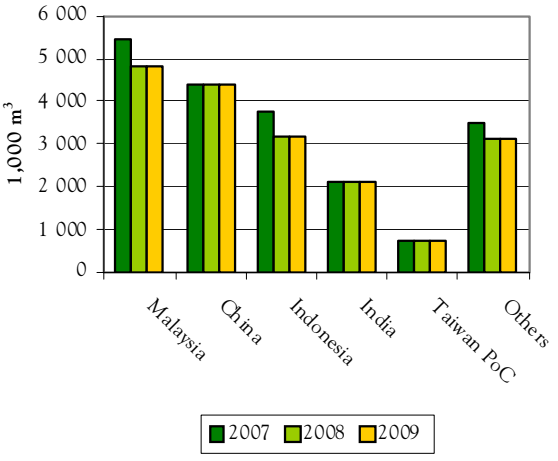
Source: ITTO, 2010.

13.2.3 Plywood

Production of tropical plywood in ITTO producer countries was 12.2 million m^3 in 2008, a decline of 9% from 2007. Production curtailment and plant closures escalated in 2008 in all major producer countries in response to reduced demand in major consuming countries. Malaysia, the largest tropical plywood producer, has a heavily export-oriented plywood industry. Between 2007 and 2008, its exports declined 12% to 4.8 million m^3, as demand diminished in traditional markets, particularly the US (graph 13.2.3).

GRAPH 13.2.3

Major tropical plywood producers, 2007-2009



Source: ITTO, 2010.

China's tropical plywood production, which had grown dramatically through 2007, began to slow in 2008, as a result of: (a) reduction in the value-added tax (VAT) rebate (from 11% to 5%) for plywood; (b) the appreciation of the yuan relative to other major currencies; and (c) declining US demand, which is their major export market. In 2009, production is likely to have declined further; significant plant closures have been reported in the major producing provinces in response to rising raw material and labour costs and general weakening of export prices. Over the last decade, China's coniferous plywood production has continued to grow, while non-coniferous plywood production has declined. Tropical plywood panels in China typically consist of a domestic poplar core veneer with tropical veneer outer layers. This has been changing with a shift to a domestically grown eucalypt core (to address quality concerns) and, more recently, to a lower-priced core, such as palm. Analysis of China's tropical plywood production is limited by the lack of data available from China or alternative sources.

Indonesian plywood production continued to decline; to 3.2 million m^3 in 2008, which is less than half the level of 2003. This reflects overexploitation of forests in previous years, a sharp decline in legally sanctioned logging quotas and improved forest law enforcement, which have combined to reduce veneer log availability for plywood production. In addition, demand constraints from Indonesia's major export markets and competition from Malaysian plywood have all contributed to a drop in production. The industry's problems have been compounded by high production costs and out-of-date technology.

India's tropical plywood production, relies largely on imported tropical logs. Like China, Indian production has expanded significantly over the last decade. Production may have increased in 2008, following large subsidies given to the growing housing sector. India's tropical plywood production typically uses species such as balau, merbau, keruing (from Malaysia) and teak from a variety of sources for face veneer, with domestic plantation species for core veneer.

Taiwan Province of China, was ITTO's fifth largest tropical plywood producer in 2008, with production of 717,000 m^3. Brazil's tropical plywood production has declined sharply in recent years, from 1.4 million m^3 in 2004 to only 599,000 m^3 in 2008. The Brazilian currency (real) strengthened relative to the US dollar, making exports to the US more expensive.

13.3 Import trends

13.3.1 Logs

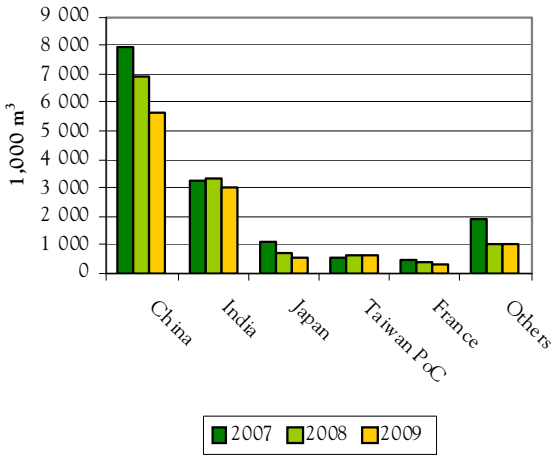
China and India dominate tropical log imports, together accounting for nearly 80% of total ITTO tropical roundwood imports in 2009 (graph 13.3.1). China's imports[86], which had peaked at 8.0 million m^3 in 2007, declined 13% in 2008, although China remained the dominant country market, importing 54% of the share of ITTO tropical log imports. The sustained growth in tropical log imports (until 2007) reflected China's high economic growth rate and rising domestic consumption, sustained growth in exports of secondary processed wood products and incentives for exports. However, as the global financial crisis took effect in 2008, China's wood-processing industry was affected by reduced demand for exports of products made from tropical wood (mainly wooden furniture and plywood). The reduction in tax rebates for some exported wood products also had a negative effect (although the rebates were partially reinstated in 2009). To a lesser extent, demand was depressed by a downturn in domestic construction, although a recovery in the housing sector has been reported in 2010. Significant restructuring of the wood-based processing industry, especially plywood, occurred in 2008 and 2009, particularly among small- and medium-sized enterprises. China's wood-processing industry has been losing competitiveness relative to other Asian producers because of increasing labour and raw material costs. As a consequence, China's tropical log imports decreased to 6.9 million m^3 in 2008 and 5.6 million m^3 in 2009, the lowest levels since 2003. In 2010, domestic demand is expected to recover, although export demand for China's processed wood products remains uncertain, particularly in major traditional export markets, such as the EU.

Source: M. Mielke, 2010.

[86] Official Chinese statistics do not include Taiwan P.O.C. nor Hong Kong and Macao S.A.R.s

GRAPH 13.3.1

Major tropical log importers, 2007-2009



Source: ITTO, 2010.

Papua New Guinea, Gabon, Malaysia, Myanmar, and Congo are China's main tropical log sources, with the proportion of tropical log imports from Papua New Guinea and the Solomon Islands increasing considerably in recent years.

China imports large volumes of non-tropical logs. The uncertainty and delay associated with full implementation of the Russian roundwood export tax has motivated Chinese importers to seek alternative log sources, including tropical hardwoods. India's tropical log imports increased marginally in 2008 to 3.3 million m^3, of which nearly 70% originated from Malaysia and Myanmar, but with an increasing component from Africa. While a number of factors limit India's wood-processing competitiveness, including poor infrastructure and barriers to foreign investment; tropical roundwood demand has been stimulated by high economic growth and incentives to the building industry.

Japan's tropical log imports, which are used predominantly in Japan's plywood industry, were affected in 2008 and 2009 by strong price competition from imported plywood (tropical and softwood), and by a 28% plunge in housing starts in 2009. Tropical log imports dropped to 0.5 million m^3 in 2009, a dramatic decline on previous years. Plywood mills curtailed production by 20-30% in 2009 because of the depressed market.

Imports of tropical logs by EU countries declined dramatically from 1.23 million m^3 in 2007 to 0.84 million m^3 in 2008, remaining at a relatively low level in 2009. The downturn of over 36% reflected the deteriorating market conditions in EU countries and falling demand from EU wood processors, as well as investment in processing capacity in African countries. With the exception of Portugal, tropical log imports by the major EU country importers – France, Italy, Spain and Germany – fell dramatically in 2008 with little recovery in 2009. Imports by France, the largest EU tropical log importer (fifth largest in the world), decreased by 16% to 370,000 m^3 in 2008 because demand fell and log export restrictions were tightened for some of its main suppliers (Cameroon, Gabon, Liberia and Congo). French imports were expected to decrease further to 330,000 m^3 in 2009, as a result of uncertainty about the extent and timing of market recovery. Despite falling demand and prices, in the latter part of 2008, West African suppliers (who trade in euros and pounds sterling) were reported to have some advantage in EU markets compared with Asian suppliers (who trade in the then appreciating to the euro, US dollar). However, this advantage diminished in 2009 as the trend reversed. In 2009, EU traders bought only small quantities of roundwood, and quality requirements were reported to be high.

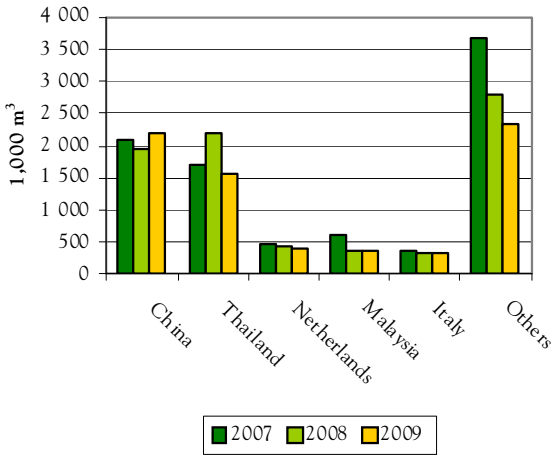
13.3.2 Sawnwood

Imports of tropical sawnwood by ITTO consumer countries declined to 8.1 million m^3 in 2008 and were estimated to have declined further to 7.2 million m^3 in 2009. Thailand was the largest ITTO tropical sawnwood importer in 2008, with three quarters of the imports coming from Malaysia (graph 13.3.2). There are significant discrepancies between Thailand and Malaysia's reported tropical sawnwood trade (amounting to over 1 million m^3) and between Thailand and its other supplying countries, suggesting that Thailand's sawnwood trade statistics may be unreliable. With imports of nearly 2.0 million m^3 in 2008, China was the second largest ITTO tropical sawnwood importer, a drop of 7.1% from 2008, as demand for sawnwood in the export-oriented furniture industry began to slow. In contrast to Thailand, China has a greater range of tropical sawnwood suppliers. The main suppliers in 2008 were: Thailand (41%), Indonesia (12%), Malaysia (13%), Brazil (8%), the Philippines (9%) and Myanmar (5%). In 2009, China's tropical sawnwood imports increased to 2.2 million m^3, as domestic demand more than compensated for the depressed demand in China's export-oriented wood remanufacturing industries.

Source: M. Mielke, 2010.

GRAPH 13.3.2

Major tropical sawnwood importers, 2007-2009



Source: ITTO, 2010.

The tropical sawnwood trade continues to be dominated by activity within the Asia-Pacific region, which accounts for about 65% of the global trade. Malaysia's imports plummeted to 374,000 m^3 in 2008, 39% less than the previous year and over 60% less than the 2005 level. Malaysia's suppliers were mostly from the Asian region, with 87% of 2008 imports coming from Thailand, Indonesia and the Philippines.

Tropical sawnwood imports by EU countries dropped to 2.1 million m^3 in 2008, with the rate of decline increasing in late 2008. In 2009, as economic conditions in most EU countries continued to deteriorate and consumption continued to fall, tropical sawnwood imports plunged to 1.7 million m^3, the lowest level that ITTO has recorded since documenting tropical sawnwood trade statistics. All of the major importing countries in the EU region reported large reductions in imports in 2008 and 2009.

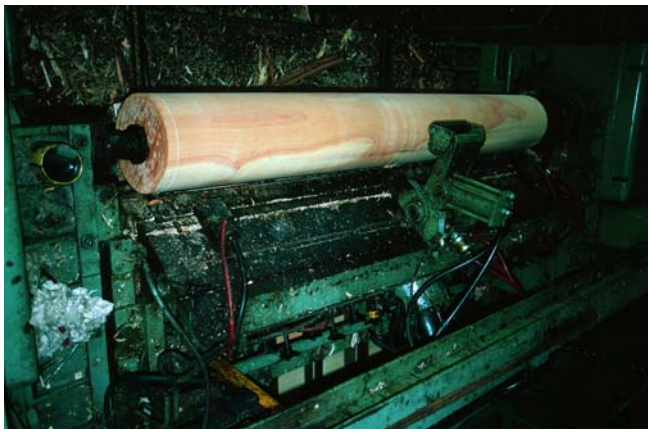
The Netherlands was the largest EU importer, and ITTO's third largest, in 2008. Its tropical sawnwood imports had declined to 428,000 m^3 and were forecast to decline further, to 385,000 m^3, in 2009. Brazil, Cameroon, and Malaysia are the main suppliers to the Netherlands.

Italy was the fifth largest ITTO importer and the second largest importer of tropical sawnwood in the EU. Its imports totalled 336,000 m^3 in 2008 and remained relatively stable in 2009. Italy's imports were mainly from countries within Africa – Cameroon, Côte d'Ivoire and Ghana. Setbacks in the construction sectors in Spain and Portugal resulted in major declines in tropical sawnwood imports in both countries in 2008 and 2009.

Although the downturn in demand for tropical sawnwood in the EU countries from 2007 can be largely attributed to the general effects of the global economic slowdown, a number of other factors have been impacting the market competitiveness of tropical sawnwood in recent years, including a lack of availability of certified timber (in the United Kingdom); loss of secondary processed wood products manufacturing capacity as a result of strong competition from Asian manufacturers (particularly China); substitution by non-tropical sawnwood in furniture and joinery manufacture; and growing interest in non-tropical hardwood imports from Eastern European countries, which are perceived to have better trading relationships than tropical supplying countries. Although demand for certified sawnwood products in the EU is growing, it is still at relatively low levels. The level of certification in the tropical hardwood sector is significantly lower than for softwoods. The UK, and to a lesser extent the Netherlands, have been progressing further than other EU markets in establishing markets for certified products.

13.3.3 Plywood

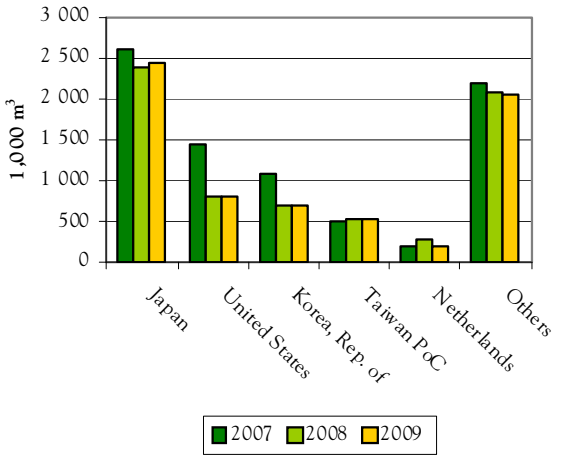
Japan and the US, the dominant importers of tropical plywood, together accounted for about half of total ITTO imports, although both countries' imports fell sharply in 2008 (graph 13.3.3). The bulk of all tropical plywood imports is sourced from Malaysia and Indonesia, with most of the remainder from Brazil and China. Japan's tropical plywood imports fell 25% in 2007, as a result of the rising prices of imported Indonesian and Malaysian plywood and a dip in housing starts, which was caused by poor implementation of the new Building Standard Law. In 2008, housing starts did not recover as economic conditions deteriorated, resulting in a further slump in demand, with tropical plywood imports dropping to 2.4 million m^3 in 2008 and remaining at a relatively low level in 2009. In late 2009, with low demand and depressed prices, Malaysian suppliers were reportedly switching to other markets, leading to severely reduced inventories in Japan. Japan's tropical plywood mills were reported to have curtailed production by 20% to 30% in 2009 because of a depressed domestic market.



Source: P. Bolstad, 2010.

GRAPH 13.3.3

Major tropical plywood importers, 2007-2009



Source: ITTO, 2010.

The downturn in the housing sector in the US led to a sharp decline in tropical plywood imports in 2008 to 800,000 m^3 (down 44% on 2007). In 2008, exports from China and Malaysia – the two major supplying countries – decreased dramatically, while those from Indonesia stayed level. All tropical plywood exports, including those of Chinese origin, will be under close scrutiny following the 2008 amendments to the US Lacey Act, which require US importers to ensure that their imports of tropical plywood (among other wood products) are from legal sources. In 2009, demand was expected to remain at depressed levels. Tropical plywood of Chinese origin will be further challenged by growing demand for products certified by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™, owing to the general difficulty of tracking supply chains for environmental certification.

EU imports of tropical plywood declined marginally in 2008, to about 1.3 million m^3, with a further decline to 1.2 million m^3 forecast in 2009. EU imports are mostly accounted for by the Netherlands, the UK, Germany, France and Belgium, with most originating in Brazil, China, Indonesia and Malaysia. Intra-European trade also plays a fairly large role in many countries' imports, although there are large data discrepancies among EU reporting countries. Tropical plywood imports, particularly from Asian sources, have also been losing market share to plywood of Russian origin, particularly birch plywood. This was a result of significant price reductions for this material during 2008 and 2009.

In 2009, the more competitively priced Malaysian tropical plywood gained ground in EU markets at the expense of supplies from Brazil and Indonesia. Production capacity fell significantly in both countries as a result of environmental concerns about Indonesian sources, and a larger proportion of Brazilian plywood was diverted to the growing domestic market.

Chinese tropical plywood continues to be exported to EU markets at competitive prices, but there continues to be concern about quality, particularly about core composition, formaldehyde levels and technical properties. Market players are concerned that the poor quality of China's okoumé-faced plywood could damage the reputation of okoumé plywood from other sources, including that produced in the EU. However, some improvement in the quality of Chinese plywood have been evident with the introduction of eucalypt core as an alternative to poplar. Okoumé plywood imported from China is also subject to anti-dumping duties, which have been applied since November 2004. The duties would normally have expired in 2009 but were extended during a 15-month EU review, which was requested by the European Federation of the Plywood Industry. Although statistics on imports of certified tropical plywood products are unavailable, as they are undifferentiated in the Harmonized System of customs classification codes, the economic downturn has resulted in a higher proportion of new building work in the UK being dependent on public-sector finance. This, combined with the increasing concentration of the trade among a limited number of larger importers and merchants, has added to the pressure on suppliers to demonstrate that products are certified by the Forest Stewardship Council or Programme for the Endorsement of Forest Certification. Demand for certified plywood products has tended to favour birch and softwood plywood from non-tropical sources. In addition to the quality issues mentioned above, EU importers also reported waning demand for Chinese-sourced tropical plywood because of the absence of certification.

13.4 Export trends

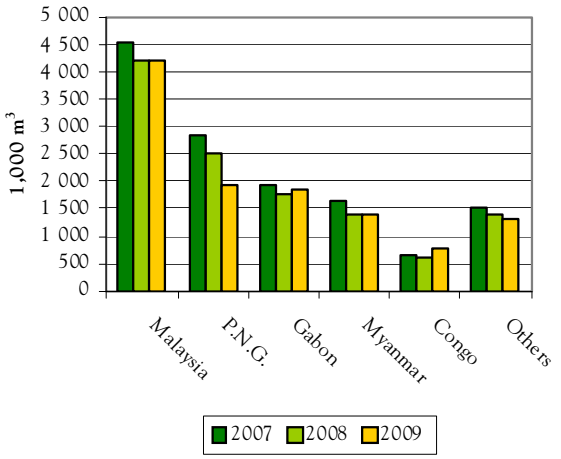
13.4.1 Logs

Although Malaysia continues to dominate the trade in tropical logs, with 4.2 million m^3 exported in 2008 (35% of ITTO producer member exports), this figure is 8% lower than 2007 levels and 26% below 2005 levels. Malaysia's principal export markets lie in Asia, with China, India, Japan and Taiwan Province of China, buying 90% of the reported log volume exported in 2008 (graph 13.4.1). Malaysia's tropical log supplies have continued to be constrained, and in recent years, more tropical logs have been processed domestically, although in 2009 the wood processing industry was severely impacted by the economic downturn in major export markets. In contrast to Malaysia, which has a number of export markets, Papua New Guinea's exports are dependent on China, which accounted for nearly 90% of

Papua New Guinea's exports of 2.5 million m^3 in 2008 and has increased over the last five years. India has replaced Japan as Papua New Guinea's second largest log export destination, although both countries each accounted for less than 100,000 m^3 of Papua New Guinea's log exports in 2008.

GRAPH 13.4.1

Major tropical log exporters, 2007-2009



Note: P.N.G = Papua New Guinea.
Source: ITTO, 2010.

Gabon's tropical log exports, which reached a peak of 1.9 million m^3 in 2007, declined to 1.8 million m^3 in 2008 and then increased slightly in 2009. Gabon's log exports in 2008 were predominantly to China (61%), which has overtaken EU markets in recent years. The impacts of the global recession on demand and prices in traditional export markets resulted in a significant closure of production capacity in Gabon's forestry sector. Despite restrictions, log exports were permitted to continue, to maintain revenues and business under poor trading conditions. However, in January 2010, Gabon announced more severe log export restrictions to prohibit the export of undressed roundwood. The ban was not implemented until May 2010 and roundwood buying activity by China was reported to be hectic in the interim period. The ban is expected to lead to a readjustment of sources of supply and prices in 2010, with major impacts on the tropical plywood industries in China and France, which use large volumes of okoumé veneers.

Log exports by Myanmar declined by 17% in 2008. China's imports of tropical logs from Myanmar declined 22% to 462,000 m^3 in 2008 as demand for finished teak products in China's secondary processed wood products markets declined. During the same period, exports to India increased by over 200%, making India the major destination of Myanmar log exports. In 2009, however, Indian importers were reporting shortages of Myanmar teak and were seeking alternative supplies of plantation teak logs (which are now regarded as being of sufficient quality) from Ghana, Benin, Sudan and Tanzania. Teak is a well known and preferred species in India, and high construction demand and gross domestic product growth have sustained the market.

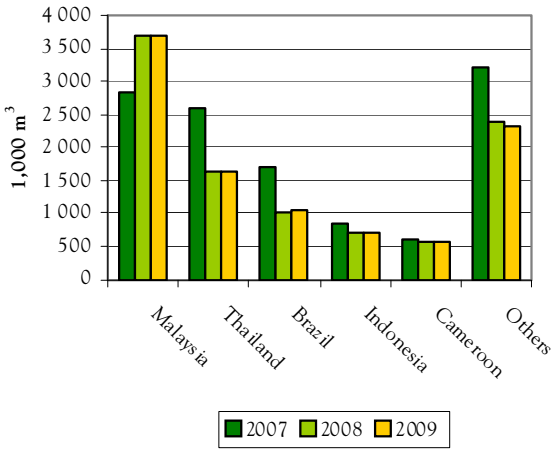
Africa supplies the majority of the remainder of world tropical hardwood log exports. Gabon was the region's largest exporter (although this position will change in 2010), but the Congo, Cameroon, Democratic Republic of Congo and Côte d'Ivoire also exported substantial quantities of logs in 2008. Congo's log exports declined in 2008 to about 612,000 m^3 but recovered strongly in 2009 to 770,000 m^3. Although a log export quota system was implemented in 2008, China – the major importer – reported a 19% year-on-year increase in log imports from Congo (up to 395,000 m^3). In 2010, with the log export ban imminent in Gabon, importers were seeking supplies of okoumé from Congo and other African suppliers. In 2009, Congo became the second country, after Ghana, to conclude a Voluntary Partnership Agreement with the EU's Forest Law Enforcement, Governance and Trade (FLEGT) policy. The first legal exports under the new system are expected in 2011. Congo's main log markets in the EU are France, Italy, Portugal and Spain. Cameroon's tropical log exports declined to 258,000 m^3 in 2008. Although log exports were expected to decline further in 2009, they recovered slightly to 265,000 m^3, with Cameroon relaxing log export controls as the wood-processing sector suffered major setbacks under depressed global market conditions. Ghana's log export ban prohibits log exports with the exception of plantation logs, which are predominantly teak.

13.4.2 Sawnwood

Malaysia, the largest tropical sawnwood exporter, exported 3.7 million m^3 in 2008 (37% of total ITTO producer member exports), an increase of 31% over 2007 (graph 13.4.2). Nearly all of this can be attributed to a large increase in exports to Thailand, although there was a discrepancy between the trade flow reported by Malaysia and that reported by Thailand. There was also a discrepancy between the respective trade flow reports of Malaysia and Japan between those two countries in 2008, indicating a continuing problem in Asian countries with unreported trade flows of tropical sawnwood.

GRAPH 13.4.2

Major tropical sawnwood exporters, 2007-2009



Source: ITTO, 2010.

Thailand's exports of tropical sawnwood declined to 1.6 million m^3 in 2008, a substantial drop from the 2.6 million m^3 exported in 2007. Thailand's principal customers were China, Malaysia and Taiwan Province of China. Brazil is the third largest ITTO tropical sawnwood exporter, with exports totalling 1.0 million m^3 in 2008, down 39% from 2007. Exports plunged as their currency (real) continued to appreciate against the US dollar until August 2008; demand in all of Brazil's major sawnwood markets declined while domestic demand grew. Brazil's major markets in 2008 were, China, France, the Netherlands and the US. Brazil's exports are estimated to remain level in 2009.

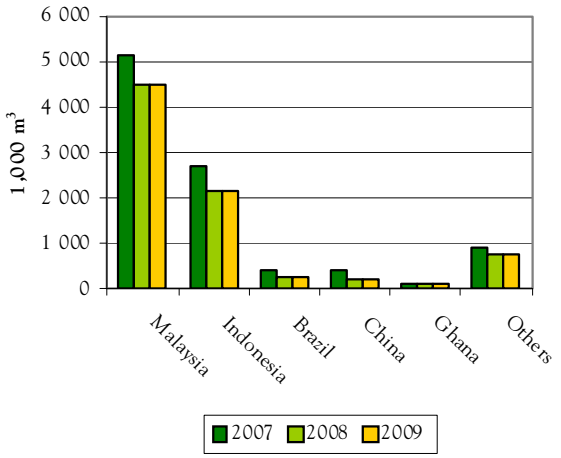
13.4.3 Plywood

Tropical plywood exports from ITTO producer countries fell by 17% in 2008 to 7.3 million m^3, the lowest level in ITTO's statistical records. Malaysia remained the largest tropical plywood exporter at 4.5 million m^3 in 2008, with nearly half of its exports going to Japan and the remainder to: Taiwan POC, the Republic of Korea, the UK and the US (graph 13.4.3). The EU, particularly the UK, is an important market for the large volumes of certified plywood that Malaysia is able to supply. Indonesia's exports have dropped sharply in recent years, declining in 2008 to 2.1 million m^3, about 20% lower than 2007 and considerably lower than the highs of around 10 million m^3 witnessed in the early 1990s.

Brazil's exports shrank 60% between 2005 and 2008 to 391,000 m^3. Despite increased volumes of plywood being diverted to the surging domestic market, the Brazilian industry has faced both diminishing supplies of tropical logs (because of clampdowns on illegal logging) and also competition in export markets from Asian producers (particularly China and Malaysia). The strengthening of the Brazilian currency relative to the US dollar (until mid-2008 and post-March 2009) affected the profitability of Brazil's exports to the US and EU markets. In 2009, exports remained at relatively low levels.

GRAPH 13.4.3

Major tropical plywood exporters, 2007-2009



Source: ITTO, 2010.

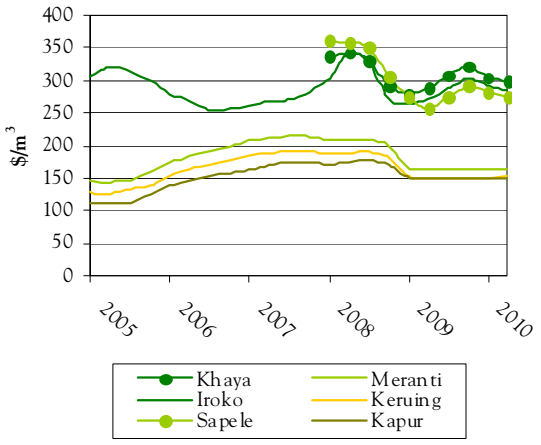
Africa's tropical plywood exports remain relatively insignificant on a global scale. Exports from ITTO producer countries surged in 2007 to 263,000 m^3 but shrank in 2008 to 214,000 m^3 as demand plunged in EU countries, which is the major market for African tropical plywood exports. Ghana is Africa's main tropical plywood exporter: it has increased its share of Africa's plywood exports from 50% of the region's total in 2007 to nearly 65% in 2008. This occurred from government incentives to encourage value-added wood processing. Tropical plywood exports from Gabon – the second largest exporter in the region – have remained relatively stable at around 50,000 m^3 per year. The impact of the recently implemented log export ban on Gabon's plywood industry is as yet unknown, although there are doubts about whether Gabon's veneer capacity (Gabon produces mainly standard dimension veneers for core material) is of a sufficient scale to support an increase in both Gabon's plywood production and veneer exports to the EU plywood industry. Analysts therefore expect a tightening in global supply of okoumé plywood. China's exports of tropical plywood fell sharply to 210,000 m^3 in 2008, a decline of 50% on the previous year and nearly 80% on the 2006 level. In 2009 and 2010, EU anti-dumping duties remain on Chinese okoumé faced plywood while an EU partial interim review takes place. The competitiveness of Chinese tropical plywood exports has also been affected by difficulties in supplying environmentally certified products, quality concerns and rising production costs.

13.5 Prices

Price trends for some of the more important internationally traded species of West African logs (iroko, sapele and khaya) plunged in mid to late 2008, as the effects of the global economic downturn on demand took hold, initially in the US, the UK and other EU markets (graph 13.5.1). However, in 2009, although demand remained relatively low in the EU, prices remained firm (albeit at a relatively low level) or trended upward (in euros) as roundwood supplies and importer's inventories dwindled, and as suppliers diverted their exports to China and India, where demand had remained relatively stable.

GRAPH 13.5.1

Tropical log price trends, 2005-2010



Notes: Prices in constant 1990 $ per cubic metre (deflated by the IMF Consumer Price Index for industrial countries). Data series for sapele and African mahogany are only available from January 2008.

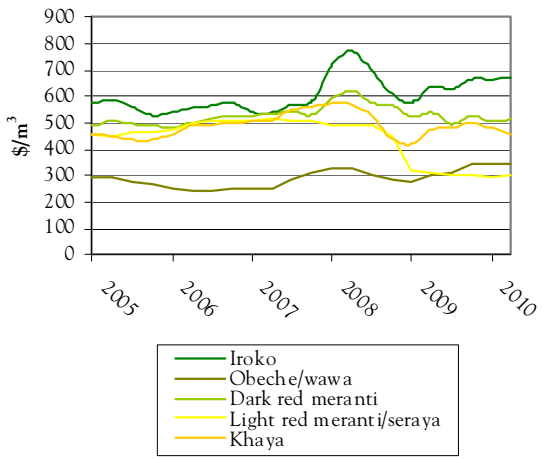
Source: ITTO Market Information Service, 2010.

Real log prices for southeast Asian species (meranti, keruing and kapur) declined rapidly in early 2009 as demand shrank in China, India, the Middle East and EU and ocean freight rates plummeted in response to movements in the price of crude oil. In the UK market, during the period of relatively high prices and limited supplies, buyers were forced to seek alternative species, reducing demand further. At the end of 2008, according to reports, low demand in India caused an excess supply of kapur (and keruing) on global markets, which contributed to further downward pressure on prices. During 2009, log prices remained stable at low levels as demand in all major markets remained depressed, resisting upward price pressure from rapidly increasing freight rates later in the year.

The demand for African mahogany (khaya or acajou), one of the continent's most valuable sawnwood export species, fell rapidly in mid-2008, with strong price competition among the African supplying countries of Côte d'Ivoire, Gabon, Ghana, and Cameroon. Prices picked up again in 2009, reflecting restricted supplies, and the relatively small volumes being traded, with increases in ocean freight rates impacting cost, insurance and freight (CIF) prices (graph 13.5.2). Wawa (or obeche) sawnwood prices increased to the levels of mid-2008, driven by strong demand for white timbers in the mouldings and sauna industries, and a reduction in supply from Ghana. Real prices dipped to a low in February 2009 as prices were adjusted downwards in response to decreasing demand and comparatively high stocks in EU markets. From early 2009, prices trended upwards, again reflecting supply adjustments to match the reductions in demand.

GRAPH 13.5.2

Tropical sawnwood price trends, 2005-2010



Note: Prices in constant 1990 $ per cubic metre (deflated by the IMF Consumer Price Index for industrial countries).

Source: ITTO Market Information Service, 2010.

Until late 2007, prices for iroko (also called odum), currently West Africa's most valuable sawnwood export species, remained relatively stable, reaching a high in mid-2008 before dropping in late 2008 and early 2009. In the UK and Ireland – both major markets for iroko in the EU – demand from importers was reported to be affected by very low demand in the building and carpentry sectors, as the economies of both countries slowed in late 2008. The price volatility for iroko (and other tropical sawnwood species) during 2008 and 2009 reflects some reluctance by buyers to make long-term purchase contracts during a period of economic uncertainty. Apart from a drop in September 2009, prices trended upwards through 2009, as producers slowed the supply to demand-constrained markets.

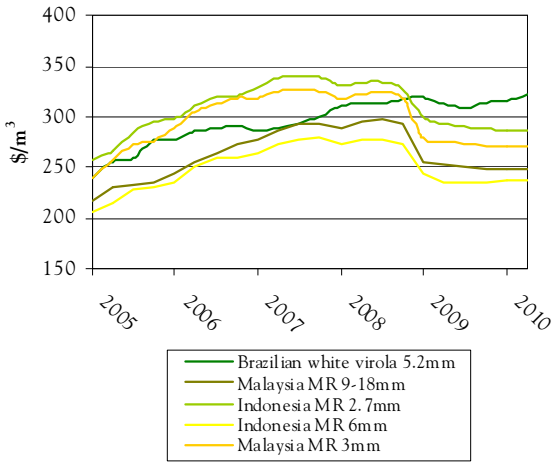
Prices in the UK for Malaysian dark red meranti sawnwood rose considerably in early 2008, reaching a

peak in mid-2008, with Asian suppliers to the EU benefiting more than African suppliers from the weakness of the US dollar during this period.

Prices for south-east Asian tropical plywood rose steadily to mid-2007, mainly due to supply-side constraints and robust demand in the US and the UK (graph 13.5.3). Further price rises were prevented by competition from Chinese combi-plywood. Prices reached a plateau in the latter part of 2007 before sliding rapidly in the last quarter of 2008, as global demand weakened (including in Middle Eastern markets) and competition intensified among supply sources. By the end of 2009, real prices had dropped to the lowest levels in three years. At the end of 2009 and early in 2010, Asian exporters were seeking to push up prices on the basis of reduced supplies, improved demand in the Middle East and Japan and mounting CIF rates. However, depressed demand has continued to keep prices at relatively low levels.

GRAPH 13.5.3

Tropical plywood price trends, 2005-2010



Notes: Prices in constant 1990 US dollars per cubic metre, FOB (deflated by the IMF Consumer Price Index for industrial countries). MR = moisture resistant.

***Source*:** ITTO Market Information Service, 2010.

In contrast to other plywood products, which have trended downwards because of reduced demand, free on board (FOB) prices of Brazilian white virola destined for the US continued to rise in 2008. This occurred because supplies were low and the Brazilian currency weakened relative to the US dollar. With supplies remaining limited and domestic demand firm, prices held in 2009 and early 2010. There is currently upward price pressure from a strengthening Brazilian currency relative to the US dollar.

13.6 References

International Tropical Timber Organization (ITTO). 2010. Annual Review and Assessment of the World Timber Situation 2007. ITTO, Yokohama. Available at: www.itto.int

ITTO. 2010. ITTO Market Information Service. Various reports. ITTO, Yokohama. Available at: www.itto.int/en/market_information_service

Japan Lumber Reports (JLR). 2010. Various reports. Available via: www.n-mokuzai.com/english.htm

United Nations Statistics Office. 2010. UN Comtrade database. New York. Available at: http://comtrade.un.org

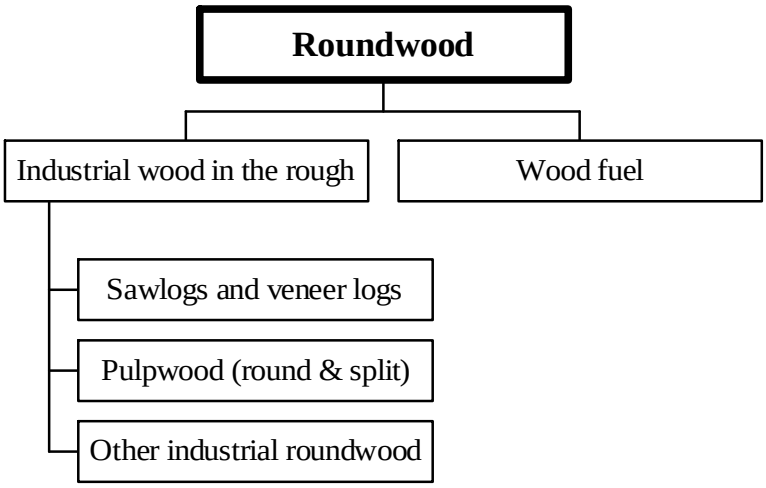
US Department of Agriculture (USDA). 2009. Foreign Agricultural Service Attaché reports (various). Available at: www.fas.usda.gov

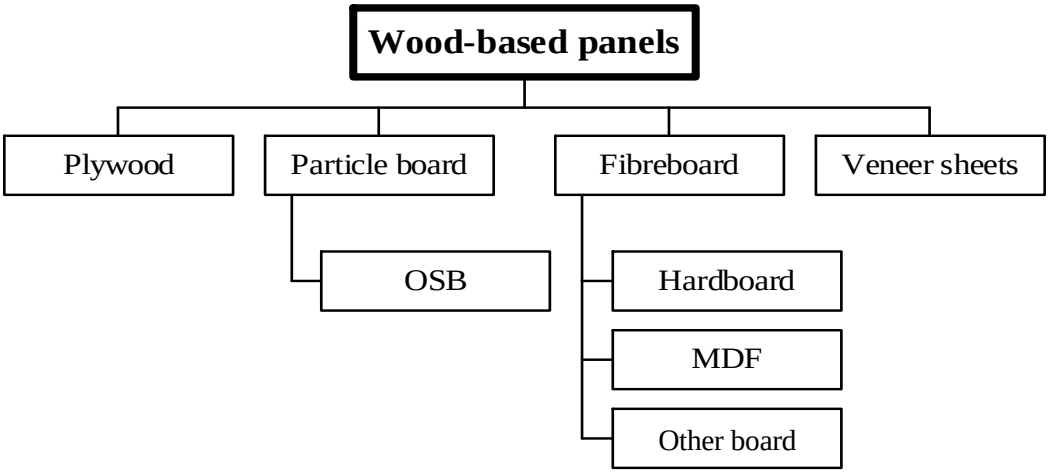
Annexes

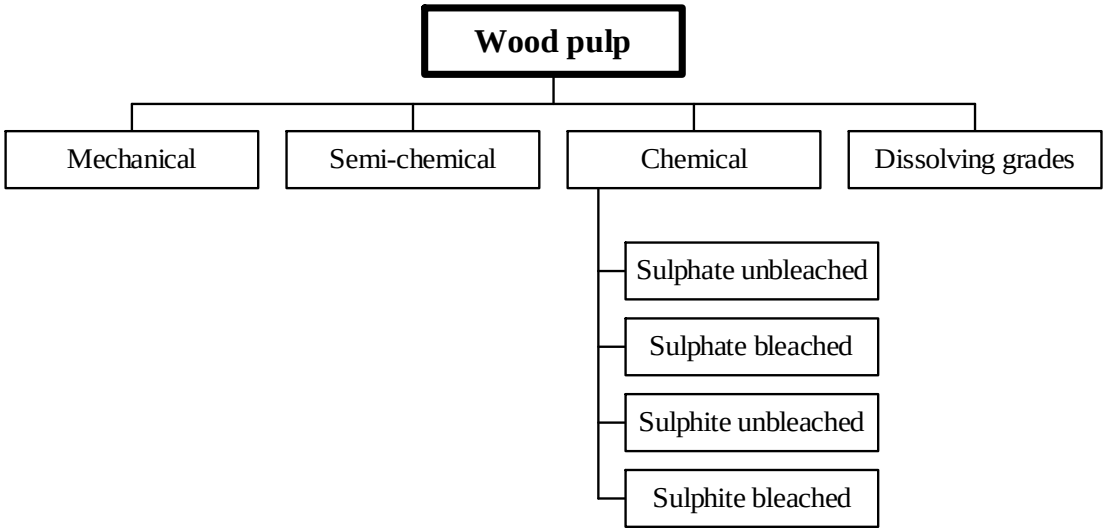
Components of wood products groups

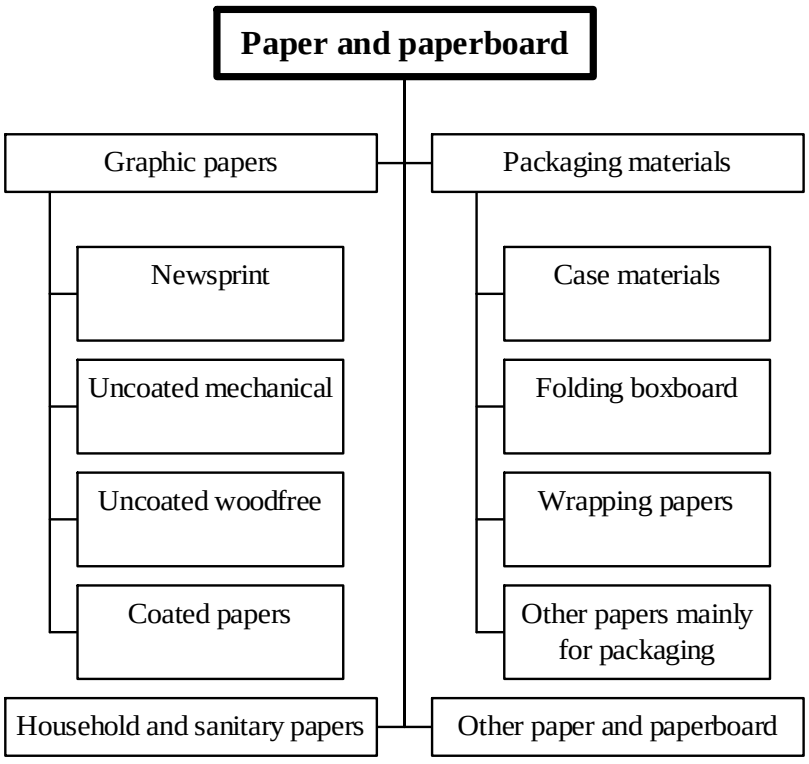
(Based on Joint Forest Sector Questionnaire nomenclature)

The important breakdowns of the major groups of primary forest products are diagrammed below. In addition, many sub-items are further divided into softwood or hardwood. These are all the roundwood products, sawnwood, veneer sheets and plywood. Items that do not fit into listed aggregates are not shown. These are wood charcoal, chips and particles, wood residues, sawnwood, other pulp and recovered paper.

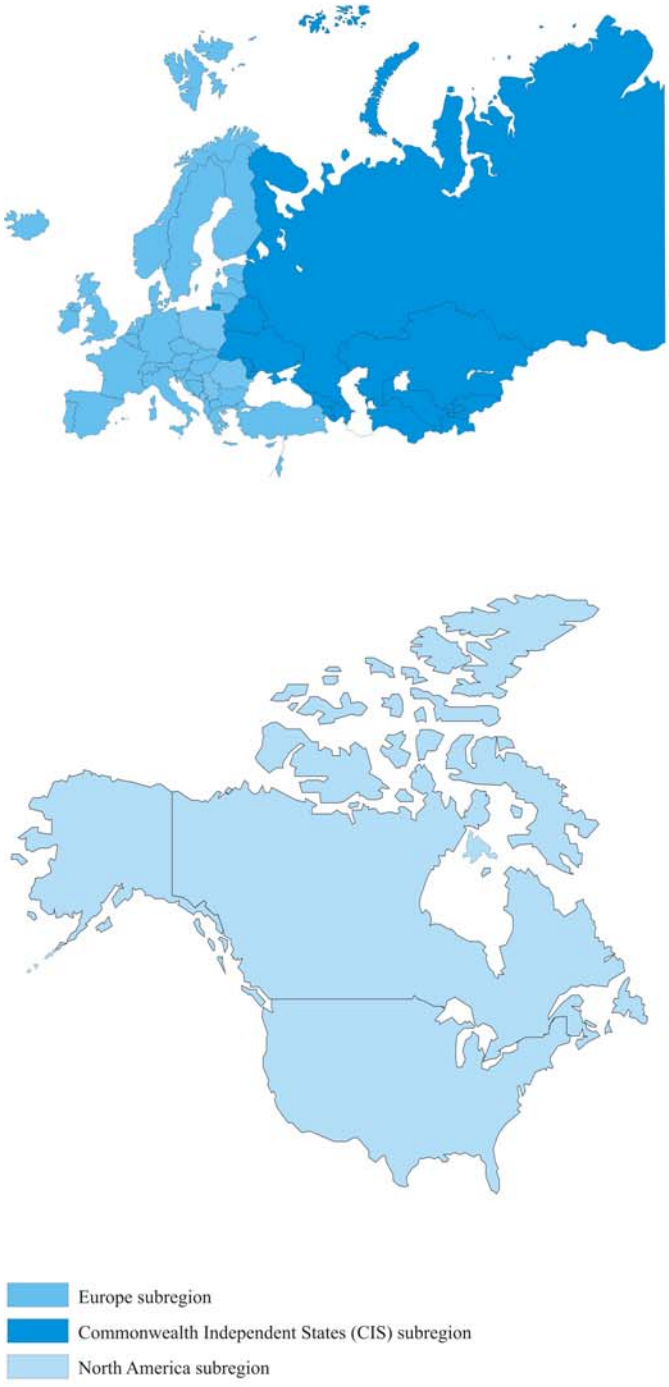





Wood pulp
Mechanical
Semi-chemical
Chemical
Dissolving grades
Sulphate unbleached
Sulphate bleached
Sulphite unbleached
Sulphite bleached


Paper and paperboard
Graphic papers
Packaging materials
Newsprint
Uncoated mechanical
Uncoated woodfree
Coated papers
Case materials
Folding boxboard
Wrapping papers
Other papers mainly for packaging
Household and sanitary papers
Other paper and paperboard

Countries in the UNECE region and its subregions



Europe subregion (EU*)

Albania
Andorra
Austria*
Belgium*
Bosnia and Herzegovina
Bulgaria*
Croatia
Cyprus*
Czech Republic*
Denmark*
Estonia*
Finland*
France*
Germany*
Greece*
Hungary*
Iceland
Ireland*
Israel
Italy*
Latvia*
Liechtenstein
Lithuania*
Luxembourg*
Malta*
Monaco
Montenegro
Netherlands*
Norway
Poland*
Portugal*
Romania*
San Marino
Serbia
Slovakia*
Slovenia*
Spain*
Sweden*
Switzerland
The FYR of Macedonia
Turkey
United Kingdom*

Commonwealth Independent States (CIS) subregion

Armenia
Azerbaijan
Belarus
Georgia
Kazakhstan
Kyrgyzstan
Republic of Moldova
Russian Federation
Tajikistan
Turkmenistan
Ukraine
Uzbekistan

North America subregion

Canada
United States of America

Sources of information used in the *Forest Products Annual Market Review*

- APA – The Engineered Wood Association, United States, www.apawood.org
- Bureau of Labor Statistics, United States, www.stats.bls.gov
- CEPI – Confederation of European Paper Industries, www.cepi.org
- *Commerce International du Bois*, France, www.ifrance.com/cib-ltb
- Euroconstruct, www.euroconstruct.org
- European Central Bank, www.ecb.int
- European Federation of the Parquet Industry (FEP), www.parquet.net
- European Panel Federation (EPF), www.europanels.org
- EUROSTAT – European Union Statistical Office, ec.europa.eu/eurostat
- EUWID – Europäischer Wirtschaftsdienst GmbH, www.euwid.de/
- Federal Statistical Office, Germany, www.destatis.de/e_home.htm
- Fédération Nationale du Bois, France, www.fnbois.com
- Finnish Forest Industries Federation, www.forestindustries.fi
- Finnish Forest Research Institute (Metla), www.metla.fi
- Finnish Sawmills, www.finnishsawmills.fi
- Forest Information Update, www.forestinformationupdate.com
- *Forest Products Journal*, United States, www.forestprod.org/fpjover.html
- Forest Stewardship Council (FSC), www.fsc.org
- *Hardwood Market Report*, United States, www.hmr.com
- *hardwoodmarkets.com*, United Kingdom, www.hardwoodmarkets.com
- *Hardwood Review Export*, United States, www.hardwoodreview.com
- *Hardwood Review Weekly*, United States, www.hardwoodreview.com
- *Holz-Zentralblatt*, Germany, www.holz-zentralblatt.com
- *Import /Export Wood Purchasing News*, United States, www.millerpublishing.com/ImportExportWoodPurchasingNews.asp
- Infosylva (FAO), www.fao.org/forestry/site/22449/en
- International Forest List, groups.yahoo.com/group/ifl-tech2000
- International Monetary Fund, www.imf.org
- International Organization for Standardization (ISO), www.iso.ch
- International Tropical Timber Organisation (ITTO), www.itto.or.jp
- *Japan Lumber Journal*, www.jlj.gr.jp
- *Japan Lumber Reports*, www.n-mokuzai.com/english.htm
- Japan Monthly Statistics, www.stat.go.jp/english/data/getujidb/index.htm
- Japan Wood-Products Information & Research Center (JAWIC), www.jawic.or.jp/english/index.php

- *La Forêt*, Switzerland, www.wvs.ch/topic5477.html
- *L'Echo des Bois*, Belgium, www.echodesbois.be
- *Maskayu*, Malaysia, www.mtib.gov.my/publication/publications.php
- Metsäliitto, www.metsaliitto.com
- Ministry of Forests and Range, British Columbia, Canada, www.gov.bc.ca/for
- Office National des Fôrets, France, www.onf.fr
- Programme for the Endorsement of Forest Certification schemes (PEFC), www.pefc.org
- Pulp and Paper Products Council, Canada, www.pppc.org
- *Random Lengths International/Yardstick*, United States, www.randomlengths.com/base.asp?s1=Newsletters
- RISI – Resource Information Systems Inc, www.risiinfo.com/
- Smallwood Utilization Network, United States, www.smallwoodnews.com
- Statistics Canada, Canada, www.statcan.gc.ca
- Stora Enso, Finland, www.storaenso.com
- Swedish Energy Agency, www.energimyndigheten.se
- Swedish Forest Industries Federation, www.skogsindustrierna.org
- Swiss Federal Statistical Office, www.statistik.admin.ch
- Timber Trades Journal Online (*TTJ*), United Kingdom, www.ttjonline.com
- UN Comtrade, unstats.un.org/unsd/comtrade
- UNECE/FAO TIMBER database, www.unece.org/timber
- UNFCCC – United Nations Framework Convention on Climate Change, http://unfccc.int/2860.php
- US Census Bureau, United States, www.census.gov
- USDA Foreign Agricultural Service, United States, www.fas.usda.gov
- USDA Forest Service, United States, www.fs.fed.us
- *Wood Markets Monthly*, Canada, www.woodmarkets.com/p_wmm.html
- *Wood Products Statistical Roundup*, American Forest and Paper Association, United States, www.afandpa.org

Some facts about the Timber Committee

The Timber Committee is a principal subsidiary body of the UNECE (United Nations Economic Commission for Europe) based in Geneva. It constitutes a forum for cooperation and consultation between member countries on forestry, the forest industry and forest product matters. All countries of Europe, the Commonwealth of Independent States, the United States, Canada and Israel are members of the UNECE and participate in its work.

The UNECE Timber Committee shall, within the context of sustainable development, provide member countries with the information and services needed for policy- and decision-making with regard to their forest and forest industry sectors ("the sector"), including the trade and use of forest products and, when appropriate, will formulate recommendations addressed to member governments and interested organisations. To this end, it shall:

1. With the active participation of member countries, undertake short-, medium- and long-term analyses of developments in, and having an impact on, the sector, including those offering possibilities for the facilitation of international trade and for enhancing the protection of the environment;
2. In support of these analyses, collect, store and disseminate statistics relating to the sector, and carry out activities to improve their quality and comparability;
3. Provide the framework for cooperation e.g. by organising seminars, workshops and ad hoc meetings and setting up time-limited ad hoc groups, for the exchange of economic, environmental and technical information between governments and other institutions of member countries required for the development and implementation of policies leading to the sustainable development of the sector and to the protection of the environment in their respective countries;
4. Carry out tasks identified by the UNECE or the Timber Committee as being of priority, including the facilitation of subregional cooperation and activities in support of the economies in transition of central and eastern Europe and of the countries of the region that are developing from an economic perspective;
5. It should also keep under review its structure and priorities and cooperate with other international and intergovernmental organizations active in the sector, and in particular with the FAO (Food and Agriculture Organization of the United Nations) and its European Forestry Commission, and with the ILO (International Labour Organisation), in order to ensure complementarity and to avoid duplication, thereby optimizing the use of resources.

More information about the Committee's work may be obtained by writing to:

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Trade and Timber Division
United Nations Economic Commission for Europe
Palais des Nations
CH-1211 Geneva 10, Switzerland

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UNECE/FAO GENEVA TIMBER AND FOREST STUDY PAPERS

The UNECE/FAO Geneva Timber and Forest Study Paper series contains annual and periodic analyses of the forest and forest industries sector. These studies are the official outputs of regular activities conducted within the Integrated Programme of Work of the UNECE Timber Committee and the FAO European Forestry Commission and as such should contribute to policy formation. Target audiences are governments, industry, research institutions, universities, international organizations, non-governmental organizations as well as experts from other sectors. These publications often form the basis for discussions of the Timber Committee and the European Forestry Commission and their subsidiary bodies.

Study Papers are usually based on statistics, forecasts and information submitted by country correspondents in the UNECE region (Europe, North America and Commonwealth of Independent States). The basic information is often submitted via agreed questionnaires, and then complemented by expert analysis from outside and within the secretariat. Study papers are issued on the responsibility of the secretariat, although the studies most often are the work of many contributors outside the UNECE/FAO.

Study Papers are translated whenever possible into the three official languages of the UNECE: English, French and Russian. They are UN sales documents and are distributed accordingly via UN bookstores and their affiliates. They are automatically distributed to heads of delegation of the Committee and the Commission, as well as nominated repository libraries, information centres and official distribution lists. They are also available via the Sales and Marketing Sections in Geneva and New York via unpubli@unog.ch and publications@un.org respectively. Study papers are also available on the Timber Committee and European Forestry Commission website at: www.unece.org/timber

Readers' comments are welcome. A reader survey is available via www.unece.org/ trade/timber/ mis/fpama.htm.

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This 100th edition of the Forest Products Annual Market Review provides a comprehensive analysis of the UNECE region, including the Commonwealth of Independent States, Europe and North America. It covers forest products from the forest to the final consumer, i.e. from roundwood and primary-processed products to value-added products. Each issue includes extensive statistical information combined with an analysis of trends and developments. Standard statistics-based chapters are on sawn softwood, sawn hardwood, wood-based panels, wood raw materials and paper, paperboard and woodpulp. Other chapters analyse markets for forest carbon, wood energy, certified forest products, value-added wood products and tropical timber. The Review has a chapter on the economic situation affecting markets, as well as an overview chapter.

The Review includes a chapter covering policy issues related to forest products markets. This year's policy issues include: economic stimulus policies and forest products markets; forests, wood products, REDD and carbon market policies; green building and market-impacting policies; Russian forest sector reform and their domestic and export market effects; China's wood products policies and potential impacts on UNECE region countries; illegal logging; corporate social responsibility; and country-specific forest sector policies and market developments

The Forest Products Annual Market Review and its predecessor publications have been published annually since 1948 by the UNECE/FAO Forestry and Timber Section. In the early years, there were more than one Forest Products Market Review per year. The Review's goal is to provide comprehensive statistics and analysis on forest products markets with an emphasis on policy implications. This information is intended for policymakers, researchers, investors and forest products marketing specialists in governments, research institutions, universities and the private business sector. The Review is a background document for the annual UNECE Timber Committee Market Discussions.

Further information about forest products markets, as well as information about the UNECE Timber Committee and the FAO European Forestry Commission is available on the website www.unece.org/ timber. The Review has a statistical annex available from http://timber.unece.org/index.php?id=304. Information about the UNECE may be found at www.unece.org and information about FAO may be found at www.fao.org.