Each October, the United Nations Economic Commission for Europe (UNECE) holds a Timber Committee meeting, at which key developments in the forestry sector are discussed. This year, the key issues discussed were:

- *Roundwood supply;*
- *Developments in key timber markets;*
- *Biomass/wood energy;*
- *Global warming.*

This COFORD Connects Note provides a summary of these discussions.

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Roundwood supply, wood energy and related issues in the UNECE region

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UNECE roundwood supply[1]

Roundwood removals in the UNECE Region[2,3] in 2006 are shown in Table 1. Removals were dominated by the US, Canada and Russia, which supply 63% of the UNECE's timber requirements (Table 2).

In 2006, consumption of softwood timber in the European Sub-Region[4] of the UNECE was 102.06 million m^3, up over 28 million m^3 since 1996 (Table 3). Proportionate factor costs for sawnwood and pulp products in the UNECE in 2006 are shown in Table 4.

Table 1: Roundwood removals in the UNECE Region (2006).

Sub-Region[5]	Roundwood removals 2006 million m^3	Roundwood removals - industrial wood %	Roundwood removals - conifer %	Growth 2002-2006 %
Europe	471	79	76	+14
CIS	216	76	72	+17
North America	679	93	73	+5
World	3,000	40	64	+3

Source: Håkan Ekström, Wood Resources International

1 *All figures quoted are cubic metres (m^3) underbark.*
2 *UNECE Member States are listed in Appendix 1.*
3 *Further details on UNECE Member States can be found at www.unece.org/stats/map.htm.*
4 *Counties within the European Sub-Region of the UNECE are listed in Appendix 1.*
5 *Countries within each region are listed in Appendix 1.*

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Table 2: Proportionate roundwood removals in the UNECE by country (2006).

Country	Roundwood removals % of total in UNECE region
US	34.6
Canada	15.1
Russia	14.0
France	4.8
Sweden	4.5
Germany	4.5
Finland	3.7
Poland	2.4
Other CIS	1.8
Other Europe	14.6

Source: Håkan Ekström, Wood Resources International

Table 4: Proportionate factor costs for sawnwood and chemical pulp in the UNECE (2006).

Cost	Sawnwood %	Chemical pulp %
Wood	70	42
Labour	15	15
Chemicals		11
Energy	4	16
Other	11	16

Source: Håkan Ekström, Wood Resources International

EU/EFTA Wood Supply Balance (2005)[6,7]

Work undertaken by Udo Mantau and Florian Steierer[8]/Kit Prins and Sebastian Hetsch[9] shows that growth in the demand for wood biomass is tightening wood supply. This is outlined in Table 5 for the EU/EFTA countries for 2005.

To meet industry and biomass requirements, Professor Gero Becker from the University of Freiburg, Germany forecasts that an additional 75 million m^3 of roundwood will be required by 2010. This is shown in Table 6.

A study by Professor Becker showed that in Germany the activities that may encourage more forest owners to harvest include:

- Financial incentives for harvesting.
- Financial support for consultancy to include the development of inventories and forest management plans.
- Taxation of unharvested forests.

Table 3: Production and consumption of sawnwood in the UNECE (1996/2006).

Item	1996	2006
	Million m^3	
Production	77.26	110.55
Import	28.36	40.67
Export	31.99	49.16
Consumption	73.63	102.06

Source: UNECE/FAO database 2007

Table 5: Roundwood supply and demand balance in the EU/EFTA (2005).

Supply		Demand	
Source	Million m^3	User	Million m^3
Industrial roundwood reported	377	Sawmill industry	214
Industrial roundwood unreported	26	Panel industry	89
Fuelwood	56	Pulp industry	155
Fuelwood unreported	29	Other	14
Bark	12	Wood fuel sector	6
Used logging residues	17	Power and heat	49
Non forest woody biomass	13	Industrial use	61
Chips, particles and residues	122	Private households	96
Pulp production co–products	72	Other energy uses	138
Recovered wood	42		
Processed wood fuel	6		
Totals	772		822
Supply gap			50

Source: UNECE/University of Hamburg

Table 6: Estimated roundwood supply and demand balance in Europe (2010).

End use type	2003	2010 (forecast)
	Million m^3	
Industrial use of roundwood	270	320
Energy use of roundwood	160	185
Supply gap		75

Source: Professor Gero Becker, University of Freiburg, Germany

[6] *Counties included in this study are Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.*

[7] *Wood resources availability and demands, Implications of renewable energy policies Udo Mantau and Florian Steierer, Centre of Wood Science, University of Hamburg/Kit Prins and Sebastian Hetsch UNECE/FAO Timber Section.*

[8] *Centre of Wood Science, University of Hamburg.*

[9] *UNECE/FAO Timber Section.*

- Establish a market place for the exchange and/or long term lease of forest land.

He maintains that joint efforts between forest owner associations, regional/local authorities and the wood processing industry are necessary to increase the wood harvest from German forests.

Key markets

Russia

To reduce the export of unprocessed wood from Russian forests, increased customs duties for unprocessed roundwood were adopted by the Russian Federation in February 2007 (Table 7).

Table 7: Duties payable on the export of unprocessed roundwood from the Russian Federation.

Date	Export duty payable for unprocessed roundwood %	Amount payable in €/m^3
Since January 2006	6.5	4
April 2007	20	> 10
April 2008	25	> 15
April 2009	80	> 50

Source: Jim Bowyer, Dovetail Partners Inc., Minneapolis, US

In 2005, key export markets for Russian roundwood exports were[10]: China (46%); Finland (22%); Japan (13%); Others (19%). These markets will be greatly affected by the changes in Russian export taxes.

As a result of the imposition of increased export duties, deliveries of Russian lumber to European markets for the first half of 2007 were down by 30% on the same period in 2006[11].

US

Due to the fall in the value of the US dollar against the leading world currencies, US lumber exports can now be sold at a 40% discount.

Investor confidence has been hit by the sub–prime market crisis. According to North America Wholesale Lumber Association (NAWLA)[12], the US housing market, the biggest global consumer of sawn wood and wood-based panels (WBP) and Engineered Wood Products (EWPs), is in 'deep trouble'.

In 2006, US housing starts fell by 13% to 1.8 million units, and were expected to fall by another 18% in 2007. August 2007 housing permits are down by 41% from August, 2005. US house prices fell by 3.9% from July 2006 to July 2007[13]. NAWLA forecasts that its annual sales will decline from $35 billion in 2006 to $25 billion in 2007. It is difficult to predict when the turnaround in the US market will take place. The US has commenced a significant wood promotion campaign.

Canada

Since September 2006, a Softwood Lumber Agreement (SLA) has been agreed between Canada and the US. Upon entry into force of the agreement[14], countervailing and anti-dumping duty orders on Canadian softwood lumber will be fully and completely revoked. The agreement will return more than 4.5 billion (US$) to Canadian exporters.

Under the Agreement, Canadian softwood lumber exporters will pay an export charge when the price of lumber is at or below 355 (US$) per thousand board feet (MBF).

Canadian regions (British Columbia coast, British Columbia interior, Alberta, Saskatchewan, Manitoba, Ontario and Quebec) can operate under either of the following two export charge regimes for periods of three years (see Table 8):

- Option A: an export charge with the charge varying with price; or
- Option B: an export charge plus volume restraint, where both the rate and volume restraint vary with the price. This is shown in Table 8.

The US dollar has decreased in value against the Canadian dollar by more than 50% over the past 4 years.

[10] *http://www.fas.usda.gov/ffpd/Newsroom/Russia_Increases_Export_Tax_on_Logs.pdf*
[11] *Anrey Prokopov; Union of Timber Manufacturers and Exporters of Russia.*
[12] *North American Wholesale Lumber Association (NAWLA).*
[13] *Dr Robert Shelbourne, UNECE.*
[14] *http://www.dfait-maeci.gc.ca/eicb/softwood/menu-en.asp*

Table 8: Softwood Lumber Agreement (SLA): Options and export charges.

Price per thousand board feet (US$)	Option A – Export Charge %	Option B – Export Charge plus Volume Restraint
Over 355	0	0
336-355	5	2.5% + regional share of 34% of US consumption
316-335	10	3% + regional share of 32% of US consumption
315 or under	15	5% + regional share of 30% of US consumption

The Mountain Pine Beetle (*Dendroctonus ponderosae*) is seriously damaging lodgepole pine stands in British Columbia. The affected area covers over 9.2 million hectares. At the current rate of spread, 50% of mature lodgepole pine in British Columbia will be dead by 2008.

Europe

European sawn timber markets are over supplied. The market has no price elasticity, i.e. lowering price will not grow sales.

In Finland, log prices are too high. This is driven by the pulp and paper sector compensating for a lack of Russian fibre. A mid-term fibre shortage is expected.

Baltic States are experiencing a lack of raw material due to a lack of Russian logs. Eastern EU countries are boosting the demand for sawn umber.

Japan

Japanese timber markets are overstocked in Q3 and Q4 2007. There has been a reduction in housing completions. There is no price elasticity in Japanese markets. An improvement is expected in the first quarter of 2008. Long term Russian exports to Japan are increasing.

China

In 2006, China's softwood imports increased by 9.5%. Over 66% was imported from Russia. Rece tly, however, demand for softwoods has declined owing to a slowdown in exports of finished wood products to Japan and the US. Competition is also increasing from other low cost suppliers including Vietnam.

Hardwood markets

In 2006, consumption of hardwoods in the UNECE region decreased by 2.6%, principally due to the continuing movement of furniture manufacture to Eastern countries.

Oak continued to dominate hardwood market consumption with increasing demand across Europe and Asia. New opportunities exist for beech and for red oak. Production of sawn hardwood in North America decreased by 1.5% in 2006, due to lower domestic demand and the continuing recession in the sawmilling sector. Exports of sawn hardwood from the US recovered in 2006, rising by 3.8%, especially to Asia. Asian markets now utilise 11.4% of all US sawn hardwood. The US may soon adopt a regulatory approach to tackling the international trade in illegal wood. It is about to undertake a risk assessment of its own hardwood resources. The Chinese and Indian markets remain strong for tropical hardwoods. The US and Japanese markets are stagnating. China remains a strong market for primary tropical hardwoods and is a formidable competitor in secondary wood products.

Biomass/wood energy

According to the EU Biomass Action Plan[15], there is potential by 2010 for:

- the use of wood for bioenergy to more than double;
- bioenergy from waste to increase more than twofold;
- the output from energy crops from agriculture to increase dramatically from 2 to 44 Mtoe (million tonnes of oil equivalent).

A comparison of biodiesel, ethanol and wood pellet production in the EU and the US is shown in Table 9.

Table 9: A comparison of biomass product output in the US and the EU (2005 – 2006).

Product	Unit	EU	% growth 2005-2006	US[16]	% growth 2005-2006
Biodiesel	Million tonnes	46	45	1.0	300
Ethanol	Billion litres	1.6	71	19.1	25
Wood pellets	Million tonnes	4.7	38	1.6	25

Source: Jim Bowyer, Dovetail Partners, Minneapolis, US

[15] *http://ec.europa.eu/energy/res/biomass_action_plan/index_en.htm*
[16] *Most of US wood pellet production is exported to the EU.*

Within the OECD[17], bioenergy produces 6 million TJ of energy output per annum. This is used as shown in Table 10.

Support measures for biomass

Support measures for bioenergy include:

- *Feed-in tariffs* - Set a specific price that utilities must pay for green energy
- *Renewable energy obligation* - Mandate the amount of renewable energy in an energy portfolio
- *Green certificates* - Renewable electricity is sold at conventional prices, but consumers must purchase green certificates to cover a percentage of total energy consumption.
- *Fixed price mechanism* - A premium or bonus is paid to producers or distributors of green energy.
- *Tax incentives, loan guarantees and grants.*

Supports for biomass within the EU, US and Canada are outlined below.

European Union

Four primary policies cover the European Union:

- Energy efficiency in buildings and end-use applications (two Directives).
- Trade of GHG emissions throughout the EU (Directive 2003/87/EC).
- Production of electricity from renewable sources (Directive 2001/77/EC).
- Promotion of biofuels for transport (Directive 2003/30/EC).

A Biomass Action Plan has also been agreed (2005). A new Directive (2007) sets specific goals beyond 2012 and includes a sustainability scheme:

- 20% target for renewable energy in 2020.
- 10% target for biofuels in 2020.

Table 10: Biomass use by sector within the OECD (2006).

Sector	%
Industrial	39
Residential	33
CHP	13
Electricity	7
Other	8

Source: Mabee and Saddler, University of British Columbia

United States

Currently there are 24 states plus the District of Columbia that have a Federal renewable fuel (RPS) policy in place. Together these states account for more than half of the electricity sales in the United States[18].

Federal initiatives include a tax credit for biomass energy. This does not yet apply to all forest bioenergy. Loan guarantees are also available under the Biomass Energy and Alcohol Fuels Act of 1980.

The United States has set the following goals for its biomass output:

- Triple bioenergy and bio-products use by 2010.
- Identify 1 billion tonnes of cellulosic feedstock for energy and fuel production by 2030.
  - 368 million tonnes forest biomass.
  - 933 million tonnes agricultural biomass.
- Produce 133 billion litres of renewable fuels by 2017.
- 30% bio-ethanol in gasoline by 2030.

In February 2007, the US Department of the Environment[19] announced that it was spending $385 million part-funding the development of the cellulosic ethanol plants listed in Table 11.

Canada

A Renewable Energy Working Group has been formed by the Canadian Council of Energy Ministers. This is tasked with providing a framework to maximise renewable energy potential.

[17] *OECD members are listed in Appendix 2.*
[18] *http://www.eere.energy.gov/states/maps/renewable_portfolio_states.cfm*
[19] *http://www.energy.gov/news/4827.htm*

Table 11: Cellulosic ethanol plants under construction in the US.

Plant	Location	Technology	Investment US$ m	Annual ethanol output million gallons
Bluefire [20]	Irvine, California	Acid	40	19
Iogen [21]	Shelley, Idaho	Enzyme	80	18
Poet/Broin Companies [22]	Emmetsburg, Iowa	Enzyme	80	125 [23]
Albegoa	Kansas	Enzyme/Thermochem	76	11.4
Range [24]	Soperton, Georgia	Thermochem	76	40 10 (methanol)
Alico [25]	LaBelle, Florida	Thermochem	33	13.9

Source: US Department of the Environment

Some provinces (Ontario, Quebec and British Columbia) are developing independent strategies that include bioenergy. Ontario has recently introduced a feed-in tariff that applies to biomass.[26]

A Renewable Energy Deployment Initiative ended in March 2007. A new ecoEnergy/ecoAction programme is being implemented.[27]

Canada has 750 million litres of ethanol in production with a further 700 million litres of capacity under construction. Canada has set the following goals for its biomass output:

- Provincial-level bioenergy goals are being developed;
- 5% bioethanol in gasoline by 2010;
- 2% biodiesel in diesel fuel by 2012.

New developments in biomass production

Bio-diesel

In October 2006[28], the UPM Group announced that it will invest strongly to become a major player in second generation bio-diesel production from wood based biomass. Its first commercial plant will be located adjacent to one of its paper mills in Finland, France, Germany or the UK.

In April 2007, Chevron formed a joint venture partnership with Weyerhaeuser to develop second generation biofuels. This joint venture will research, develop and commercialise the technologies required to transform non-food sources of cellulose into economical, sustainable, clean-burning biofuels.[29]

Bioenergy

UPM is also investing in bioenergy.[30] In May 2007, UPM, Pohjolan Voima and Lappeenrannan Energia agreed to build a biomass power plant at UPM's Kaukas mill in Lappeenranta, Finland. Capital investment is €244 million, with start-up set to commence in spring 2010. This facility will use wood residues and peat to generate process heat and electricity. This will be used to power both UPM's Kaukas mills and to provide electricity and district heating for Lappeenrannan Energia Oy.[31] It will have an output of 385 MW.

[20] *http://bluefireethanol.com*
[21] *http://www.iogen.ca*
[22] *http://www.poetenergy.com*
[23] *This capacity is after expansion.*
[24] *http://www.rangefuels.com*
[25] *http://alicoinc.com*
[26] *http://www.powerauthority.on.ca/sop/*
[27] *http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/index-eng.cfm*
[28] *UPM, Helsinki, 31 October 2006.*
[29] *http://www.eeca.govt.nz/eeca-library/renewable-energy/biofuels/summary/rick-zalesky.pdf*
[30] *UPM, Helsinki, 8 May 2007.*
[31] *http://www.lappeenrannanenergia.fi*

ÖBf/Wien Energie, Europe's largest wood based biomass power plant became operational in the third quarter of 2006. This facility is operated by the Austrian Federal Forest Service (ÖBf[32]) in association with Wien Energie.[33] When fully operational the plant will use 650,000 m^3 of biomass per annum. This will be used to provide heat and electricity for 48,000 homes.

Biomass output in selected counties

Finland

Wood based energy accounts for 20% of all energy consumed in Finland.[34] In 2006, 3.1 million m^3 of wood biomass was used in Finland. Finnish pellet production is estimated at 250,000 tonnes per annum, most of which is exported to Sweden.

Germany

In 2006, renewable energy accounted for 5.8% of primary energy consumption. Renewable energy provided 12% of total gross electricity consumption. Biofuels provided 6.6% of German road transport requirements. 160,000 applications were made for grants for wood burning stoves. This was a 50% increase on the number grant-aided in 2005. 70,000 pellet burning stoves were installed in 2006. Pellet production reached a level of 500,000 tonnes in 2006, primarily manufactured from sawmilling residues.

Sweden

In addition to EU targets, Sweden has a national target for biofuels to provide 5.75% of transport fuel by 2010.[35]

UK

The following large scale biomass facilities are under construction in the UK:[36]

- EON[37] is investing €130 million at Lockerbie, Scotland, to build the United Kingdom's largest dedicated biomass power plant. When fully operational this facility will use 500,000 m^3 of biomass per annum. It will have an output of 44 MW, generating enough electricity to power 70,000 homes. It will enter service in late 2007.
- Sembcorp is building a biomass facility at Teesside.[38] This will use 300,000 tonnes of biomass to generate 30 MW of electricity – enough to power around 30,000 homes.
- In December 2006, UPM announced an investment of GBP 59M for a renewable energy plant for its UPM Caledonian paper mill in Ayrshire, Scotland. This will use 370,000 tonnes of wood biomass to generate 50 MW CHP.
- The 50 MW CHP plant at UPM Shotton Paper[39], Flintshire North Wales is now fully operational.[40]
- Balcas is building a CHP power plant and wood pellet facility at Invergordon, North of Inverness, Scotland. This will produce 100,000 tonnes of wood pellets per annum.

Other biomass developments

British Petroleum (BP)/Clean Energy

Recently BP has teamed up with the University of California, Berkeley, the University of Illinois and the Lawrence Berkeley National Laboratory. This is a $500 million initiative to develop new sources of clean renewable energy.

BP/Shell/Umea University/Lulea University/Mid Sweden University (Mittuniversitetet)

BP and Shell have teamed up with Umea University, Lulea University and the Mid Sweden University (Mittuniversitetet) to develop ethanol using enzyme hydrolysis.

[32] *http://www.bundesforste.at*
[33] *http://www.wienenergie.at*
[34] *Finnish National Market Statement for 2007 to the UNECE.*
[35] *Swedish National Market Statement for 2007 to the UNECE.*
[36] *UK National Market Statement for 2007 to the UNECE.*
[37] *http://www.eon.com/en/unternehmen/8556.jsp*
[38] *http://www.sembutilities.co.uk/wilton10/index.html*
[39] *http://w3.upm-kymmene.com/upm/internet/cms/upmcms.nsf/*
[40] *http://w3.upmkymmene.com/upm/internet/cms/upmcms.nsf*

Biomass debate

Jim Bowyer of Dovetail Partners, Minneapolis, US, argued that given the rapid development and strong industry involvement in the biomass sector, government incentives for the development of bioenergy may not be needed for much longer in many UNECE countries. The duration of subsidies (for biomass) was also questioned by Jerry Schwartz, Director, Water Quality Programmes, at the American Forest and Paper Association (AF&PA).[41] Bernard de Galembert, Director CEPI[42] stated that forest based industries are the key enabler for policy makers to meet the ambitious renewable energy targets if the right policies are put in place. One quarter of European bioenergy is produced by forest based industries. In addition, he stated that the European forest industry has the infrastructure to source and generate biomass energy. The sector currently harvests 400 million m^3 per annum.

Bernard de Galembert stated that chemical pulp mills have significant cost advantages in producing second generation biofuels. Pulp and sawmills are efficient at producing wood pellets. Forest based CHP[43] plants can achieve generation efficiencies of 85 – 90%.

The European Panel Federation (EPF) argued strongly that the development of biomass has greatly increased wood prices in Europe. The EPF argued that the wood industry sector gives better value than biomass: 10 times the value added – economically and 30 terms the value added – employment.

Bridging the fibre gap

Meeting the demand for bioenergy will require the mobilisation of increased raw materials. Increased wood supply will be required if biomass targets are to be met.

Bénédicte Hendrickx, economic advisor to the European Panel Federation (EPF)[44] stated that forest inventories are very inaccurate and it is difficult to get small forest owners to enter wood markets. Large forest owners are not interested in market share. Higher wood prices allow them to earn what they require by cutting less. Renewable Energy Sources (RES) policies are promoting the long term market for wood energy, thereby linking wood prices to fossil fuel prices.

The EPF stated that more wood could be mobilised by:

- Optimising the use of net annual forest growth;
- Making efficient use of harvest residues;
- Improving logistic and technical facilities;
- Promoting afforestation and short rotation forestry (SRF);
- Identifying unknown forest owners;
- Enhancing wood recycling.

The European Pulp and Paper Association (CEPI)[45] has identified the actions in Table 12 as helping to improve wood availability by 2020.

Table 12: How CEPI sees the roundwood supply and demand balance being met by 2020.

Action Item	Potential effect in 2020
	Million m^3
Improve efficiency in the forest products industry	10
Additional wood and residue supply	30-35
Other measures including reducing the landfill of recovered wood	5-10
Import more biofuels /Efficient use of first generation biofuels	50-80
Free up additional land to grow more energy crops (estimated 6 million hectares)	115-175
Total extra fibre supply	Up to 310

Source: CEPI

Mobilising more fibre

According to Christer Segerstéen of the Confederation of European Forest Owners[46], 16 million forest owners represent more than 60% of forest cover in Europe. There is a large potential to increase wood production from these

[41] *http://www.afandpa.org*
[42] *Confederation of European Paper Industries; http://www.cepi.org/*
[43] *Combined Heat and Power*
[44] *http://www.europanels.org*
[45] *Confederation of European Paper Industries; http://www.cepi.org/*
[46] *http://www.cepf-eu.org/*

forests. Since only 60% of the annual increment in European Forests is harvested, a substantial increase in the annual cut could be achieved.

The sustainable cut in European family forestry can be increased by at least 150 million m^3, equal to 300 TWh. With improved silvicultural methods the annual growth (and the production) in European forests could be increased by a further 25%. In addition, increased afforestation of unused land could lead to even higher forestry production.

National Biomass Action Plans (nBAP)

In June 2006, the EU endorsed the EU Biomass Action Plan. A nBAP working group was set up in 2006. Its second meeting was held in March 2007. There is no common understanding among member states on nBAP. Austria, Estonia, Ireland, the Netherlands and Scotland have commenced drafting their nBAP. Other member states, including France, Germany and Lithuania, have identified biomass components of their energy action plan. The European Commission intends to develop a working paper on nBAP in December 2007.

Climate change

Global energy demand is predicted to increase by 60% over the next 30 years.[47] The EU has three goals in its approach to climate change. These are:

- Promoting environmental sustainability and combating climate change.
- Increasing the security of energy supply.
- Ensuring the competitiveness of European economies and the availability of affordable energy.

EU Renewable Energy Sources (RES) targets are outlined in Table 13. Currently, the increase in atmospheric CO_2 concentration is estimated at 3.2 Gt[48] of carbon per annum. In 2004, the largest sources of CO_2 in the US were[49] fossil fuel combustion, iron and steel production, and cement manufacture.

A summary of worldwide carbon dioxide (CO_2) emissions is shown in Table 14. Global emissions from deforestation are larger than global emissions from the transport sector.[50]

Wood used in building for structural and non–structural applications significantly reduces greenhouse gas (GHG) emissions. One cubic metre of wood replacing steel or concrete saves 1.1 ton of CO_2. Every cubic metre (m^3) of wood fixes 0.9 tonnes of CO_2.[51]

Table 13: EU renewable energy targets (2006 – 2020).

Item/Year	2006	2010	2020
All renewables	7% indicative	12% indicative	20% binding
Biofuels	1%	5.75%	10%
Green Electricity	15%	21%	
Biomass		150 Mtoe	195 Mtoe
Wood biomass share		27 Mtoe	35 Mtoe
Roundwood equivalent		108 – 149 Mm^3	140 – 194 Mm^3

Source: EU Commission

Table 14: Worldwide carbon dioxide emissions (2006).

Item	MM tons CO_2 per annum
Direct Emissions	262
Indirect Emissions	513
Sequestration	-600
Trade Off	-270
Net	95

Source: US National Council for Air and Stream Improvement, February 2007

Other issues

Certified timber – UK

The percentage of certified imports to the UK by certification scheme (2005) are shown in Table 15.

In 2005, 60% of UK timber imports were certified. This is increasing by 5% per annum. The demand for certified timber in the UK represents just 10% of UK timber demand. As such, there is an oversupply of certified timber in the UK. However, certified products do command a 2–7% price

47 *Jeremy Wall, DG Enterprise, EU Commission.*
48 *1 Giga tonne = 1,000,000,000 tonnes/1 billion tonnes*
49 *Inventory of US Greenhouse Gas Emissions and Sinks, 1990 – 2004, USEPA, April 2006.*
50 *Stern Review 2006.*
51 *Sylvain Labbé, Q-Web, Canada Wood Group.*

Table 15: Percentage of certified imports to the UK by certification scheme (2005).

Scheme	%
Forest Stewardship Council (FSC)[52]	28.1
Programme for the Endorsement of Forest Certification schemes (PEFC)[53]	26.9
Other schemes	0.8
No certification	44.2

Source: Timber Trade Federation (TTF)

premium in some market sectors, such as hardwood plywood and hardwood sawn timber.

A change in UK government purchasing policy was announced in April 2007. From April 2009, the UK government will only purchase FLEGT (Forest Law Enforcement, Governance and Trade) licensed timber.[54]

Forest health - Mountain pine beetle (MPB)[55,56]

British Columbia (BC) is currently experiencing a Mountain Pine Beetle (MPB) outbreak beyond any bark beetle epidemic recorded in North American history. At the current rate of spread, 50% of the mature pine will be dead by 2008 and 80% by 2013. The preferred host of the MPB is large diameter, mature lodgepole pine (60 years or older). Mountain pine beetles are currently in the outbreak phase of the infestation cycle over much of their range in BC.

Based on the 1999 to 2006 aerial overview of forest health and version 4 of the BCMPB[57], it is estimated that the standing dead volume (red and grey attack) is approximately 530 million m^3 in 2007. This represents approximately 40% of the merchantable pine volume (1.35 billion m^3) and 12% of the total provincial merchantable volume on the timber harvesting land base (4.6 billion m^3).

Normally, lodgepole pine less than 40 years old is not considered at risk to MPB because of small diameter, good health and other attributes. Despite this, some young stands are currently being affected by the MPB and this will have downward pressure on the mid-term timber supply projections. The capability of the forest sector to utilise timber killed by the MPB is strongly linked to both the time period over which the timber will be used, and the existing plant and equipment in the area. Approximately 84% of the sector's capacity is structured to manufacture lumber used in building houses. Given the current significance of lumber production, the capability of industry to use the uplift volume over the next several years is a function of factors that affect the demand, price, and profitability of commodity grade lumber, along with the sawlog shelf-life of the dead timber. The level of US housing starts, access rules to the US market as set out under the Softwood Lumber Agreement and the Canadian dollar exchange rate are three such factors.

Energy co-generation using sawmilling waste and wood chips is a big part of the wood processing industry in BC. The production of wood pellets is a mature industry in BC, with exports going primarily to the European thermal power industry. Under the British Columbia Energy Plan,[58] BC Hydro is expected to issue a call for proposals for further electricity generation from wood residue and MPB-infested timber.

Importers' view/CE marking

It was the view of the timber traders present at the meeting that a CE Mark is vital for the sale of stress graded construction timber post September 2008.

Economic growth overview

Global growth remains strong in 2007. Growth of 5.2% is expected for 2008. However, growth is slowing in the US, it is levelling off in Europe and Japan, and Latin America, while Africa and Asia are growing strongly.

[52] *http://www.fsc.org*
[53] *http://www.pefc.org*
[54] *http://www.dfid.gov.uk/eupresidency2005/flegt.asp*
[55] *Dendroctonus ponderosae*
[56] *http://www.gov.bc.ca/pinebeetle*
[57] *BC Provincial Scale Mountain Pine Beetle Model (BCMPB).*
[58] *http://www.energyplan.gov.bc.ca/*

Appendix 1: UNECE Member States

State	State
Albania	Liechtenstein
Andorra	Lithuania
Armenia	Luxembourg
Austria	Malta
Azerbaijan	Moldova
Belarus	Monaco
Belgium	Montenegro
Bosnia and Herzegovina	Netherlands
Bulgaria	Norway
Canada	Poland
Croatia	Portugal
Cyprus	Romania
Czech Republic	Russian Federation
Denmark	San Marino
Estonia	Serbia
Finland	Slovakia
France	Slovenia
Georgia	Spain
Germany	Sweden
Greece	Switzerland
Hungary	Tajikistan
Iceland	FYR Macedonia
Ireland	Turkey
Israel	Turkmenistan
Italy	Ukraine
Kazakhstan	United Kingdom
Kyrgyzstan	United States
Latvia	Uzbekistan

Source: www.unece.org/oes/member_countries/member_countries.htm

UNECE Member States by Sub–Region[59]

Europe Sub–Region: Albania, Andorra, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, the FYR of Macedonia, Turkey and the United Kingdom.

Commonwealth of Independent States (CIS) Sub–Region: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

North America Sub–Region: Canada, United States of America.

[59] *UNECE/FAO Forest Products Annual Review for 2007, page 148.*

Appendix 2: OECD Member States

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Japan
Korea
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

Source: www.oecd.org/membercountries

Appendix 3: Further UNECE Information

Additional information on the Timber Committee Meeting 2007 is available at the following websites:

- Market statement and summary of key developments: http://www.unece.org/press/pr2007/07tim_p06e.htm
- Presentations from the TC/ISC market discussions: http://www.unece.org/trade/timber/docs/tc-sessions/tc-65/mdpresentations/md2007.htm
- Tables of country forecasts with production and trade data for 2006-2008: www.unece.org/trade/timber/mis/forecasts.htm
- Country market statements for 2007: http://www.unece.org/trade/timber/mis/market/market-65.htm
- UNECE/FAO Forest Products Annual Market Review, 2006-2007: http://www.unece.org/trade/timber/docs/fpama/2007/fpamr2007.htm