



# 2014 Global Forest Products Facts and Figures

FAO's forest product statistics present figures for the production and trade (quantity and value) of forest products, covering 54 product categories, 21 product groups, and 245 countries and territories. Final statistics are released at the end of each year and can be found in the [FAOSTAT-Forestry database](#) from December, before they are published in the [Yearbook of Forest Products](#) the following April. The database has statistics from 1961 onwards, and the yearbooks date back to 1947.

## Highlights of 2010—2014

This note presents highlights and recent trends in the data for each of the main product groups, as well as a short summary of recent changes or improvements in the statistics. Some of the main points are highlighted below.

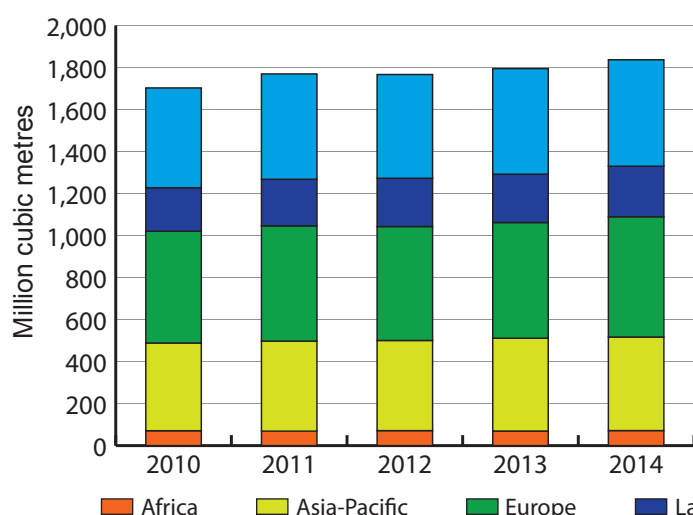
- The recovery from the economic downturn of 2008–2009 is evident in the statistics gathered over the period 2010–2014. Globally, production of all major products (industrial roundwood, sawnwood, wood-based panels, pulp and paper) has been gradually recovering in 2010–2014. Production in 2014 was higher than in 2010 (and the pre-crisis 2007 level) for all the product groups (pulp and paper 1%; sawnwood and panels 4 and 6 percent respectively). The fastest growth was in Asia-Pacific, Latin America and Caribbean, and Northern America.
- China has grown in importance as both a producer and a consumer of forest products, and has recently overtaken a number of other big players in different product groups (e.g. overtaking Canada in sawnwood production and the USA in sawnwood consumption). The country is by far the largest producer and consumer of wood-based panels and paper. It is also highly significant in international trade of forest products, being the world's largest importer of industrial roundwood, sawnwood and fibre furnish (pulp and recovered paper), and the largest exporter of wood-based panels. In 2014, China's imports of industrial roundwood and sawnwood surged by 17 and 30 percent respectively, to record levels, and paper production and consumption resumed growth after a pause in 2013.
- Wood pellets production has increased dramatically in recent years, mainly owing to the demand created by adoption of bioenergy use targets in Europe. In 2014, global production grew by another 17 percent, reaching 26 million tonnes, of which more than half (14 million tonnes) was traded internationally. Europe and Northern America accounted for almost all global production (61 percent and 33 percent respectively) and consumption (79 percent and 13 percent respectively). Trade in pellets from Northern America to Europe (mainly the UK) more than doubled in year-on-year terms.
- Production and consumption of wood pellets in Asia more than doubled in 2014. The Republic of Korea has emerged as the fourth-largest importer of wood pellets, driving up wood pellets production in many countries in the region (especially Vietnam, China and Thailand).
- In 2014, India became the world's fourth-largest industrial roundwood importer, overtaking Austria and Finland, and the fourth-largest fibre furnish (pulp and recovered paper) importer, overtaking the Republic of Korea and Italy.
- Wood-based panel and sawnwood production grew in all five regions around the world in 2014. Global production of panels and sawnwood increased by 6 percent and 4 percent respectively. The Russian Federation has recently overtaken Canada and Germany to become the world's third-largest producer and consumer of wood-based panels.
- In 2014, paper production stagnated in Europe and declined in Northern America but grew modestly in the other three regions. Production and consumption of graphic papers (newsprint and printing/writing) in the Asia-Pacific region has been decreasing since 2013, following the same trend towards digital media prevailing in America and Europe for more than a decade.
- South America has gradually increased woodpulp production with an increasing number of new pulp mills being built in Brazil, Chile and Uruguay. These three countries currently account for 14 percent of global woodpulp production and 70 percent of exports. In 2014, Brazil overtook Canada for the first time as the world's fourth-largest country in fibre furnish production.
- Global production and trade of pulp and paper grew at a modest annual rate of 1 percent over the 2010–2014 period.

## Industrial Roundwood

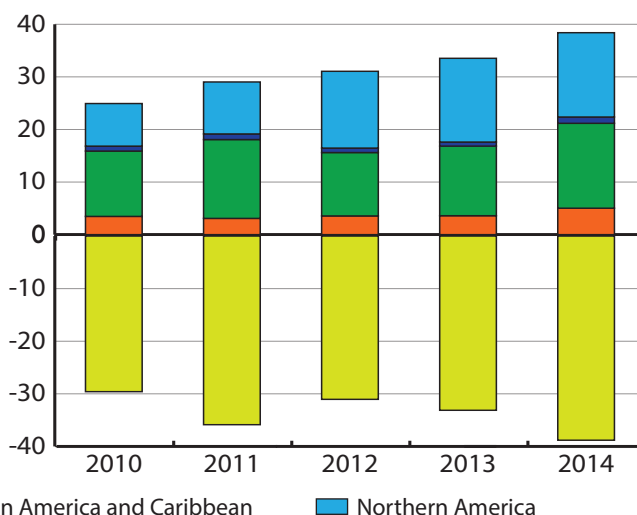
Industrial roundwood is all roundwood used for any purpose other than energy. It comprises: pulpwood; sawlogs and veneer logs; and other industrial roundwood (e.g. roundwood used for fence posts and telegraph poles). This product group is also divided into roundwood from coniferous and non-coniferous species.



**Figure 1a: Industrial roundwood production**



**Figure 1b: Industrial roundwood net trade**



In 2014, global industrial roundwood production amounted to 1 837 million m<sup>3</sup>. This is an increase of 2.3 percent compared with 2013 (1 723 million m<sup>3</sup>) and 7.9 percent compared with the level in 2010 (Figure 1a).

Most of the recovery occurred in Asia-Pacific, Europe, Latin America and Caribbean, and Northern America, which, in 2014, jointly produced 8 percent more than they did in 2010. Production in Africa did not change significantly during the period.

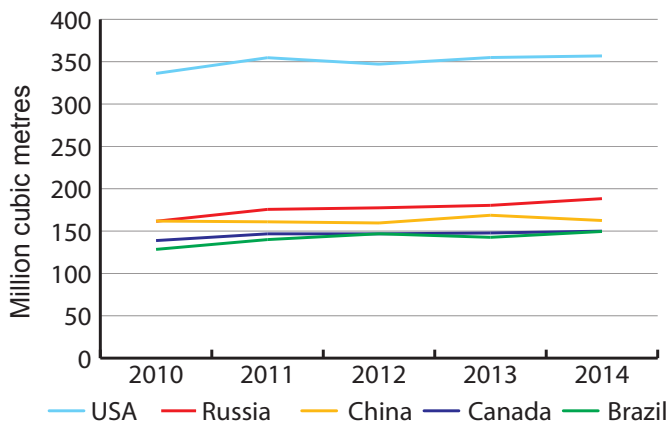
In 2014, production in each region was as follows: Europe (including Russian Federation) - 572 million m<sup>3</sup> (31 percent); Northern America (USA and Canada) - 507 million m<sup>3</sup> (28 percent); Asia and the Pacific - 445 million m<sup>3</sup> (24 percent); Latin America and Caribbean - 241 million m<sup>3</sup> (13 percent); and Africa - 72 million m<sup>3</sup> (4 percent).

In 2014, global trade in industrial roundwood amounted to 134 million m<sup>3</sup> (equal to about 7 percent of production). Trends in total trade and net trade over the observed period also show a recovery up to 2011, followed by a decline of 4 percent in 2012 and an increase of 12 percent in 2013 and followed by another 6 percent in 2014 (Figure 1b). At the regional level, Asia-Pacific is a net importer of industrial roundwood,

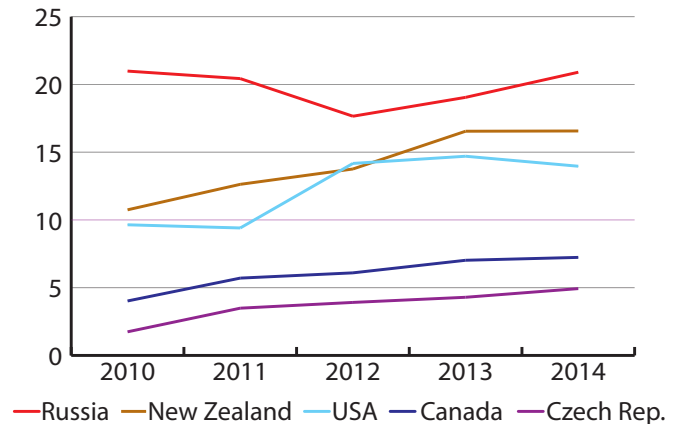
and all other regions are net exporters. In 2014, net imports of 39 million m<sup>3</sup> accounted for about 8 percent of consumption in the Asia-Pacific region. Northern America and Europe are the main net exporters of industrial roundwood, with net exports in 2014 of 16 million m<sup>3</sup> each; the figure for Northern America was 98 percent above that reported in 2010.

At the country level, the five largest producers of industrial roundwood are the USA, the Russian Federation, China, Canada and Brazil (Figure 2a). Together, these countries produced 1 007 million m<sup>3</sup> in 2014, or 55 percent of total global production. The USA is by far the largest producer in the world (357 million m<sup>3</sup> in 2014), production declined slightly in 2012, but recovered in the following two years. Production in the Russian Federation and Canada increased from 2010. Brazil continued to follow a long-term trend of growth in production, with a significant proportion coming from planted forests. Production in China declined by 4 percent in 2014 (back to the level of 2010-2012).

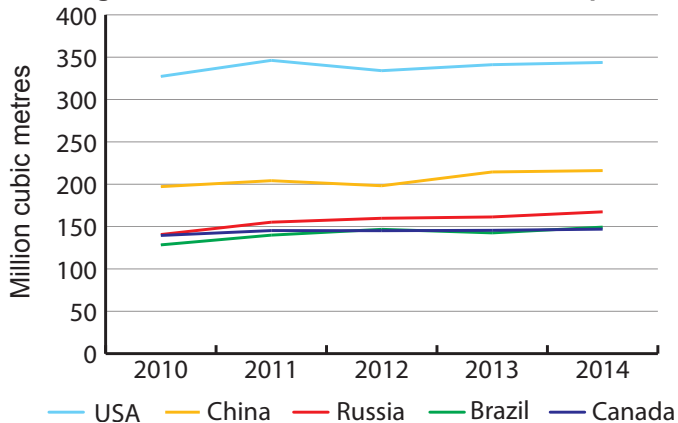
**Figure 2a: Industrial roundwood production**



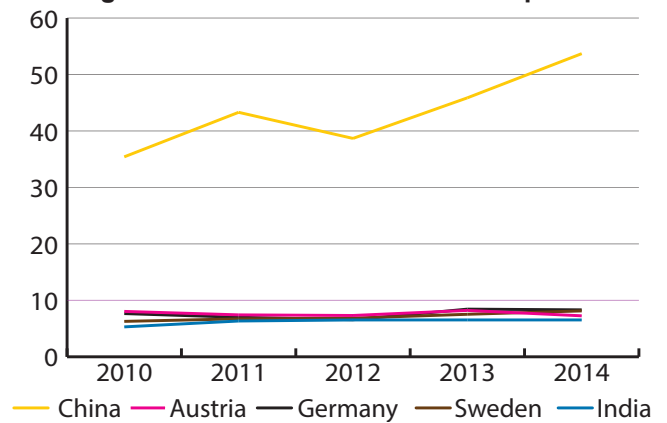
**Figure 2b: Industrial roundwood exports**



**Figure 3a: Industrial roundwood consumption**



**Figure 3b: Industrial roundwood imports**



Owing to the relatively small volumes of international trade in industrial roundwood, the five largest producers are also the five largest consumers. However, China is the second-largest consumer, with a 40 percent surge in imports in 2013-14, consuming 216 million m<sup>3</sup> of Roundwood in 2014. The Russian Federation is in third place (at 167 million m<sup>3</sup>) (Figure 3a). Consumption has increased in all five major consumer countries since 2010.

As Figure 3b shows, imports make up about 25 percent (54 million m<sup>3</sup> in 2014) of China's industrial roundwood

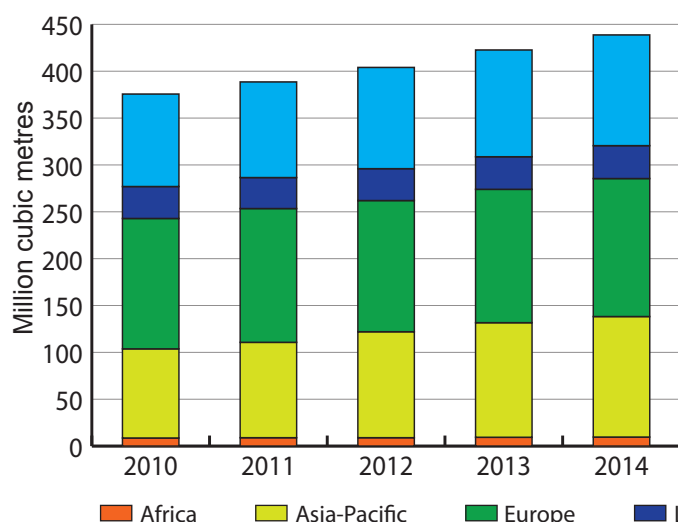
consumption. A large share of these imports comes from the Russian Federation, although other countries, especially New Zealand, are growing in importance. After China, other major importers of industrial roundwood are Germany, Sweden, Austria and India. Together, these five countries imported 85 million m<sup>3</sup> of industrial roundwood in 2014 (equal to 63 percent of all imports). India overtook Finland to become fifth-largest importer in 2014.

## Sawnwood

Sawnwood encompasses planks, beams, boards, laths, etc. that exceed 5 mm in thickness. It includes sawnwood that is planed, unplaned, grooved, chamfered, beaded, etc., but it does not include wooden flooring. FAO statistics subdivide this category into coniferous and non-coniferous sawnwood.



**Figure 4a: Sawnwood production**

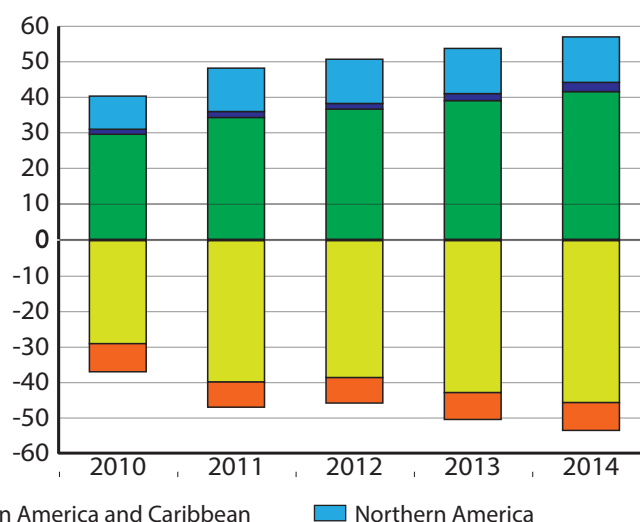


In 2014, global sawnwood production totalled 439 million m<sup>3</sup>, which was 3.8 percent higher than in 2013 (423 million m<sup>3</sup>) and 17 percent higher than in 2010 (376 million m<sup>3</sup>). Figure 4a shows that sawnwood production grew consistently over the period 2010–2014. This trend is largely due to increasing production in Europe, Northern America and Asia-Pacific. In contrast, production in Africa, and in Latin America and Caribbean remained modest over the period. The latest regional production figures (for 2014) are as follows: Europe - 147 million m<sup>3</sup> (34 percent); Asia and the Pacific - 129 million m<sup>3</sup> (29 percent); Northern America - 118 million m<sup>3</sup> (27 percent); Latin America and Caribbean - 35 million m<sup>3</sup> (8 percent); and Africa – 10 million m<sup>3</sup> (2 percent).

Global trade in sawnwood amounted to 131 million m<sup>3</sup> (equal to 30 percent of production) in 2014 and, like production, gradually recovered from 2010 (Figure 4b). However, much of this recovery in trade occurred within Europe and Northern America. Looking at net trade between the five regions, this increased consistently during the observed period.

The two main importing regions for sawnwood are Africa and the Asia-Pacific region, with net imports

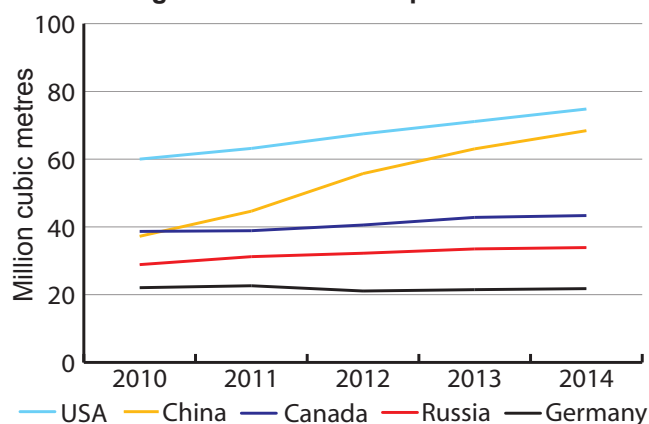
**Figure 4b: Sawnwood net trade**



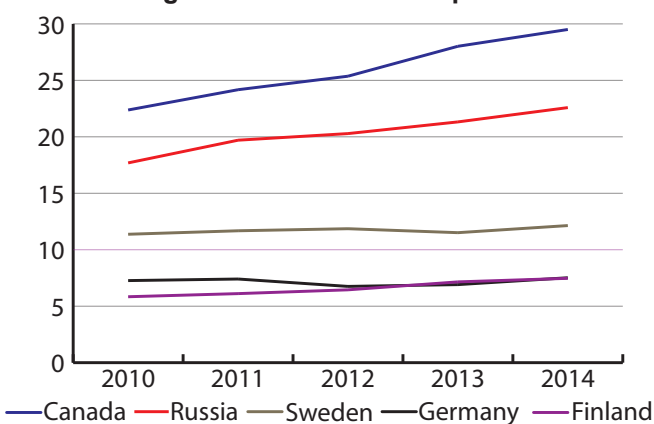
of 8 million m<sup>3</sup> and 46 million m<sup>3</sup> respectively in 2014. Europe and Northern America are the main exporting regions, with net exports of 42 million m<sup>3</sup> and 13 million m<sup>3</sup>. Latin America and Caribbean is a minor net exporter, with net exports of 3 million m<sup>3</sup> in 2014.

At the country level, the five largest producers of sawnwood are the USA, China, Canada, the Russian Federation and Germany (Figure 5a). Together, these five countries produced over half (55 percent, or 242 million m<sup>3</sup>) of the world's sawnwood in 2014. The USA is the largest producer; production there grew every year since 2010, reaching 75 million m<sup>3</sup> in 2014. Production in Canada grew from 2010 too; overall production in Northern America grew by 20 percent from its level in 2010. Production in the Russian Federation grew during the observed period and reached 34 million m<sup>3</sup> in 2014, an increase of 17 percent over the five years. While production in Germany remained relatively stable over the period, it almost doubled in China, which showed an increase of 84 percent, from 37 million m<sup>3</sup> in 2010 to 68 million m<sup>3</sup> in 2014, causing it to overtake Canada in 2011 to become the second-largest sawnwood producer.

**Figure 5a: Sawnwood production**

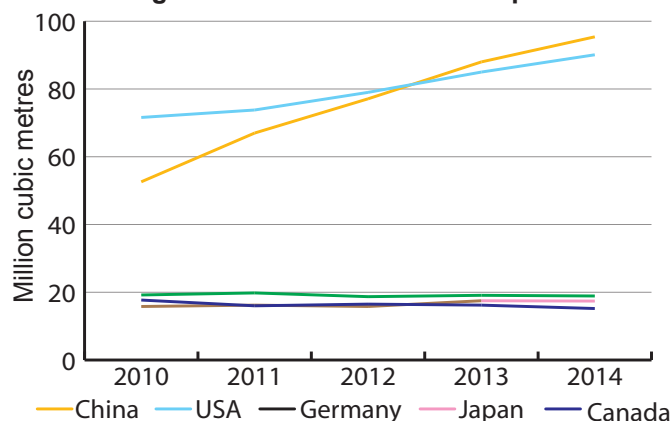


**Figure 5b: Sawnwood exports**



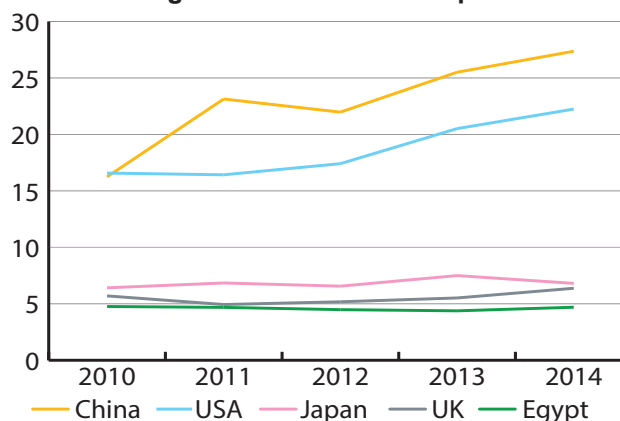


**Figure 6a: Sawnwood consumption**



Three of the largest sawnwood producers are also major exporters (Canada, the Russian Federation and Germany), but the other two main exporters are Sweden and Finland (Figure 5b). Together, these five countries exported 79 million m<sup>3</sup> (59 percent of all exports) in 2014. Canada's exports grew steadily since in 2010, and the country remained the top exporter in 2014 (exporting 30 million m<sup>3</sup>). This was largely as a result of increasing sales to the recovering market in the USA. Exports from Sweden, Finland and Germany remained relatively stable with slight increase over the period, but those from the Russian Federation increased consistently. As well as being the largest producers, China and the USA were the two main consumers of sawnwood in 2014, consuming 95 million m<sup>3</sup> and 90 million m<sup>3</sup> respectively (Figure 6a). Consumption in the USA increased by 6 percent in 2014, and China's consumption nearly doubled over

**Figure 6b: Sawnwood imports**



the five-year period. The other three main consumers of sawnwood in the world are Germany, Japan and Canada, where consumption remained quite stable.

With respect to imports, China overtook the USA in 2011 to become the largest importer of sawnwood; in 2014, the two countries imported 27 million m<sup>3</sup> and 22 million m<sup>3</sup> respectively (Figure 6b). Other major sawnwood importers are Japan, the UK and Egypt. Together, these five countries imported 67 million m<sup>3</sup> of sawnwood (equal to 52 percent of all imports) in 2014, and in all of these countries imports account for a significant share of sawnwood consumption (30 percent in China, 23 percent in the USA and 39% in Japan alone).

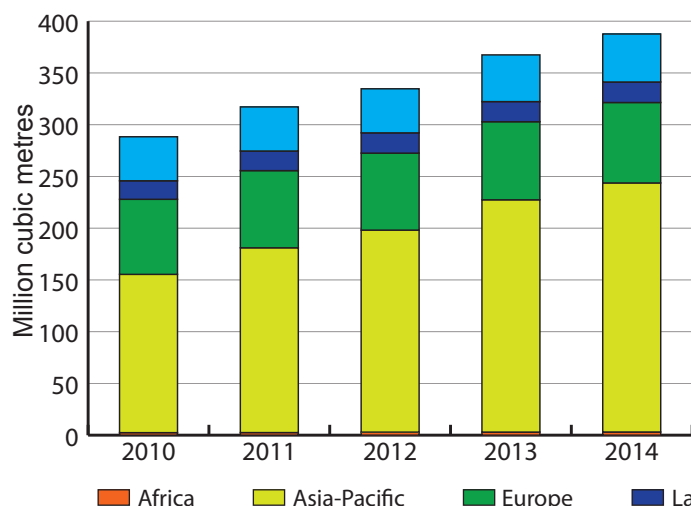
## Wood-based panels

The wood-based panels product category consists of veneer sheets, plywood (including blockboard), particleboard (including OSB) and fibreboard. Fibreboard is also subdivided in FAO's statistics into hardboard, medium density fibreboard (MDF) and other fibreboard, based on the density and manufacturing process of these panels.

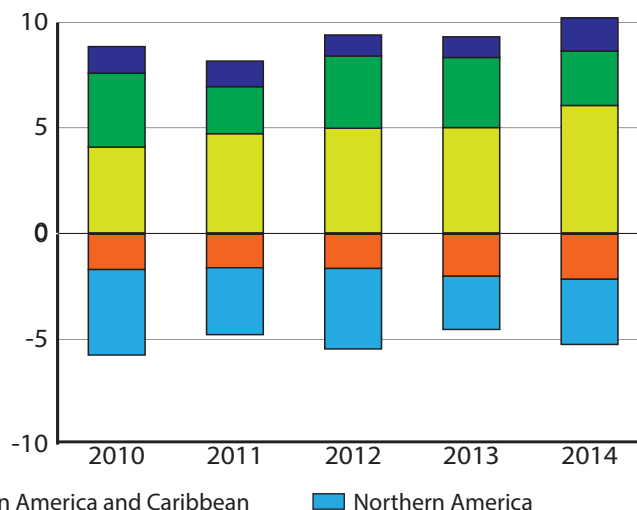
In 2014, global wood-based panel production reached 388 million m<sup>3</sup>, a 5.5 percent increase over the previous year (367 million m<sup>3</sup>) and a 34 percent increase over the observed period (Figure 7a). Wood-based panels was the product category that saw the fastest growth in production, owing to the rapid and consistent growth in the Asia-Pacific region. Production surged by 62 percent in the region during 2010-2014 while it grew modestly by 9 percent in other four regions over the same period.



**Figure 7a: Wood-based panel production**



**Figure 7b: Wood-based panel net trade**



The Asia-Pacific region accounted for 62 percent of global production in 2014 (241 million m<sup>3</sup>), followed by Europe (78 million m<sup>3</sup>, or 20 percent), Northern America (46 million m<sup>3</sup>, or 12 percent), Latin America and Caribbean (20 million m<sup>3</sup>, or 5 percent) and Africa (3 million m<sup>3</sup> or 1 percent). Production in the Asia-Pacific region increased by 7 percent in 2014, while all other regions saw a moderate increase of 2-3 percent year-over-year.

Global trade in wood-based panels has recovered gradually since 2010 (Figure 7b). In 2014, it grew by 4 percent to 80 million m<sup>3</sup>, equal to 21 percent of total production. Two regions – Europe and Asia-Pacific – dominated international trade in wood-based panels, and together accounted for 77 percent of all imports and 83 percent of exports in 2014. Imports and exports in both of these regions have increased since 2010. In Northern America, wood-based panels exports surged 43 percent from 2010 to 2014 while imports increased 18 percent over the same period, but still well below the pre-recession level.

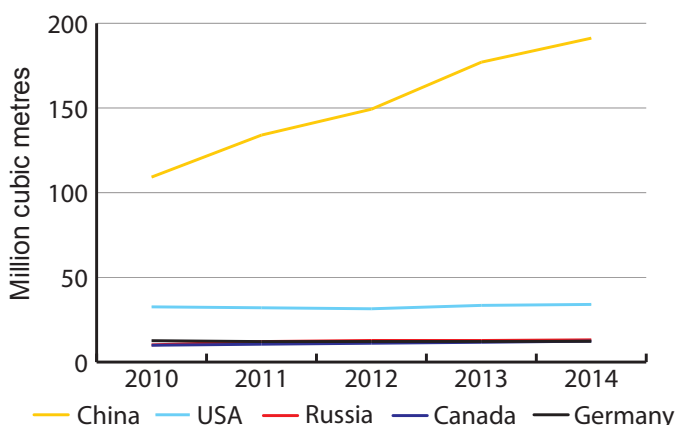
Northern America was the main net importer of wood-based panels in 2014 (3 million m<sup>3</sup>), followed by Africa (2 million m<sup>3</sup>). On the other hand, the Asia-Pacific region net exported 6 million m<sup>3</sup> of the products to the rest of the world as the largest net exporter. Net exports from Europe and Latin America (combined) were 4 million

m<sup>3</sup>. Within Europe, Western Europe has increasingly become a net importer wood-based panels while Eastern Europe has emerged as one of the largest net exporter with growing trade surplus in wood-base panels mainly owing to within-region trade.

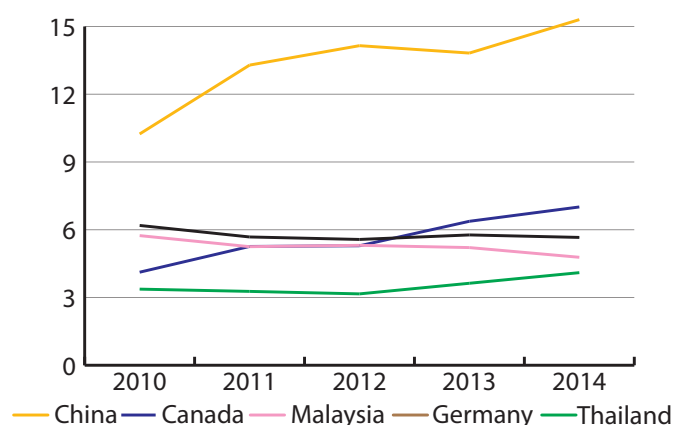
The five largest producers of wood-based panels (China, the USA, the Russian Federation, Canada and Germany) accounted for 68 percent (263 million m<sup>3</sup>) of global production in 2014 (Figure 8a). China alone accounted for 49 percent of global production in 2014, and the most notable trend was the 75 percent increase in production in China over the period, from 109 million m<sup>3</sup> in 2010 to 191 million m<sup>3</sup> in 2014. Production in the Russian Federation and Canada increased by 25% over the period. In 2011, the Russian Federation overtook Germany to become the third-largest producer. In contrast, production remained quite stable in the USA and Germany over the period.

The five largest exporters (China, Canada, Germany, Malaysia and Thailand) exported a combined 37 million m<sup>3</sup> in 2014 (equal to 45 percent of global exports) (Figure 8b). In Germany and Malaysia exports declined by 12 percent from 2010. In contrast, exports from China, Canada and Thailand combined jumped by 49% over the period 2010-2014.

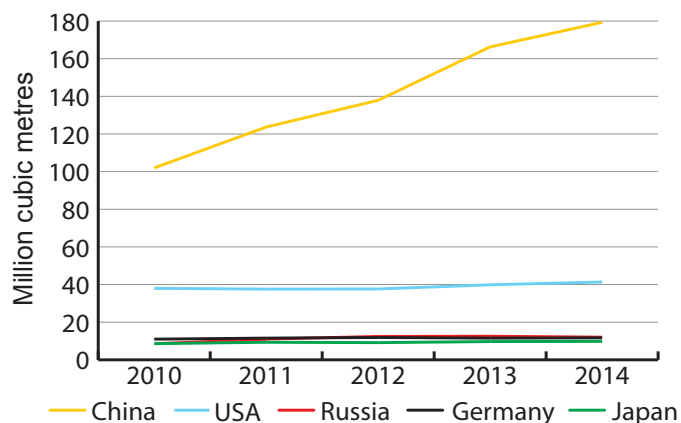
**Figure 8a: Wood-based panel production**



**Figure 8b: Wood-based panel exports**



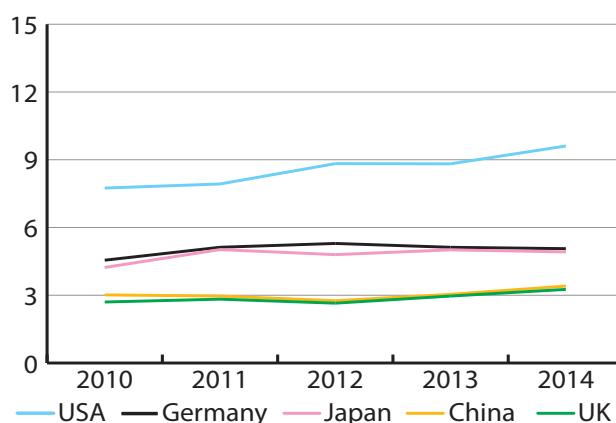
**Figure 9a: Wood-based panel consumption**



The four top consumers of wood-based panels are the same as the four largest producers, suggesting that the products are mostly consumed domestically. The trends in consumption are similar to those in production (Figure 9a). The fifth-largest consumer is Japan, where consumption increased from 9 million m<sup>3</sup> in 2010 to 10 million m<sup>3</sup> in 2014.

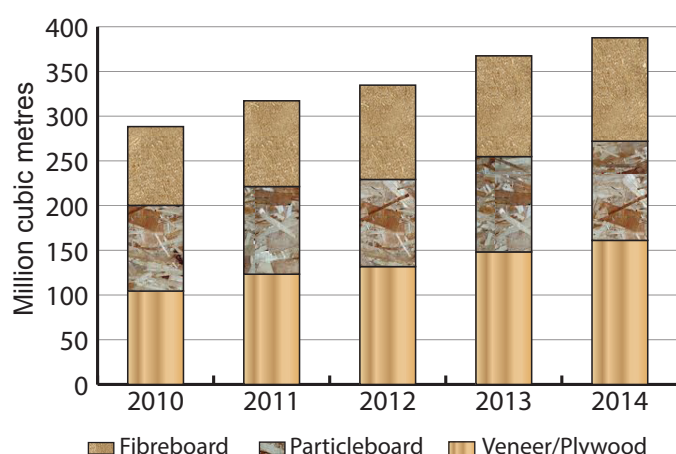
The USA was the top importer in 2014 (with imports

**Figure 9b: Wood-based panel imports**



equal to 24 percent of consumption), followed by Germany, Japan, China and the UK (Figure 9b). Together, these five countries imported 26 million m<sup>3</sup> (or 34 percent of all global imports) in 2014. Imports have increased in all of these countries since 2010. The growth in imports has been fastest in the USA, the UK and China, whereas Germany and Japan remained stable in the last years.

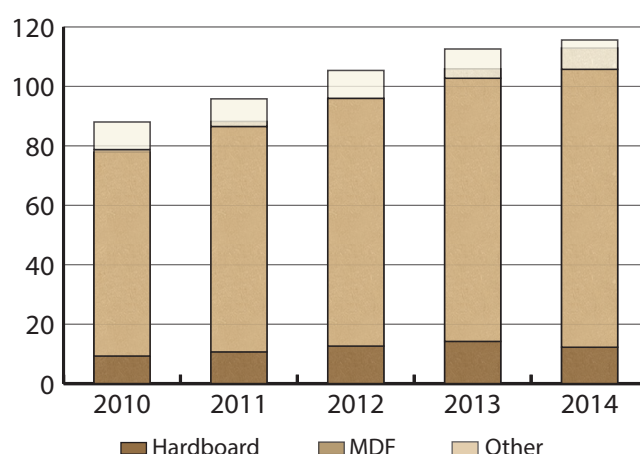
**Figure 10a: Wood-based panel production**



Figures 10a and 10b show recent trends in production of the wood-based panels by product category. Veneer and plywood (including blockboard) have become the dominant wood-based panel type, with production of 162 million m<sup>3</sup> (representing 42 percent of all wood-based panel production) in 2014, an increase of 54 percent from 2010. This is mainly because of the rapid growth in plywood production in China, where the production doubled over the observed period, accounting for 65 percent of global production in 2014. In the remaining countries, the growth in veneer and plywood production was slight (7 percent) over the same period.

There are regional differences in the composition of various wood-based panel products. Particleboard (including OSB) dominates other product categories in Northern America and Europe while veneer and plywood (including blockboard) is the major wood-

**Figure 10b: Fibreboard production**



based panel product in the Asia-Pacific region (mainly in China). In Latin America and Caribbean, each major wood-based panel product accounts for about equal share of the total production.

Growth in production of fibreboard was 3 percent in 2013–2014 and 31 percent over 2010–2014 (Figure 10b). Production of all types of fibreboard increased over 2010–2014, but most growth occurred in MDF production (which accounted for 81 percent of all fibreboard production in 2014). Since 2010, global MDF production has been growing by 6 to 10 percent every year; China accounted for most of this increase.

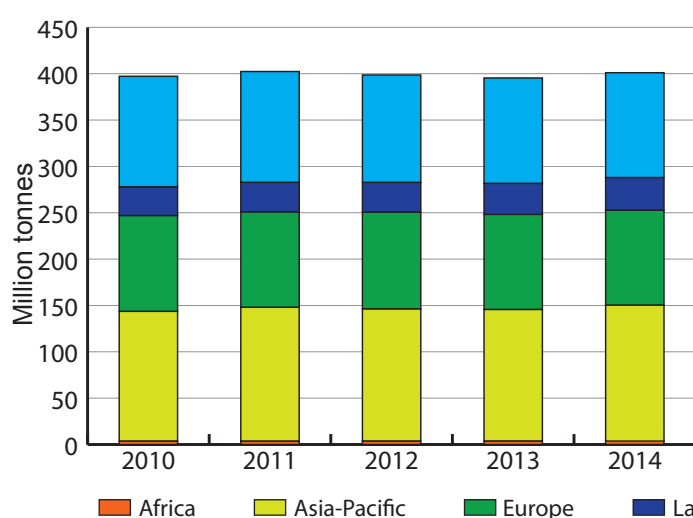
In contrast to plywood and fibreboard, production of particleboard (including OSB) increased only slightly (by 4 percent, to 111 million m<sup>3</sup>) in 2014; it was 16 percent above the level recorded in 2010.

## Fibre furnish

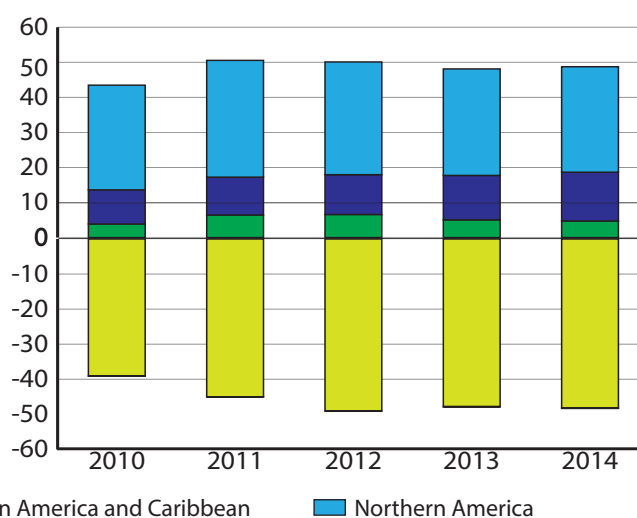
In FAO's forest product statistics, the fibre used to manufacture paper and paperboard is referred to as "fibre furnish". This includes recovered paper (recovered paper), other fibre pulp and the woodpulp used to make paper. The latter includes mechanical, chemical and semi-chemical woodpulp, but not dissolving pulp (which is used for other purposes). Chemical woodpulp is also sub-divided in the statistics into bleached or unbleached and sulphite or sulphate woodpulp, and various combinations of these different products are presented as product groups in FAOSTAT and the Yearbook.



**Figure 11a: Fibre furnish production**



**Figure 11b: Fibre furnish net trade**



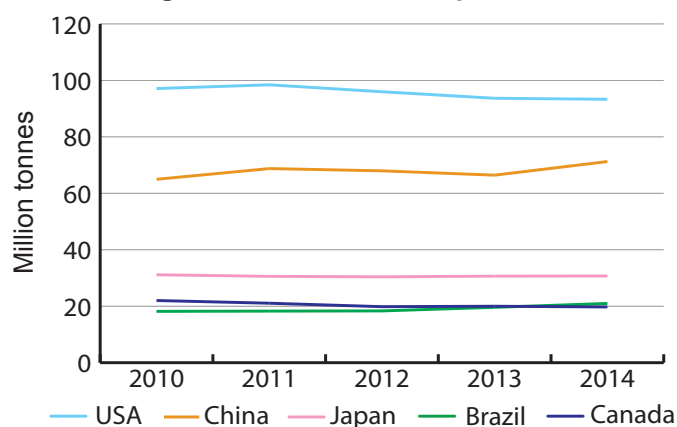
Global production of fibre furnish in 2014 amounted to 401 million tonnes (Figure 11a). This was a small (1 percent) increase on the previous year. At the global level, the production of fibre furnish increased from 397 million tonnes to 402 million tonnes in 2011 and remained quite stable at about 400 million tonnes for the rest of the period.

The regional distribution of production in 2014 was as follows: Asia-Pacific - 147 million tonnes (37 percent); Northern America - 113 million tonnes (28 percent); Europe - 102 million tonnes (26 percent); Latin America and Caribbean - 35 million tonnes (9 percent); and Africa - 4 million tonnes (1 percent). The Asia-Pacific region is now the largest producer of fibre furnish as a result of consistent growth over the period with production in 2014 about 5 percent higher than in 2010 (when it was 140 million tonnes). Production in Latin America and Caribbean has also grown consistently over the period, although at a much lower level. In contrast, production remained unchanged or declined slightly in Europe, Northern America and Africa.

About a quarter of fibre furnish production was traded in international markets in 2014, and this trade has increased consistently over the period (from 99 million tonnes in 2010 to 110 million tonnes in 2014 – equal to an 11 percent total increase). Net trade also remained quite stable over the period (Figure 11b). The Asia-Pacific region is the only net importing region, and net imports of fibre furnish increased by 23 percent over the period, from 39 million tonnes in 2010 to 48 million tonnes in 2014. Net imports have also increased at about the same rate as consumption in the Asia-Pacific region and accounted for 25 percent of consumption in 2014. The main net exporter is Northern America, with net exports of 30 million tonnes in 2014, followed by Latin America and Caribbean at 14 million tonnes and Europe at 5 million tonnes. Net exports increased by 43 percent over the period in Latin America and Caribbean and by 23 percent in Europe, but remained unchanged in Northern America.

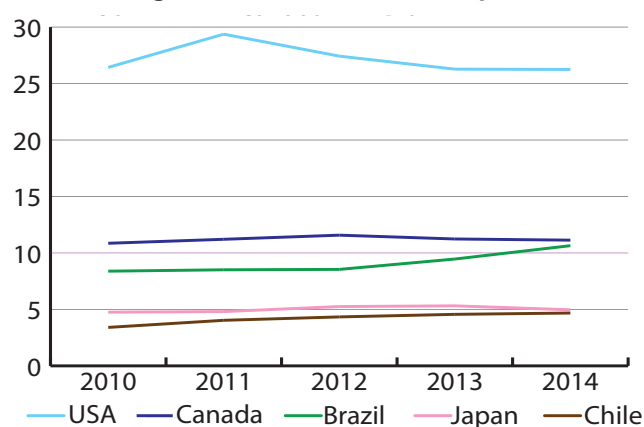


**Figure 12a: Fibre furnish production**



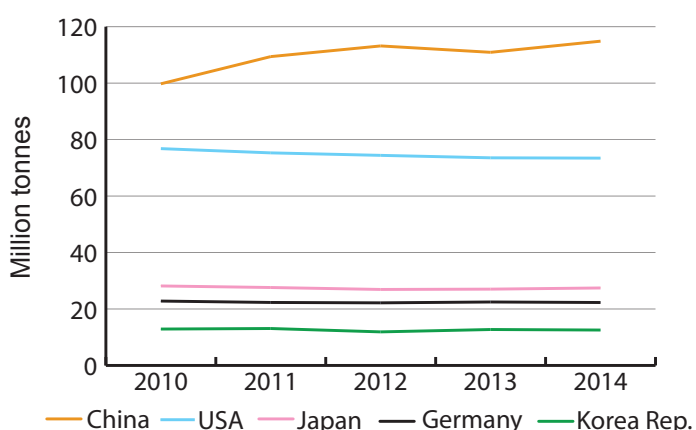
The main producers of fibre furnish are the USA, China, Japan, Brazil and Canada (Figure 12a). Together, these countries produced 236 million tonnes of fibre furnish in 2014 (59 percent of the global total). As Figure 12a shows, production remained roughly the same or slightly declined over the period in the USA, Japan and Canada. This was because of declining paper production and consumption in these three countries, which is now a common trend in many developed nations as people are using more electronic communication media. Production in China remained quite stable in 2010–2013 and increased by 7 percent in 2014 (from 66 million tonnes to 71 million tonnes). Fibre furnish production (and exports) has been increasing consistently in Brazil, where fast-growing planted forests give the country a competitive advantage in the manufacturing of woodpulp. In 2014 Brazil overtook Canada to become fourth-biggest producer of fibre furnish in the world.

**Figure 12b: Fibre furnish exports**



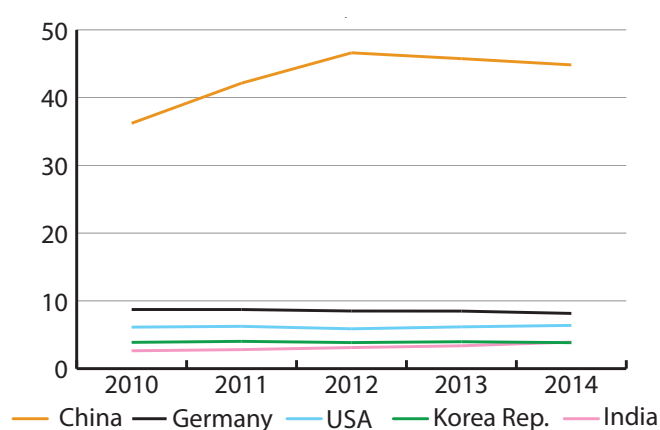
Four of the main producers of fibre furnish are also the main exporters (the USA, Canada, Brazil and Japan), with Chile in the fifth place (Figure 12b). These five countries exported 58 million tonnes (52 percent of the global total) of fibre furnish in 2014. Exports increased over the observed period in Chile (by 38 percent), Brazil (by 27 percent), and remained roughly the same in Canada and Japan. Only in the USA, exports in 2014 returned to the level of 2010 after an increase in 2010–2011. As already noted for Brazil (and Chile), these trends are partly driven by each country's competitiveness in woodpulp manufacturing. However, because a large part of fibre furnish is recovered paper, the need to dispose recovered paper can also be an important driver of growth in places like the USA and Japan.

**Figure 13a: Fibre furnish consumption**



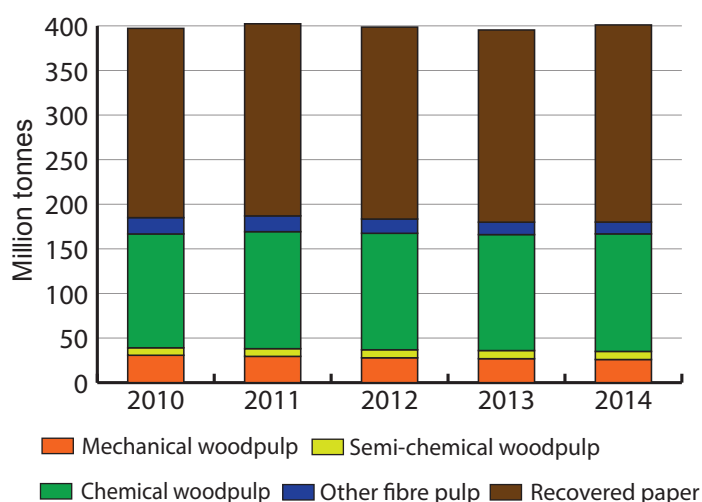
The five main consumers of fibre furnish are China, the USA, Japan, Germany and the Republic of Korea, which altogether consumed 251 million tonnes (62 percent of the global total) of fibre furnish in 2014 (Figure 13a). The consumption trends in these five countries show quite stable consumption in Germany, the USA, Japan and the Republic of Korea (only a 2 to 4 percent decrease in both countries over the observed period). In contrast,

**Figure 13b: Fibre furnish imports**

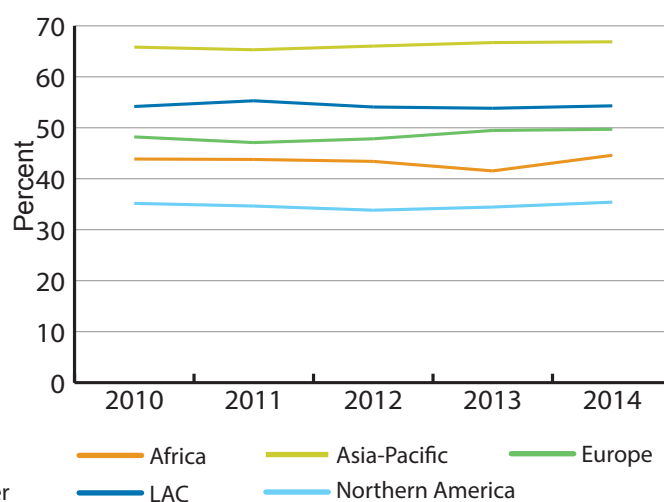


consumption increased by 15 percent in China over the period from 2010 to 2014. In China, consumption (and imports) declined slightly (by 2 percent) in 2013, in line with a slight drop (of 1 percent) in paper and paperboard production in that country. In 2014 China saw an increase in consumption by 4 percent to reach another record level of 115 million tonnes (29 percent of global consumption).

**Figure 14a: Fibre furnish consumption**



**Figure 14b: Recovered paper utilisation rate**



Four of the largest consumers of fibre furnish are also the largest importers (China, Germany, the USA and the Republic of Korea), with India being another (Figure 13b). Imports to these five countries amounted to 67 million tonnes (61 percent of the global total) in 2014. Comparing the two figures, it becomes evident that consumption in several of these countries is highly dependent on imports, which accounts for 30 to 55 percent of consumption in China, Germany, India and the Republic of Korea. Over the observed period, imports grew in China (by 24 percent), India (49 percent) and the USA (4 percent). Imports to the Republic of Korea remained stable while Germany saw a decrease of 7 percent over the same period.

Figures 14a show the trends in the composition of fibre furnish consumption between the main products included in this product group. It shows that recovered paper and chemical woodpulp are the two main products used to manufacture paper, accounting for 55 percent and 33 percent respectively of all fibre furnish consumption in 2014. Mechanical woodpulp is the next most important (7 percent), followed by other fibre pulp (3 percent) and semi-chemical woodpulp (2 percent).

The trends in consumption also show that not only does recovered paper account for more than half of all fibre used to make paper, but it is also growing in importance. In 2010, recovered paper consumption amounted to

210 million tonnes (53 percent of the total), compared with 222 million tonnes (55 percent of the total) in 2014. In contrast, consumption of other fibre pulp has declined, both in absolute and percentage terms. Woodpulp consumption and its share remained unchanged over the same period.

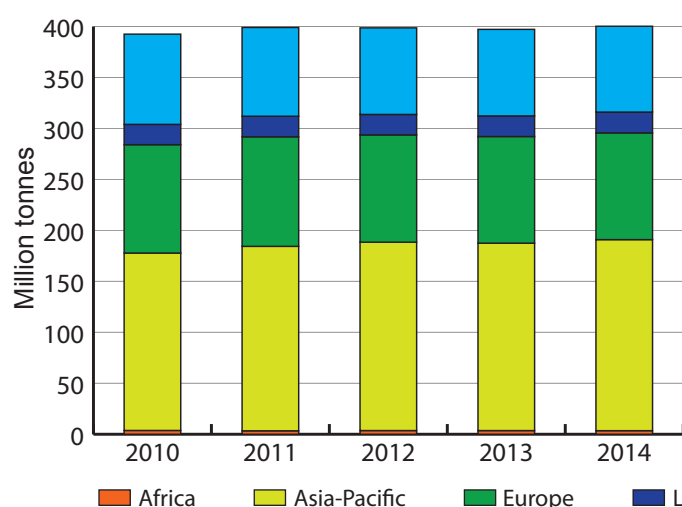
Figure 14b shows the share of recovered paper in the consumption of total fibre furnish (the utilisation rate) in each of the main regions. Differences in the levels of utilisation and trends reflect the geographical and socioeconomic situations in each region, as well as other factors such as recycling and waste disposal policies and the availability of pulpwood. Thus, for example, the Asia-Pacific region has a high utilisation rate (partly met by a large amount of recovered paper imports) owing to the high demand and intense competition for wood fibre there. Conversely, in Northern America, where the availability of wood fibre is relatively high, recovered paper utilisation is much lower (and a lot of recovered paper is actually exported to the Asia-Pacific region). Europe lies somewhere in between, with both a relatively high availability of wood fibre and numerous policies promoting recycling that encourage the use of recovered paper.

## Paper and paperboard

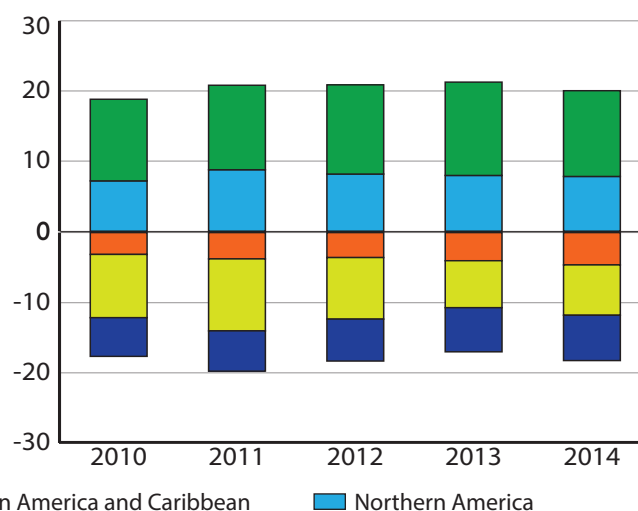
The paper and paperboard product group comprises newsprint, printing and writing paper, and other paper and paperboard. The latter is further subdivided into wrapping and packaging paper, household and sanitary paper, and other paper and paperboard not elsewhere specified (NES). Various combinations of these different products are presented as product groups in FAOSTAT and the Yearbook.



**Figure 15a: Paper and paperboard production**



**Figure 15b: Paper and paperboard net trade**



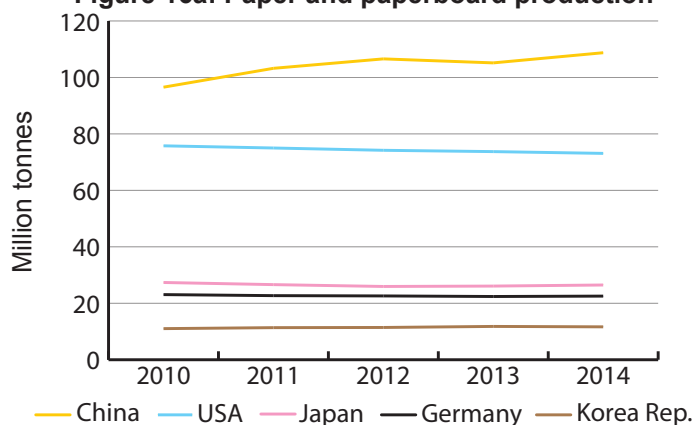
Paper and paperboard production increased over the period 2010–2014, from 394 million tonnes to 399 million tonnes (Figure 15a). Production in 2014 remained roughly the same in the previous three years.

Almost all of this growth was due to an 8 percent rise in production in the Asia-Pacific region, this offset the decline of 5 percent in Northern America. Production in all of the other three regions remained roughly the same. In 2014, the regional distribution of production was as follows: Asia-Pacific 187 million tonnes (47 percent); Europe, 105 million tonnes (26 percent); Northern America, 84 million tonnes (21 percent); Latin America and Caribbean, 20 million tonnes (5 percent); and Africa, 4 million tonnes (1 percent).

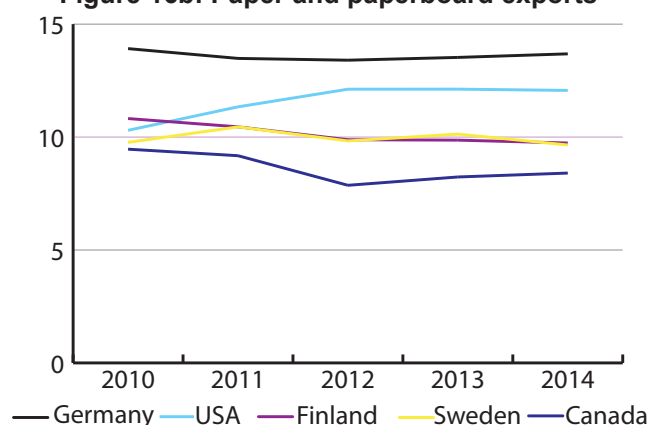
With respect to international trade, about a quarter of production is exported (roughly the same as the proportion of fibre furnish that is exported). Global trade remained quite stable at around 108 million tonnes over

the period. Thus, the changes in global demand (e.g. high growth in demand in Asia-Pacific and declining demand in Europe and Northern America) seem to have had more of an impact on international trade in fibre furnish than on trade in paper and paperboard.

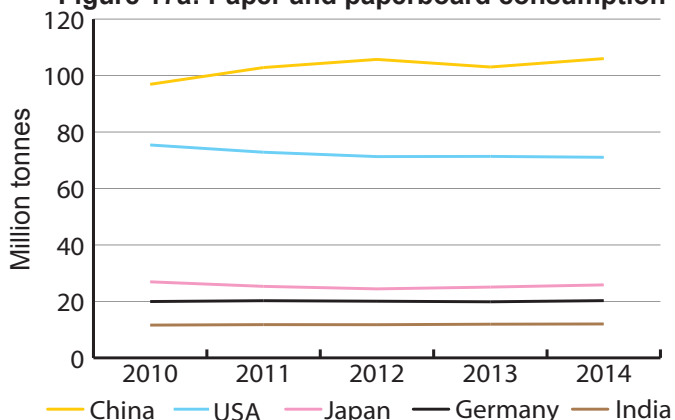
Figure 15b shows some growth in net trade between the regions in the observed period. Europe and Northern America are net exporting regions, with net exports of 12 million tonnes and 8 million tonnes respectively in 2014. Asia-Pacific, Latin America and Caribbean, and Africa are all net importers, with net imports of 7 million tonnes, 6 million tonnes and 5 million tonnes respectively in 2014.

**Figure 16a: Paper and paperboard production**

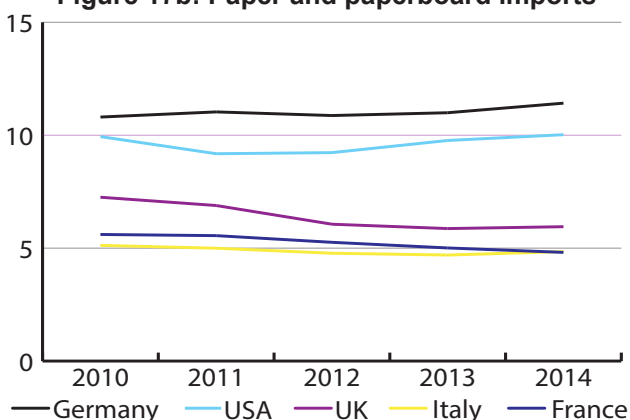
The two largest paper and paperboard producers in 2014 were China (109 million tonnes) and the USA (72 million tonnes) (Figure 16a). Their combined production accounted for 45 percent of global production. The other three largest producers were Japan (26 million tonnes), Germany (23 million tonnes) and the Republic of Korea (12 million tonnes), which accounted for another 15 percent of global production. China and the Republic of Korea were the only countries that increased their production (by 13 percent and 6 percent respectively) over the observed period. Production in Japan and Germany remained about the same in 2010 and 2014, while the USA saw a decline of 4 percent.

**Figure 16b: Paper and paperboard exports**

Exports from the five largest paper and paperboard exporters ranged between 8 million tonnes and 14 million tonnes (Figure 16b). These five countries – Germany, the USA, Finland, Sweden and Canada – exported 54 million tonnes (48 percent of global exports) in 2014. Figure 16b also shows that exports are quite variable from year to year. Exports from the USA trended upwards (e.g. an increase of 17 percent) over the observed period, while they declined or remained unchanged in the four other countries. Exports from Canada and Finland declined by 10 percent.

**Figure 17a: Paper and paperboard consumption**

Trends in paper and paperboard consumption were similar to the trends in production, except that India (rather than the Republic of Korea) was the fifth-largest consumer in the world (Figure 17a). Consumption in China increased by 9 percent, from 97 million tonnes in 2010 to 106 million tonnes in 2014. After a pause in 2013 when production and consumption fell slightly, in the following year China resumed its growth. Consumption remained quite stable in India, Germany and Japan, while it gradually decreased by 6 percent in the USA. Total consumption in the five largest consumers amounted to 235 million tonnes in 2014, or 59 percent of global consumption.

**Figure 17b: Paper and paperboard imports**

The five largest importers – Germany, the USA, the UK, Italy and France – imported a similar amount of paper and paperboard every year (from 36 million tonnes to 39 million tonnes over the observed period). A sharp decline in imports was seen in the UK (18 percent) and France (14 percent) over the period (Figure 17b). In other three countries imports remained quite stable. The other notable feature of international trade in paper and paperboard is that imports are distributed much more evenly across different countries, with these top five importers accounting for only 34 percent of global imports in 2014.



**Figure 18a: Paper and paperboard production**

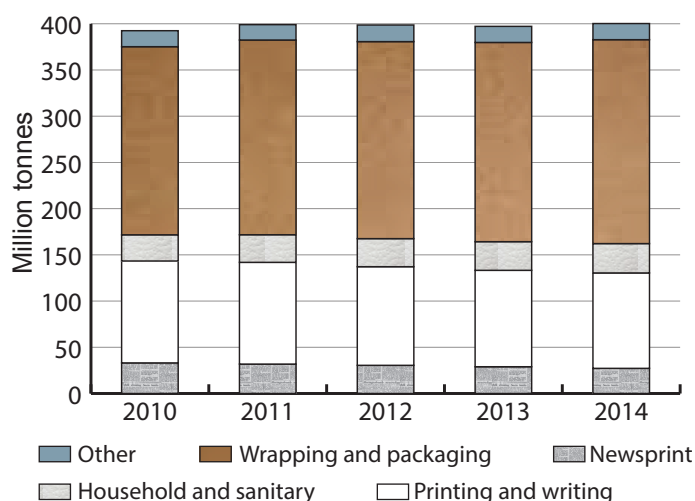
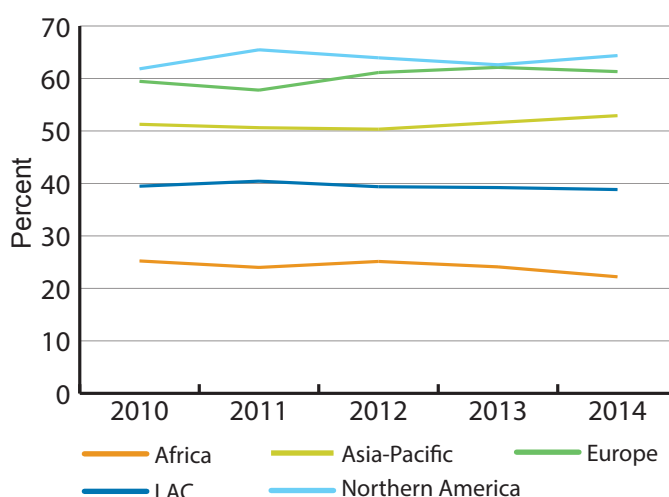


Figure 18a shows the distribution of paper and paperboard production among the five different product types of this group. Wrapping and packaging paper accounted for over half (221 million tonnes, or 55 percent of the total) of all production in 2014. Printing and writing paper was the second-largest (103 million tonnes or 26 percent of the total), followed by household and sanitary paper (8 percent), newsprint (7 percent), and other paper and paperboard. The two main trends in the different products are the gradual decline graphic papers (newsprint and printing and writing papers) and growth in other paper paperboard grades. Newsprint production fell by 17 percent, from 33 million tonnes in 2010 to 27 million tonnes in 2014, and printing and writing paper declined by 6 percent (from 110 million tonnes to 103 million tonnes) over the same period. Wrapping and packaging paper production increased by 8 percent (from 204 million tonnes to 221 million tonnes) over the period. Household and sanitary paper production also increased (by 12 percent, from 28 million tonnes to 32 million tonnes) and production of other paper remained roughly the same over the period.

Figure 18b shows the amount of paper consumption collected for re-use in the pulp and paper industry (i.e. the recovery rate). At the global level, this remained roughly the same at 55 percent over the observed pe-

**Figure 18b: Recovered paper recovery rate**



riod. In the three main regions that consume paper and paperboard (and use recovered paper), the recovery rates were high and remained stable over the period. In 2014, Northern America and Europe had the highest recovery rate (64 percent and 61 percent, respectively), followed the Asia-Pacific region (53 percent).

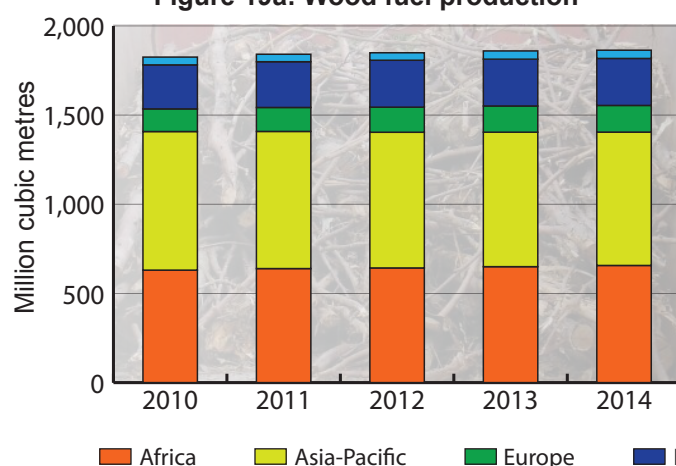
Some of the factors that explain the differences in recovery rates are the same as noted previously (for the utilisation rate), but one other important factor is the “hidden” trade in wrapping and packaging paper. This occurs where manufactured goods are packed in paperboard and traded across borders (and therefore the movement of the paperboard is not recorded). This partly explains the relatively low recovery rate in the Asia-Pacific region, where packaging of goods for export is counted as paperboard consumption, but then this packaging is recovered and counts as fibre furnish production in other regions such as Europe and Northern America.

## Wood fuel, charcoal and pellets

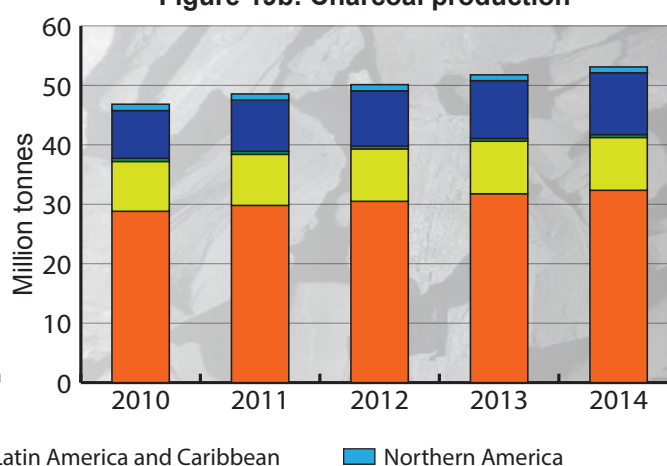
Wood fuel is roundwood that is used as fuel for cooking, heating or power production and it includes wood used to make charcoal. It includes wood harvested from main stems, branches and other parts of trees (where these will be used for fuel) and wood chips to be used for fuel that are made directly (i.e. in the forest) from roundwood. However, it does not include all types of wood used for energy (e.g. wood residues from the forest processing industry, black liquor or recovered wood waste). It is subdivided into wood fuel from coniferous and non-coniferous species and statistics for charcoal production and trade are also presented as a separate dataset in FAOSTAT and the Yearbook. Data series for wood pellets and other agglomerates (briquettes, etc.) appear in FAOSTAT from 2012 onwards.



**Figure 19a: Wood fuel production**



**Figure 19b: Charcoal production**



Global wood fuel production amounted to 1 864 million m<sup>3</sup> in 2014 (Figure 19a). This was a minor increase (less than 1 percent) from 2013 and a 2 percent increase from 2010. At the regional level there are some differences in trends. For example, wood fuel production decreased in Asia-Pacific (by 4 percent) over the period 2010–2014, but it increased in Europe (by 18 percent), Latin America and Caribbean (7 percent), Northern America (6 percent) and Africa (4 percent) over the same period.

The Asia-Pacific region was the largest wood fuel-producing region in 2014, accounting for 40 percent (748 million m<sup>3</sup>) of global production. Africa ranked second, with a 35 percent share (658 million m<sup>3</sup>), followed by Latin America and Caribbean (14 percent), Europe (8 percent) and Northern America (2 percent). If current growth trends continue, Africa will produce about the same amount of wood fuel as the Asia-Pacific region by 2025.

About 53 million tonnes of wood charcoal were produced in 2014, with an increase of 13 percent over the observed period (Figure 19b). In 2014, Africa

accounted for 61 percent of global charcoal production and was the only region in the world where charcoal production was increasing constantly both in absolute and relative terms (with an increase in production from 29 million tonnes in 2010 to 32 million tonnes in 2014). Production in Latin America and Caribbean grew consistently to reach 10 million tonnes in 2014, an increase of 29 percent from 2010. Charcoal production was relatively low and remained mostly unchanged in the other three regions.

Different production growth in Africa and Latin America can be explained that the main charcoal users vary in these two regions. In Africa, charcoal is mainly used by urban households for cooking, so consumption trends change only gradually. In Latin America and Caribbean, the steel industry in Brazil is the main charcoal consumer, so trends in production are closely linked to (more volatile) economic trends.

**Figure 20: Amount of roundwood used as wood fuel in 2014**

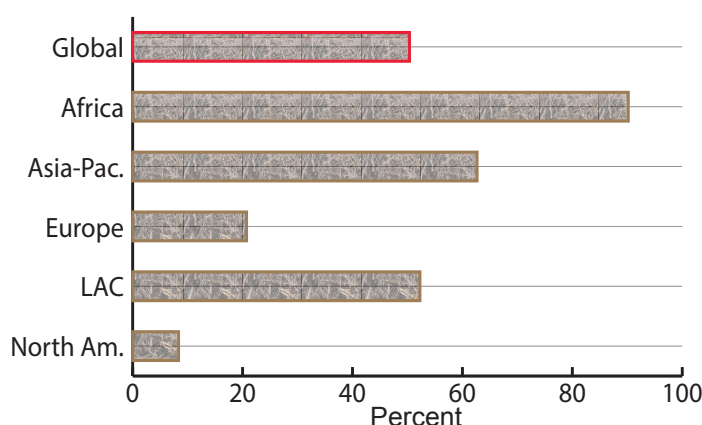


Figure 20 shows the proportion of all roundwood production that was used as wood fuel in 2014 (in FAO statistics, roundwood is simply divided into industrial roundwood and wood fuel). At the global level, wood fuel production accounted for slightly more than half (51 percent) of all roundwood produced in 2014. This proportion declined only slightly, from 52 percent, over the observed period.

Wood fuel production is most important in Africa, where it accounted for 90 percent of roundwood production in 2014. It is also relatively important in the Asia-Pacific region, where it accounted for 64 percent of roundwood production. Wood fuel use in Latin America and Caribbean (at 54 percent of all roundwood production) was close to the global average, whereas in Europe and Northern America it accounted for only 20 percent and 8 percent respectively of all roundwood production. These proportions did not change much in most of the regions over the period.

In contrast to the trends for wood fuel and charcoal, production and trade in wood pellets continued to surge (Figure 21a). Pellets production increased from 23 million tonnes in 2013 to 26 million tonnes in 2014. Nearly all production was concentrated in Europe and Northern America. In 2014, the regional distribution of production was as follows: Europe, 16.0 million tonnes (61 percent); Northern America, 8.8 million tonnes (33 percent);

Asia-Pacific – 1.4 million tonnes (5 percent); and Latin America and Caribbean and Africa, 0.1 million tonnes each (1 percent combined).

With respect to international trade, over half of production (55 percent) was exported in 2014. Exports increased from 13 million tonnes in 2013 to 15 million tonnes in 2014. Net trade between the regions grew as well. Northern America is a net exporting region, with net exports of 5 million tonnes in 2014 (Figure 21b). Europe and Asia-Pacific are net importers, with net imports of 4 million tonnes and 1 million tonnes respectively in 2014.

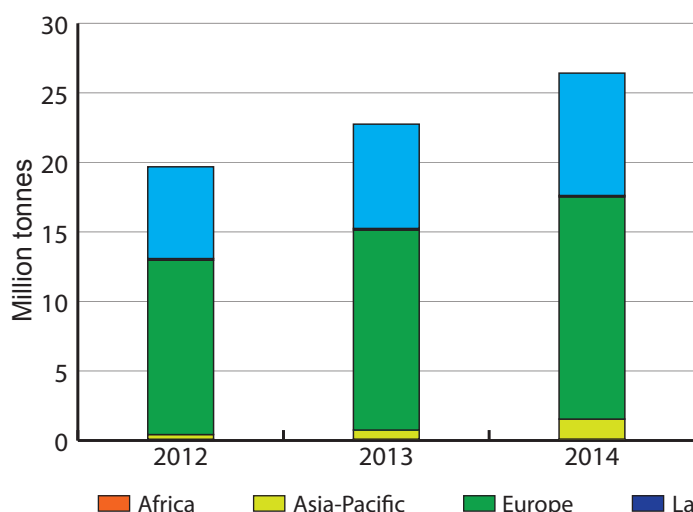
The five largest pellets producers in 2014 were the USA (6.9 million tonnes), Germany (2.1 million tonnes), Canada (1.9 million tonnes), Sweden (1.6 million tonnes) and Latvia (1.3 million tonnes). Together, their production accounted for 52 percent of global production.

Three of the five largest pellets producers (the USA, Canada and Latvia) are also the largest exporters, joined by the Russian Federation and Portugal. Together, these five countries exported 9 million tonnes (58 percent of global exports) in 2014.

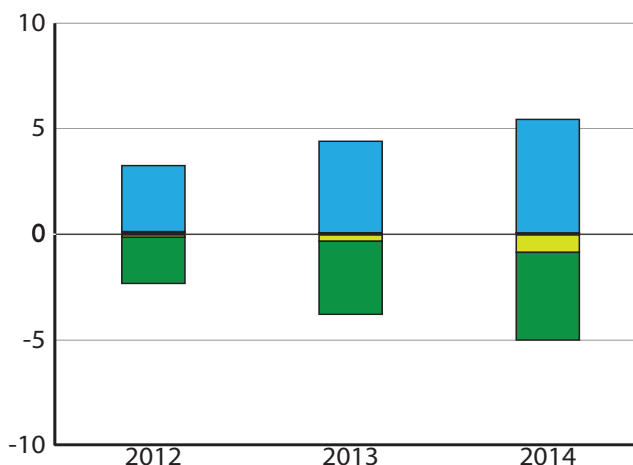
Only one main producers (the USA) is among the largest consumers. Four other countries that ranked among top five consumers of wood pellets in 2014 were the UK (first), Denmark (third after the USA) and Italy (fourth) and Sweden (fifth). Total consumption in these five countries amounted to 14 million tonnes in 2014, or 55 percent of global consumption.

The five largest importers (the UK, Denmark, Italy, Republic of Korea and Belgium) imported 11 million tonnes of wood pellets – an increase of 29 percent from 2013. Except for Belgium and Denmark, imports in all three countries increased. In the UK imports increased by 40 percent (from 3.4 million tonnes in 2013 to 4.8 million tonnes in 2014), and in the Republic of Korea imports soared from 0.5 million tonnes in 2013 to 1.8 million tonnes in 2014. Together, these five countries accounted for 79 percent of global imports in 2014.

**Figure 21a: Wood pellets production**



**Figure 21b: Wood pellets net trade**



## Development of FAO's forest products statistics

This final section presents some details of recent changes to FAO's forest products statistics, the results of capacity-building efforts and improvements in the collection and dissemination of statistics. Below are some highlights from 2015.

- **Enhancing dissemination of forest products statistics**

FAO's Forest products statistics [website](#) has been regularly updated and is available in Arabic, Chinese, English, French, Italian, Russian and Spanish.

- **Improving international statistical classifications**

- FAO, in collaboration with ATIBT, ITTO, UN-ECE and Eurostat, has contributed to a significant improvement in wood products classification in the Harmonized System (HS) through its proposal to the World Customs Organization (WCO) for the HS 2017 revision. The proposal includes an improvement in the explanatory notes on tropical wood species, an expansion of the species groups used in some parts of the nomenclature and a few other (wooden prefabricated building, other agglomerated wood waste, roundwood by major dimensions etc.). As of December 2015, all items of the proposal have been approved by the WCO Council, and an amendment of the Annex to the Explanatory Notes concerning the list of tropical wood species has been approved by the HS Committee. Some of the amendments will come into force on 1 January 2017 and others will become legally binding for contracting parties starting from 1 January 2018. More information about FAO's contribution to HS2017 is available at:

- [1\) WCO note on amendments to the HS Nomenclature effective from 1 January 2017](#)

- [2\) Article in WCO News magazine](#) (see page 16)

- [3\) Article for the Meeting of the Expert Group on International Statistical Classifications \(UN Statistics Division, May 2015\)](#)

- FAO has made a major contribution to an improvement of forest products classification in the Central Product Classification (CPC) Ver. 2.1, officially released in August 2015. Improvements include adding 21 new subclasses for forest products, giving more details (coniferous/non-coniferous) at the sub-class level, and providing greater harmonization with HS. The classification is available at UNSD's [website](#).

- FAO has been working on updating the [Classification and Definitions of Forest Products](#), published by FAO and the UNECE in 1982. Many items in the major international product and activities classification systems (e.g. CPC, HS, SITC) have been changed and updated several times since then. It is critical to have up-to-date classifications and definitions of forest products for national statisticians to provide statistics comparable across countries and over time.

- As a part of an ongoing effort to improve statistics on non-wood forest products (NWFPs), FAO has developed a document on NWFPs in the current national and international statistical classification systems. An open consultation on the document will take place in early 2016. A final report will be prepared based on feedback from expert consultation and on the results of the open consultation.

- **Strengthening national statistical capacity building and improving international statistical standards**

In 2015, FAO's Forest Products Programme launched [two projects](#) with a main focus on improving developing countries' capacity to collect statistics on forest products: one is to develop methodologies of incorporating a wood fuel module into existing national household surveys; the other is to develop guidelines on collecting forest products statistics for developing countries. Both projects are funded by the [Global Strategy to Improve Rural and Agricultural Statistics](#). They are expected to enhance countries' capacity to collect national data on primary forest products in a consistent, efficient and effective way.

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