

# Forestry Statistics 2021

## Chapter 9: International Forestry

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## Introduction

This chapter contains information about world forestry, presenting global figures by region alongside data for the UK and the EU. Topics covered include woodland area, carbon stocks, wood removals, production and apparent consumption of wood products and international trade in forest products.

The data are produced by the United Nations Food and Agriculture Organisation (FAO). Further information on the data sources and methodology used to compile the figures is provided in the Sources chapter.

All of the statistics presented in this chapter have been previously released by the FAO. For further details on revisions, see the International Forestry section of the Sources chapter.

Data for the European Union (EU) relate to all 27 current EU members, excluding the UK, for all of the years shown. Data for Europe cover 26 of the EU members (excluding Cyprus), the Russian Federation and a number of other European countries, including Norway, Switzerland, Serbia and Ukraine.

A copy of all International Forestry tables can be accessed in spreadsheet format from the Data Downloads web page at [www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/](http://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/).

## Key findings

The main findings are:

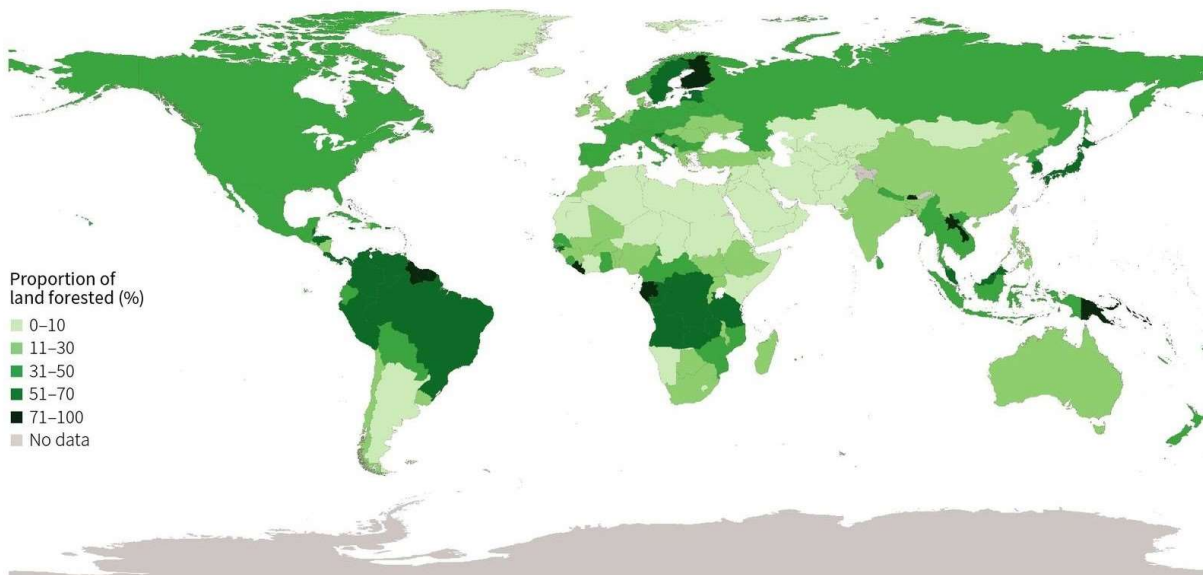
- At around 13% forest cover in 2020, the UK is one of the least densely forested countries in Europe. This compares with 46% for Europe as a whole and 31% worldwide.
- The global forest area reduced by around 4.7 million hectares (0.1%) per year between 2010 and 2020.
- Carbon stocks in forest living biomass have increased in Europe, North & Central America and Asia between 1990 and 2020, but have shown an overall decrease at a global level over this period.
- A total of 4.0 billion m<sup>3</sup> underbark of wood was removed from global forests in 2019, of which around one half (49%) was for use as woodfuel and the remainder was industrial roundwood (for use by wood processors).
- Global production of wood products in 2019 totalled 489 million m<sup>3</sup> of sawnwood, 373 million m<sup>3</sup> of wood-based panels and 405 million tonnes of paper & paperboard.
- Europe consumed 24% of all sawnwood, 23% of the world's wood-based panels and 22% of all paper and paperboard in 2019.
- The UK was the second largest net importer (imports less exports) of forest products in 2019, with net imports of US \$8.4 billion. The largest net importer was China.

## 9.1 Forest cover: international comparisons

The FAO Global Forest Resources Assessment (FRA) is a collation of forest data undertaken by the United Nations Food and Agriculture Organisation (FAO) at the global level every five years.

The UK is one of the least densely forested countries in Europe with around 13% of its total land area covered in forest in 2020 (Figure 9.1, Table 9.1). This compares with 46% for Europe as a whole and 31% worldwide.

Figure 9.1 Forest cover as a percentage of total land area: World, 2020



Source: FAO Global Forest Resources Assessment 2020.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

Table 9.1 Forest cover as a percentage of total land area: international comparisons, 2020

Country	Forest area (million ha)	Total land area (million ha)	Forest as % of land area
<b>Europe</b>			
United Kingdom	3	24	13
Denmark	1	4	15
Finland	22	30	74
France	17	55	32
Germany	11	35	33
Ireland	1	7	11
Italy	10	29	33
Spain	19	50	37
Sweden	28	41	69
Other EU	47	124	38
<b>Total EU<sup>1</sup></b>	<b>159</b>	<b>400</b>	<b>40</b>
Russian Federation	815	1,638	50
<b>Total Europe<sup>2</sup></b>	<b>1,017</b>	<b>2,213</b>	<b>46</b>
Africa	637	2,989	21
Asia	623	3,109	20
North & Central America	753	2,133	35
Oceania	185	849	22
South America	844	1,746	48
<b>World</b>	<b>4,059</b>	<b>13,039</b>	<b>31</b>

Source: FAO Global Forest Resources Assessment 2020.

Notes:

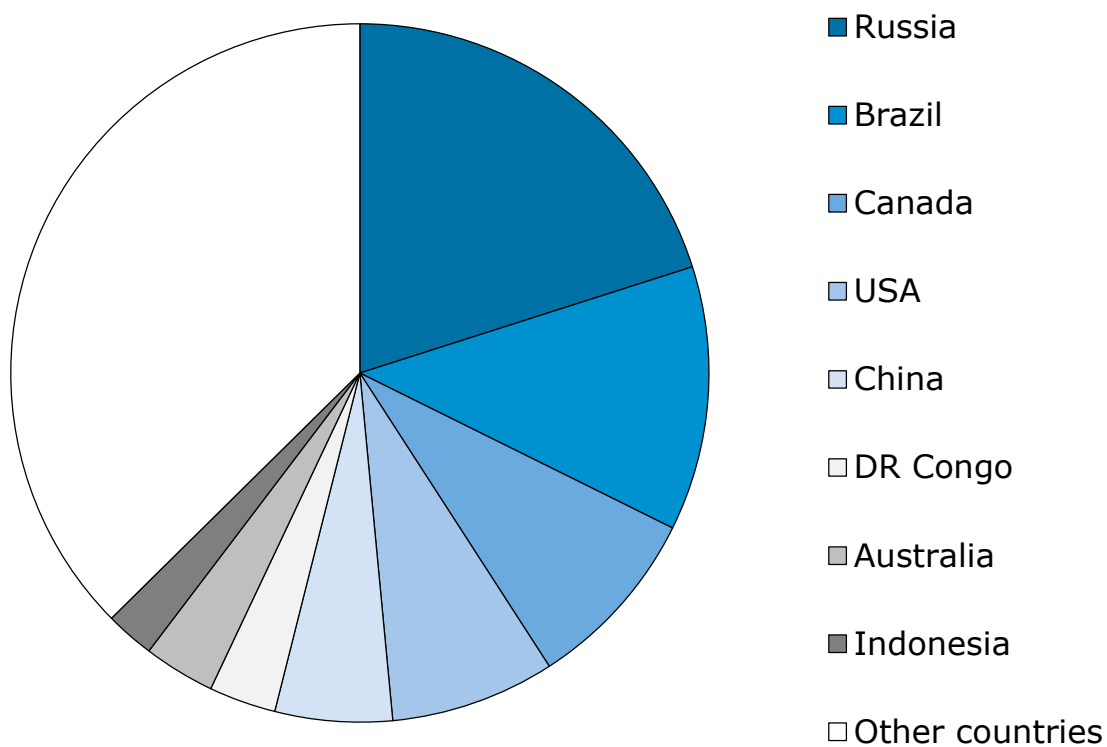
1. The EU covers 27 member states as at September 2020. This excludes the UK. Cyprus is included in EU total but is part of FAO's Asia region.
2. The Europe region covers 26 EU countries (excluding Cyprus), the UK, the Russian Federation and other countries, including Norway, Switzerland, Serbia and Ukraine.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

## 9.2 Forest area by country

Figure 9.2 shows the countries with the largest forest areas. Around one half (49%) of the total forest area of 4,059 million hectares in 2020 is located in four countries (the Russian Federation, Brazil, Canada and the USA).

Figure 9.2 Forest area by country, 2020



Source: FAO Global Forest Resources Assessment 2020.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.



### 9.3 Annual changes in forest area

The global forest area has reduced from around 4,128 million hectares in 1990 to 4,059 million hectares in 2020. This represents a decrease of around 7.8 million hectares (0.2%) per year between 1990 and 2000, of around 5.2 million hectares (0.1%) per year between 2000 and 2010 and of around 4.7 million hectares (0.1%) per year between 2010 and 2020 (Table 9.2).

The forest area has reduced in most regions since 1990, except for Europe and Asia (where areas have increased).

**Table 9.2 Annual changes in forest area by region, 1990-2020**

Region	percentage change in forest area		
	1990-2000	2000-2010	2010-2020
<b>Europe</b>			
UK	0.6	0.4	0.4
EU <sup>1</sup>	0.5	0.3	0.2
<b>Total Europe</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>
Africa	-0.4	-0.5	-0.6
Asia	0.0	0.4	0.2
North and Central America	0.0	0.0	0.0
Oceania	-0.1	-0.1	0.2
South America	-0.5	-0.6	-0.3
<b>World</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.1</b>

Source: FAO Global Forest Resources Assessment 2020.

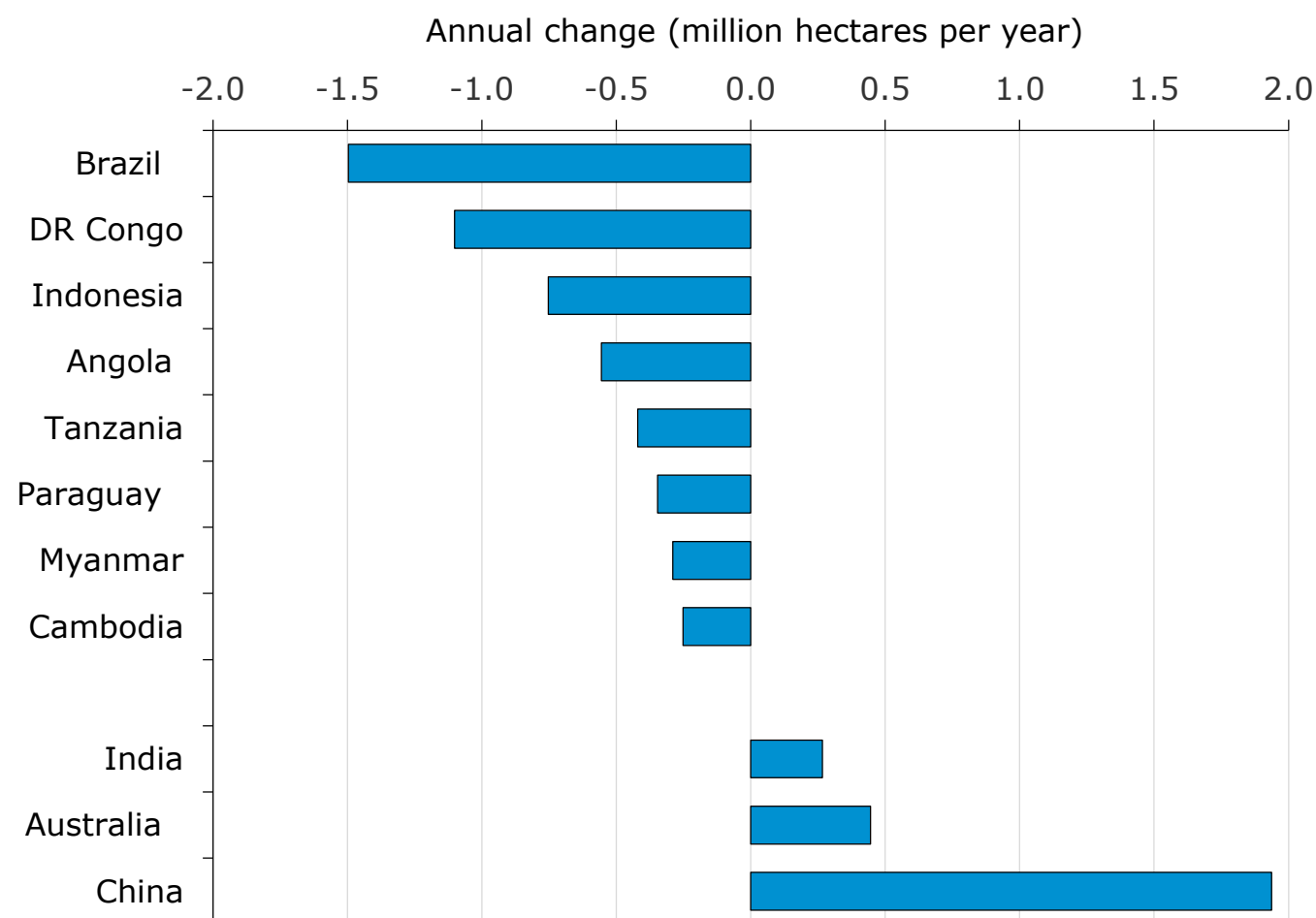
Notes:

1. The EU covers 27 member states as at September 2020. This excludes the UK. Cyprus is included in EU total but is part of FAO's Asia region.
2. UK figures for 2020 are 2018-based estimates. Revised estimates (from Chapter 1) suggest that Table 9.2 slightly under-estimates the change in forest area in the UK in the most recent time period.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

Between 2010 and 2020, the largest decrease in forest area was in Brazil (1.5 million hectares per year on average) and the largest increase was in China (1.9 million hectares per year on average) (Figure 9.3).

Figure 9.3 Countries with largest changes in forest area, 2010-2020



Source: FAO Global Forest Resources Assessment 2020.

Notes:

1. Countries with changes of at least 0.3 million hectares per year only.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

## 9.4 Forest carbon stocks

Carbon stocks in forest living biomass have increased in Europe and North & Central America between 1990 and 2020, but have shown an overall decrease at a global level over this period (Table 9.3).

The overall decrease has mainly been driven by declines in South America and Africa, where forest areas have decreased. Carbon stocks in biomass also increased slightly in Asia, where carbon sequestered in new plantations has balanced out carbon losses from areas of deforestation.

**Table 9.3 Carbon stocks in forest living biomass by region, 1990-2020**

giga tonnes of carbon

<b>Region</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Europe	45	48	51	53	55
Africa	59	56	54	52	51
Asia	34	35	36	37	38
North and Central America	39	40	41	41	42
Oceania	14	14	14	14	14
South America	106	102	98	97	96
<b>World</b>	<b>298</b>	<b>296</b>	<b>294</b>	<b>295</b>	<b>295</b>

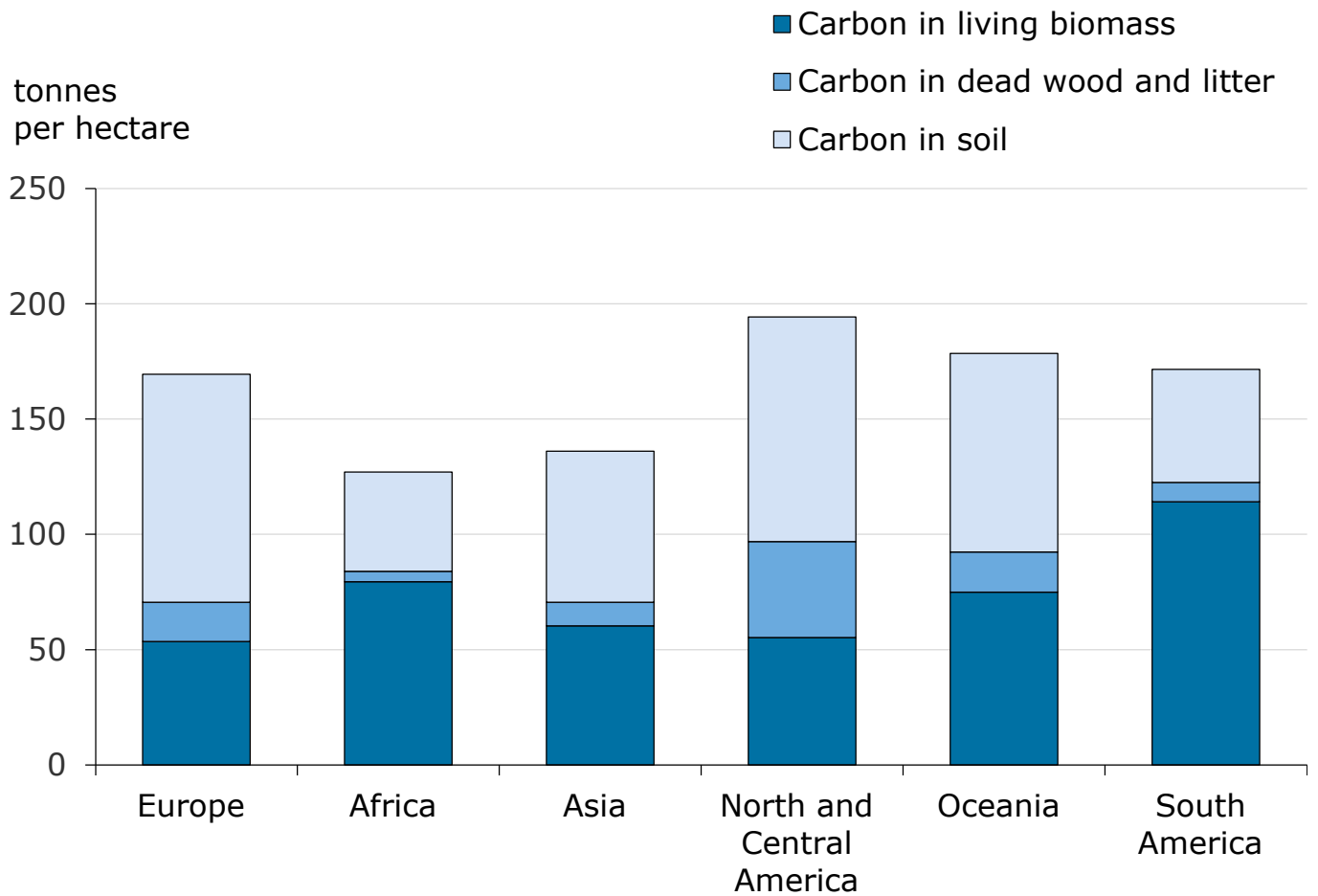
Source: FAO Global Forest Resources Assessment 2020.

Notes:

1. A giga tonne is a thousand million tonnes ( $10^9$  tonnes).

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

Figure 9.4 Forest carbon stock per hectare by region, 2020



Source: FAO Global Forest Resources Assessment 2020.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

## 9.5 Wood removals

A total of 4.0 billion m<sup>3</sup> underbark of wood was removed from global forests in 2019, of which around one half (49%) was for use as woodfuel and the remainder was industrial roundwood (for use by wood processors) (Table 9.4).

North & Central America and Europe together accounted for around three fifths (58%) of all industrial roundwood removals in 2019. Globally, removals of industrial roundwood increased by 9% between 2015 and 2019, resulting from increases in all regions.

Nearly three quarters (73%) of woodfuel removals in 2019 took place in Asia and Africa. Globally, removals of woodfuel increased by 2% between 2015 and 2019.

Table 9.4 Wood removals by region, 1990-2019

million m<sup>3</sup> underbark

Region	1990	2000	2010	2015	2019
<b>Industrial roundwood</b>					
<b>Europe</b>					
UK	6	8	8	9	8
EU <sup>1</sup>	311	335	331	343	384
<b>Total Europe</b>	<b>517</b>	<b>519</b>	<b>533</b>	<b>579</b>	<b>639</b>
Africa	61	71	72	75	78
Asia	268	273	379	403	453
North & Central America	595	631	484	515	539
Oceania	34	47	57	64	77
South America	110	147	198	217	232
<b>World</b>	<b>1,585</b>	<b>1,690</b>	<b>1,723</b>	<b>1,854</b>	<b>2,020</b>
<b>Woodfuel</b>					
<b>Europe</b>					
UK	0	0	1	2	2
EU <sup>1</sup>	67	85	115	119	122
<b>Total Europe</b>	<b>138</b>	<b>109</b>	<b>155</b>	<b>169</b>	<b>175</b>
Africa	445	551	644	679	706
Asia	897	808	764	735	713
North & Central America	162	129	129	136	161
Oceania	9	13	11	10	10
South America	162	185	162	171	180
<b>World</b>	<b>1,814</b>	<b>1,795</b>	<b>1,864</b>	<b>1,901</b>	<b>1,944</b>
<b>Total roundwood</b>					
<b>Europe</b>					
UK	6	8	10	11	11
EU <sup>1</sup>	378	420	446	462	506
<b>Total Europe</b>	<b>655</b>	<b>628</b>	<b>687</b>	<b>748</b>	<b>814</b>
Africa	506	623	715	754	784
Asia	1,166	1,081	1,144	1,138	1,165
North & Central America	757	761	614	652	701
Oceania	43	60	68	74	87
South America	272	332	359	388	413
<b>World</b>	<b>3,399</b>	<b>3,485</b>	<b>3,587</b>	<b>3,755</b>	<b>3,964</b>

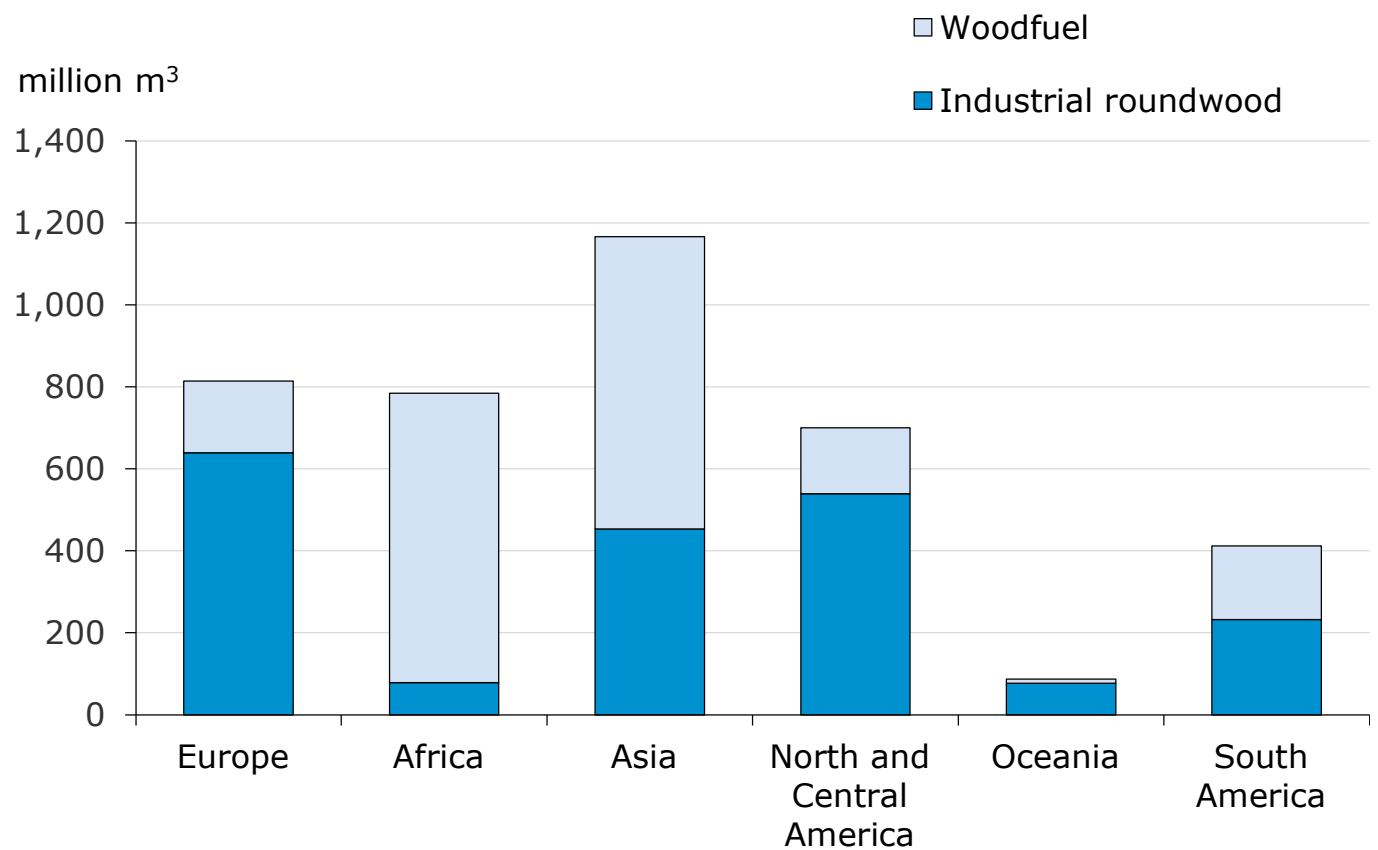
Source: FAO.

Notes:

1. The EU covers 27 member states as at September 2020. This excludes the UK. Cyprus is included in EU total but is part of FAO's Asia region.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

Figure 9.5 Wood removals by region, 2019



Source: FAO.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

## 9.6 Production of wood products

Global production of wood products in 2019 totalled 489 million m<sup>3</sup> of sawnwood, 373 million m<sup>3</sup> of woodbased panels and 405 million tonnes of paper & paperboard (Table 9.5).

Europe produced around one third (35%) of all sawnwood in 2019 (mainly in EU countries), with over one quarter (28%) in Asia and a further quarter (26%) produced in North & Central America. Overall, sawnwood production increased by 9% between 2015 and 2019, driven by increases in most regions.

Wood-based panels were more commonly produced in Asia, accounting for over one half (56%) of global production in 2019. Nearly one quarter (24%) were produced in Europe (mainly in EU countries) and 13% in North & Central America. At a global level, wood-based panel production increased by 8% between 2015 and 2019, mainly driven by increases in Europe and in Asia.

Asia also accounted for almost one half (48%) of paper and paperboard production in 2019, with around one quarter (26%) in Europe and a further 21% in North & Central America. At a global level, paper and paperboard production was virtually unchanged between 2015 and 2019.



Table 9.5 Production of wood products by region, 1990-2019

Region	1990	2000	2010	2015	2019
<b>Sawnwood (million m<sup>3</sup>)</b>					
<b>Europe</b>					
UK	2	3	3	3	3
EU <sup>1</sup>	80	98	98	101	109
<b>Total Europe</b>	<b>149</b>	<b>130</b>	<b>139</b>	<b>150</b>	<b>172</b>
Africa	8	8	9	10	12
Asia	105	61	86	125	139
North and Central America	129	146	102	127	129
Oceania	6	8	9	9	9
South America	22	32	30	26	27
<b>World</b>	<b>419</b>	<b>385</b>	<b>376</b>	<b>448</b>	<b>489</b>
<b>Wood-based panels (million m<sup>3</sup>)</b>					
<b>Europe</b>					
UK	2	3	3	3	3
EU <sup>1</sup>	34	48	53	56	60
<b>Total Europe</b>	<b>48</b>	<b>59</b>	<b>71</b>	<b>79</b>	<b>90</b>
Africa	2	1	2	2	3
Asia	27	46	153	196	210
North and Central America	44	61	42	48	48
Oceania	2	3	3	3	3
South America	4	8	15	16	18
<b>World</b>	<b>126</b>	<b>178</b>	<b>284</b>	<b>345</b>	<b>373</b>
<b>Paper &amp; paperboard (million tonnes)</b>					
<b>Europe</b>					
UK	5	7	4	4	4
EU <sup>1</sup>	59	83	91	88	86
<b>Total Europe</b>	<b>74</b>	<b>100</b>	<b>106</b>	<b>104</b>	<b>104</b>
Africa	3	4	4	4	3
Asia	57	95	170	192	195
North and Central America	92	111	94	88	84
Oceania	3	4	4	4	4
South America	8	11	15	15	16
<b>World</b>	<b>235</b>	<b>325</b>	<b>392</b>	<b>407</b>	<b>405</b>

Source: FAO.

Notes:

1. The EU covers 27 member states as at September 2020. This excludes the UK. Cyprus is included in EU total but is part of FAO's Asia region.

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## 9.7 Apparent consumption of wood products

Apparent consumption (defined as production + imports - exports) of wood products around the world totalled 482 million m<sup>3</sup> sawnwood, 371 million m<sup>3</sup> wood-based panels and 403 million tonnes of paper and paperboard in 2019 (Table 9.6).

Two fifths (41%) of all sawnwood in 2019 was consumed in Asia and around one quarter each in North & Central America (26%) and in Europe (24%). Reflecting the increased production of sawnwood (see Table 9.5), apparent consumption of sawnwood increased by 9% overall between 2015 and 2019. This was driven by increases in apparent consumption in Asia, Europe and North & Central America.

Asia consumed over one half (56%) of the world's wood-based panels in 2019, around one quarter (23%) was consumed in Europe and 15% in North & Central America. Apparent consumption of wood-based panels worldwide increased by 9% between 2015 and 2019, largely resulting from increased demand in Asia and in Europe.

Around one half (50%) of all paper and paperboard in 2019 was consumed in Asia, around one fifth (22%) in Europe and a further one fifth (21%) in North & Central America. At a global level, apparent consumption of paper and paperboard in 2019 achieved levels similar to those reported in 2015.

Table 9.6 Apparent consumption of wood products by region, 1990-2019

Region	1990	2000	2010	2015	2019
<b>Sawnwood (million m<sup>3</sup>)</b>					
<b>Europe</b>					
UK	13	10	9	10	10
EU-28 <sup>1</sup>	83	90	82	79	86
<b>Total Europe</b>	<b>158</b>	<b>121</b>	<b>110</b>	<b>107</b>	<b>116</b>
Africa	10	10	17	19	17
Asia	112	78	116	170	197
North and Central America	119	143	95	119	126
Oceania	6	8	8	8	8
South America	20	27	26	20	19
<b>World</b>	<b>426</b>	<b>387</b>	<b>372</b>	<b>444</b>	<b>482</b>
<b>Wood-based panels (million m<sup>3</sup>)</b>					
<b>Europe</b>					
UK	5	6	6	6	7
EU-28 <sup>1</sup>	36	46	48	51	58
<b>Total Europe</b>	<b>52</b>	<b>57</b>	<b>67</b>	<b>73</b>	<b>85</b>
Africa	1	2	3	4	6
Asia	25	50	148	192	207
North and Central America	44	64	48	56	56
Oceania	2	2	3	3	3
South America	3	6	12	13	14
<b>World</b>	<b>127</b>	<b>181</b>	<b>282</b>	<b>342</b>	<b>371</b>
<b>Paper &amp; paperboard (million tonnes)</b>					
<b>Europe</b>					
UK	9	12	11	9	8
EU-28 <sup>1</sup>	53	72	74	71	70
<b>Total Europe</b>	<b>71</b>	<b>90</b>	<b>95</b>	<b>91</b>	<b>90</b>
Africa	4	5	7	8	8
Asia	62	103	178	198	201
North and Central America	88	109	90	86	82
Oceania	3	5	5	4	4
South America	8	12	16	16	17
<b>World</b>	<b>236</b>	<b>325</b>	<b>391</b>	<b>403</b>	<b>403</b>

Source: FAO.

Notes:

1. The EU covers 27 member states as at September 2020. This excludes the UK. Cyprus is included in EU total but is part of FAO's Asia region.

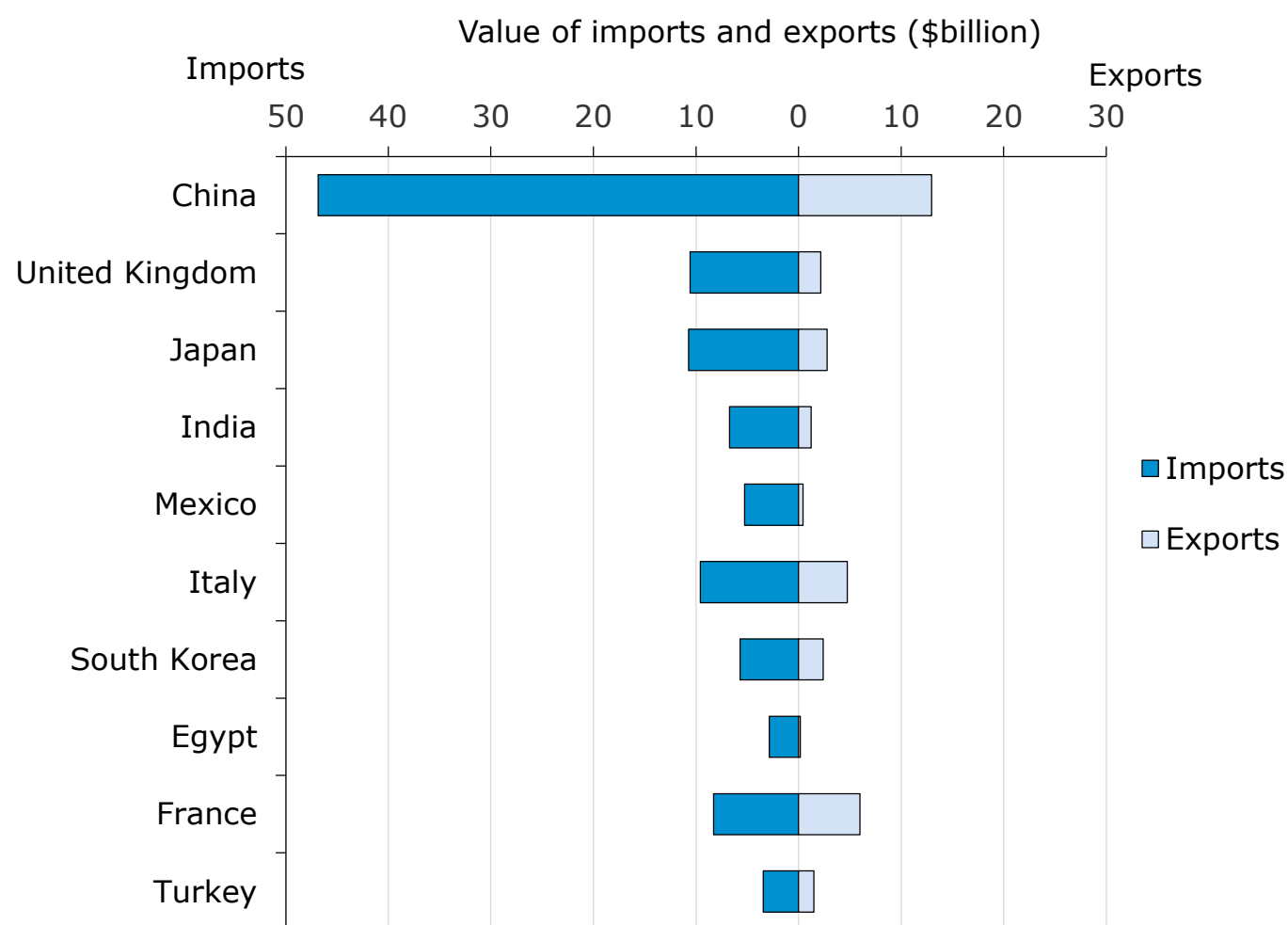
These figures are outside the scope of National Statistics. For further information see the Sources chapter.

## 9.8 World trade in forest products

Figures 9.6 and 9.7 show the largest net importers and exporters (by value) of forest products in 2019. This covers trade in roundwood, sawnwood, wood-based panels, wood pulp and paper and paperboard, but excludes trade in secondary processed wood (e.g. furniture made from wood). Values are expressed in US dollars (the units reported in the data published by FAO).

The UK was the second largest net importer (imports less exports) of forest products in 2019, with net imports of US \$8.4 billion (Figure 9.6). The largest net importer in 2019 was China (US \$33.9 billion) and Japan was the third largest net importer (US \$7.9 billion).

Figure 9.6 Largest net importers of forest products, 2019



Source: FAO

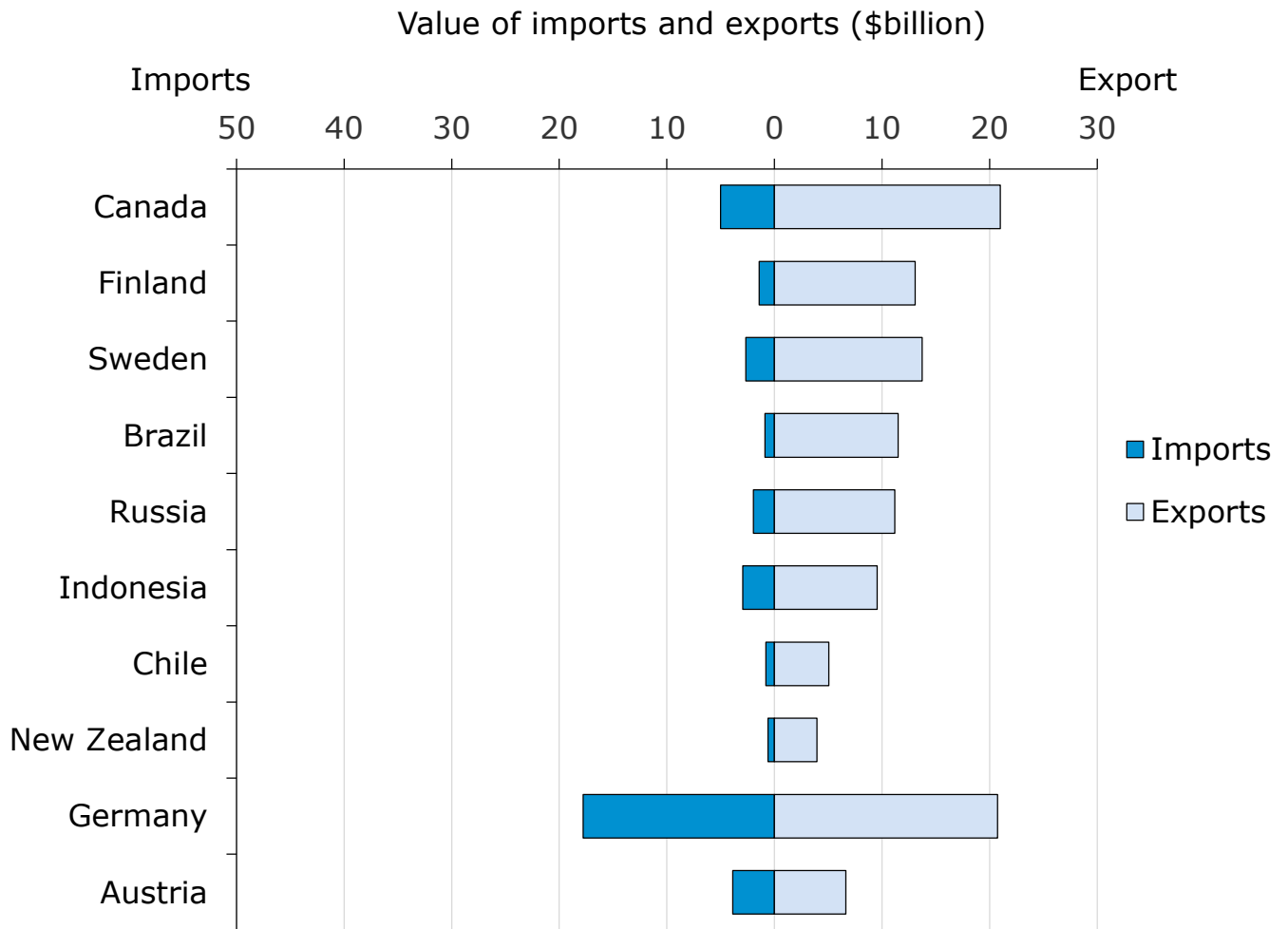
Notes:

1. Excludes trade in secondary wood products.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.

The largest net exporters (exports less imports) of forest products in 2019 were Canada (with net exports valued at US \$16.0 billion), Finland (US \$11.7 billion) and Sweden (US \$11.1 billion) (Figure 9.7).

Figure 9.7 Largest net exporters of forest products, 2019



Source: FAO

Notes:

1. Excludes trade in secondary wood products.

These figures are outside the scope of National Statistics. For further information see the Sources chapter.



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