

Forestry Statistics 2020

Chapter 2: UK-Grown Timber

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Introduction

This chapter covers the production of timber from woodland and the primary processing of harvested wood to give basic wood products.

Estimates for England, Wales, Scotland and Northern Ireland are included, in addition to UK totals, where possible.

International comparisons of timber production are available in the International Forestry chapter. Further information on the data sources and methodology used to compile the figures is provided in the Sources chapter.

Timber originating from conifers is known as softwood and that from broadleaves is known as hardwood. Please refer to the Glossary for a definition of other terms used in this chapter.

Figures for 2019 were previously published in "UK Wood Production and Trade: 2019 Provisional Figures", released on 14 May 2020. Some figures have been revised from those previously published. For further details on revisions, see the Timber section of the Sources chapter.

A copy of all UK-grown timber tables can be accessed in spreadsheet format from the Data Downloads web page at www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/.

Key findings

The main findings for 2019 are (with percentage changes from 2018):

Removals¹ (harvesting) of UK roundwood:

- 9.8 million green tonnes of softwood (-14%);
- 0.9 million green tonnes of hardwood (+4%).

Deliveries¹ of UK roundwood to wood processors and others:

- Total: 11.1 million green tonnes of roundwood (softwood and hardwood) (-3%), of which:
- Sawmills: 6.0 million green tonnes (-7%);
- Wood-based panels: 1.3 million green tonnes (+9%);
- Integrated pulp and paper mills: 0.5 million green tonnes (-5%);
- Woodfuel: 2.6 million green tonnes (unchanged);
- Other uses, including round fencing, shavings and exports of roundwood: 0.7 million green tonnes (-3%).

Production of wood products in the UK included:

- 3.5 million cubic metres of sawnwood (-6%);
- 3.2 million cubic metres of wood-based panels (+5%);
- 3.9 million tonnes of paper and paperboard (-1%).

¹ The difference between total removals and deliveries reported here (around 0.4 million green tonnes in 2019) is likely to reflect a number of factors, including changes in stock levels and the different data sources and methodologies used.

2.1 Wood production

Wood production (also referred to as removals) refers to the harvesting of roundwood (trunk and branch wood) from coniferous (softwood) and non-coniferous (hardwood) trees. Figures are generally expressed here in green tonnes (weight when freshly felled).

Removals should not be confused with deliveries, which are the quantities of UK-grown roundwood that is delivered to processors (mills) or for other uses (such as woodfuel and exports). Deliveries statistics are presented in Tables 2.5 and 2.6. A comparison of removals and deliveries of UK softwood roundwood is provided in the Sources chapter.

The figures on removals of UK roundwood are used to monitor trends in the UK forest sector. The data is also used alongside figures for standing volume (the volume of standing trees) and increment (the growth rate of standing trees) to compile natural capital accounts for inclusion in the UK Environmental Accounts released by the Office for National Statistics.

The data are derived from a number of sources:

- FE/FLS/NRW/FS figures are obtained from Forestry England, Forestry and Land Scotland, Natural Resources Wales and Forest Service administrative systems;
- Private sector softwood figures are obtained from the Private Sector Softwood Removals Survey;
- Total hardwood figures are estimated from hardwood deliveries figures, which are compiled from surveys of the UK-grown timber industry, trade associations and expert estimates.

2.1.1 Summary: wood production

It is estimated that a total of 10.7 million green tonnes of roundwood was removed from UK woodlands in 2019.

Softwood accounted for most (92%) removals from UK woodland and totalled 9.8 million green tonnes in 2019 (Table 2.1a). This represented a 14% decrease on the previous year’s figure.

Hardwood removals totalled 0.9 million green tonnes in 2019 (Table 2.1b).

Private sector woodlands accounted for 60% of softwood production and 92% of hardwood production in 2019.

Table 2.1a Softwood production, 2010-2019

thousand green tonnes

Year	FE/ FLS/ NRW/ FS ¹ woodland	Private sector ² woodland	Total softwood
2010	4,625	4,633	9,258
2011	4,870	5,186	10,056
2012	4,836	5,259	10,095
2013	5,084	5,852	10,936
2014	4,900	6,627	11,527
2015	4,691	5,968	10,659
2016	5,011	5,734	10,745
2017	4,761	6,075	10,836
2018	4,522	6,827	11,349
2019	3,937	5,864	9,801

Source: Forestry England, Forestry and Land Scotland, Natural Resources Wales, Forest Service, industry surveys, industry associations.

Notes:

- 1. FE: Forestry England, FLS: Forestry and Land Scotland, NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland).
- 2. Private sector: removals from all other woodland (including some publicly owned woodland).

Table 2.1b Hardwood production, 2010-2019

thousand green tonnes

Year	FE/ FLS/ NRW/ FS ¹ woodland	Private sector ² woodland	Total hardwood ^{3,4}
2010	70	464	534
2011	75	465	540
2012	55	478	533
2013	78	453	531
2014	71	465	536
2015	73	492	565
2016	68	528	596
2017	85	652	737
2018	88	746	835
2019	68	801	869

Source: Forestry England, Forestry and Land Scotland, Natural Resources Wales, Forest Service, industry surveys, industry associations.

Notes:

1. FE: Forestry England, FLS: Forestry and Land Scotland, NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland).
2. Private sector: removals from all other woodland (including some publicly owned woodland).
3. Most hardwood production in the UK comes from private sector woodland; the figures are estimates based on reported deliveries to wood processing industries and others.
4. The increase in hardwood removals between 2016 and 2017 is largely attributed to a revised estimate for deliveries of UK grown hardwood used for woodfuel (see Table 2.6). This new estimate should not be interpreted as an increase in a single year.

Data: Longer time series of the above table, including estimates by country (England/ Wales/ Scotland/ Northern Ireland) are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>.

2.1.2 Origin of private sector softwood removals

It is estimated that 70% of all softwood removals from private sector woodlands were harvested in Scotland, 21% in England, 8% in Wales and the remainder in Northern Ireland in 2019 (Table 2.2).

Despite a 14% decrease in private sector softwood removals in the UK in the latest year, the total for 2019 remains higher than the level at the beginning of the decade.

Table 2.2 Private sector softwood removals by country, 2010-2019
thousand green tonnes

Year	England	Wales	Scotland	Northern Ireland	UK
2010	678	427	3,471	57	4,633
2011	738	501	3,894	53	5,186
2012	847	611	3,761	40	5,259
2013	929	695	4,205	23	5,852
2014	1,165	739	4,691	33	6,627
2015	1,052	686	4,203	28	5,968
2016	1,013	643	4,043	34	5,734
2017	961	783	4,295	36	6,075
2018	1,130	628	5,022	47	6,827
2019	1,221	486	4,112	44	5,864

Source: Private Sector Softwood Removals Survey

Data: Longer time series of the above table, including estimates for hardwood removals and for removals from FE/FLS/NRW/FS woodlands are available from the Data Downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>.

2.1.3 Origin of FE/FLS/NRW/FS removals

Information on removals from Forestry England (FE), Forestry and Land Scotland (FLS), Natural Resources Wales (NRW) and Forest Service (FS) woodlands is obtained from administrative systems.

A total of 3.9 million green tonnes of softwood was removed from FE/FLS/NRW/FS woodlands in 2019, a 13% decrease from the 2018 figure (Table 2.3). This represents the lowest level in the last decade.

Over one half (54%) of FE/FLS/NRW/FS softwood removals in 2019 occurred in Scotland, 23% in England, 13% in Wales and 9% in Northern Ireland.

Table 2.3 FE/FLS/NRW/FS softwood removals by country, 2010-2019

thousand green tonnes

Year	England	Wales	Scotland	Northern Ireland	UK
2010	1,142	644	2,434	405	4,625
2011	1,185	689	2,566	430	4,870
2012	1,154	663	2,627	392	4,836
2013	1,188	693	2,819	384	5,084
2014	1,064	722	2,749	365	4,900
2015	1,023	692	2,644	333	4,691
2016	1,146	778	2,745	343	5,011
2017	1,087	660	2,666	349	4,761
2018	1,048	696	2,438	339	4,522
2019	905	525	2,143	364	3,937

Source: Forestry England (FE), Forestry and Land Scotland (FLS), Natural Resources Wales (NRW), Forest Service (FS).

Data: Longer time series of the above table, including estimates for hardwood removals and for removals from private sector woodlands are available from the Data Downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>.

2.1.4 Softwood availability forecast

The National Forest Inventory "50-year forecast of softwood availability" and "50-year forecast of hardwood availability" were published in April 2014. They are forecasts of potential availability rather than production, as they do not take account of management objectives, financial factors or the state of markets, all of which will affect the level of and timing of harvesting.

More information on the forecasts and detailed breakdowns are available on the National Forest Inventory web pages at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.

The forecasts are outside the scope of National Statistics, but are provided here to give more context to the data on wood production.

As these forecasts were produced in 2014, they do not take into account any of the findings from the '[preliminary estimates of the changes in canopy cover in British woodlands between 2006 and 2015](#)', released in August 2016.

The key assumptions underpinning the headline softwood forecast scenario include:

- Private woodland is managed in a way that maximises total production.
- The estate of Forestry England, Forestry and Land Scotland and Natural Resources Wales is managed according to current management plans; note that Forestry England, Forestry and Land Scotland, and Natural Resources Wales intend to cap production below the level set out in Table 2.4a.

Under the above scenario, softwood availability for Great Britain averages 15.2 million cubic metres a year over the 50-year period 2013 to 2061 (Table 2.4a). The majority (66%) of this softwood is projected to come from private sector woodland.

Table 2.4a Softwood availability forecasts

thousand m³ overbark standing

Annual average in the period	England	Wales	Scotland	GB
FE/FLS/NRW¹				
2013 - 2016	1,632	1,082	4 220	6,933
2017 - 2021	1,330	991	3,658	5,980
2022 - 2026	1,211	895	3,516	5,622
2027 - 2031	1,159	778	3,789	5,726
2032 - 2036	1,066	934	3,215	5,216
2037 - 2041	1,013	794	2,936	4,744
2042 - 2046	1,055	531	2,730	4,316
2047 - 2051	1,014	585	3,280	4,879
2052 - 2056	828	495	2,886	4,209
2057 - 2061	1,250	679	2,339	4,269
Private sector²				
2013 - 2016	2,945	901	5,708	9,554
2017 - 2021	3,225	949	6,997	11,171
2022 - 2026	2,903	1,087	7,830	11,820
2027 - 2031	2,986	775	8,910	12,671
2032 - 2036	2,850	736	8,847	12,433
2037 - 2041	2,224	679	8,133	11,035
2042 - 2046	1,848	490	6,527	8,865
2047 - 2051	1,523	521	4,986	7,030
2052 - 2056	1,431	734	5,679	7,845
2057 - 2061	1,603	694	5,627	7,924
Total softwood				
2013 - 2016	4,577	1,983	9,928	16,487
2017 - 2021	4,555	1,940	10,656	17,151
2022 - 2026	4,113	1,982	11,346	17,442
2027 - 2031	4,145	1,553	12,700	18,398

2032 - 2036	3,916	1,670	12,062	17,649
2037 - 2041	3,237	1,473	11,069	15,779
2042 - 2046	2,903	1,021	9,257	13,181
2047 - 2051	2,537	1,106	8,266	11,909
2052 - 2056	2,259	1,229	8,566	12,054
2057 - 2061	2,853	1,373	7,966	12,193

Source: National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014)³

Notes:

1. The estate of Forestry England (FE), Forestry and Land Scotland (FLS) and Natural Resources Wales (NRW) is assumed to be managed according to current management plans; note that Forestry England, Forestry and Land Scotland and Natural Resources Wales intend to cap production below the level set out in Table 2.4a.
2. Private woodland is assumed to be managed in a way that maximises total production.
3. More recent softwood availability forecasts, covering a 25 year period only, are available from the NFI web pages at: www.forestryresearch.gov.uk/tools-and-resources/national-forest-inventory/.
4. To convert softwood 'overbark standing' into green tonnes multiply by 0.818. See the Sources chapter for more details on conversion factors.

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

2.1.5 Hardwood availability forecast

The key assumptions underpinning the headline hardwood forecast scenario include:

- In private woodland, harvesting is limited to areas with evidence of recent thinning activity.
- The estate of Forestry England, Forestry and Land Scotland and Natural Resources Wales is managed according to current management plans.

Under the above scenario, hardwood availability for Great Britain averages 1.6 million m³ a year over the 50-year period (Table 2.4b). The majority (89%) of this hardwood is projected to come from private sector woodland. If these woodlands were managed to maximise total production, the forecast would be much higher, as illustrated in the full National Forest Inventory report available at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.

Table 2.4b Hardwood availability forecasts

thousand m³ overbark standing

Annual average in the period	England	Wales	Scotland	GB
FE/FLS/NRW¹				
2013 - 2016	126	12	9	147
2017 - 2021	92	11	9	111
2022 - 2026	110	17	10	137
2027 - 2031	86	12	10	108
2032 - 2036	99	14	15	128
2037 - 2041	129	19	24	172
2042 - 2046	189	56	31	276
2047 - 2051	116	19	40	175
2052 - 2056	134	28	45	208
2057 - 2061	146	28	64	237
Private sector²				
2013 - 2016	122	20	83	225
2017 - 2021	333	46	139	519
2022 - 2026	538	77	193	808

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2027 - 2031	720	100	233	1,054
2032 - 2036	825	115	262	1,202
2037 - 2041	1,047	153	367	1,567
2042 - 2046	1,915	243	586	2,743
2047 - 2051	1,678	227	675	2,580
2052 - 2056	1,254	198	554	2,006
2057 - 2061	645	139	343	1,127
Total hardwood				
2013 - 2016	249	32	92	373
2017 - 2021	425	58	148	631
2022 - 2026	648	94	203	945
2027 - 2031	806	112	244	1,162
2032 - 2036	923	130	277	1,330
2037 - 2041	1,176	171	391	1,738
2042 - 2046	2,104	299	616	3,019
2047 - 2051	1,795	246	715	2,755
2052 - 2056	1,388	227	599	2,214
2057 - 2061	791	167	406	1,364

Source: National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014)

Notes:

1. The estate of Forestry England (FE), Forestry and Land Scotland (FLS) and Natural Resources Wales (NRW) is assumed to be managed according to current management plans.
2. In private woodland, harvesting is assumed to be limited to areas with evidence of recent thinning activity. If these woodlands were managed to maximise total production, the forecast would be much higher, as illustrated in the full National Forest Inventory report available at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.
3. To convert hardwood 'overbark standing' into green tonnes multiply by 0.900. See the Sources chapter for more details on conversion factors.

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

2.2 Deliveries of UK-grown roundwood

Figures for deliveries relate to the quantity of UK-grown roundwood that is delivered to processors (mills) or for other uses (such as woodfuel and exports). They are expressed in green tonnes (weight when freshly felled). Statistics on roundwood deliveries are used to monitor trends in the supply of, and demand for, UK-grown wood.

Deliveries should not be confused with removals, which are the quantities of roundwood that is harvested from UK woodland. Removals statistics are presented in Tables 2.1 to 2.3. A comparison of removals and deliveries of UK softwood roundwood is provided in the Sources chapter.

The data are derived from a number of sources, including surveys of the UK-grown timber industry, trade associations and expert estimates.

2.2.1 Softwood deliveries

In 2019, deliveries of UK roundwood (softwood and hardwood) totalled 11.1 million green tonnes, a 3% decrease from the previous year (Tables 2.5 and 2.6).

Most UK roundwood deliveries (92%) were softwood and totalled 10.2 million green tonnes in 2019 (Table 2.5). 5.9 million green tonnes (58% of UK softwood deliveries) were used by sawmills, a 7% decrease from the previous year. A further 1.9 million green tonnes were used for wood fuel (unchanged from 2018), 1.3 million green tonnes were used to produce wood-based panels (a 13% increase), 0.5 million green tonnes by integrated pulp and paper mills (a 5% decrease), and 0.6 million green tonnes for other uses, including round fencing, shavings and exports of roundwood (a 7% decrease).

The increase in softwood deliveries for woodfuel in recent years reflects an increase in wood use for heating and energy production in the UK (see the Sources chapter for further information).

Table 2.5 Deliveries of UK-grown softwood, 2010-2019

thousand green tonnes

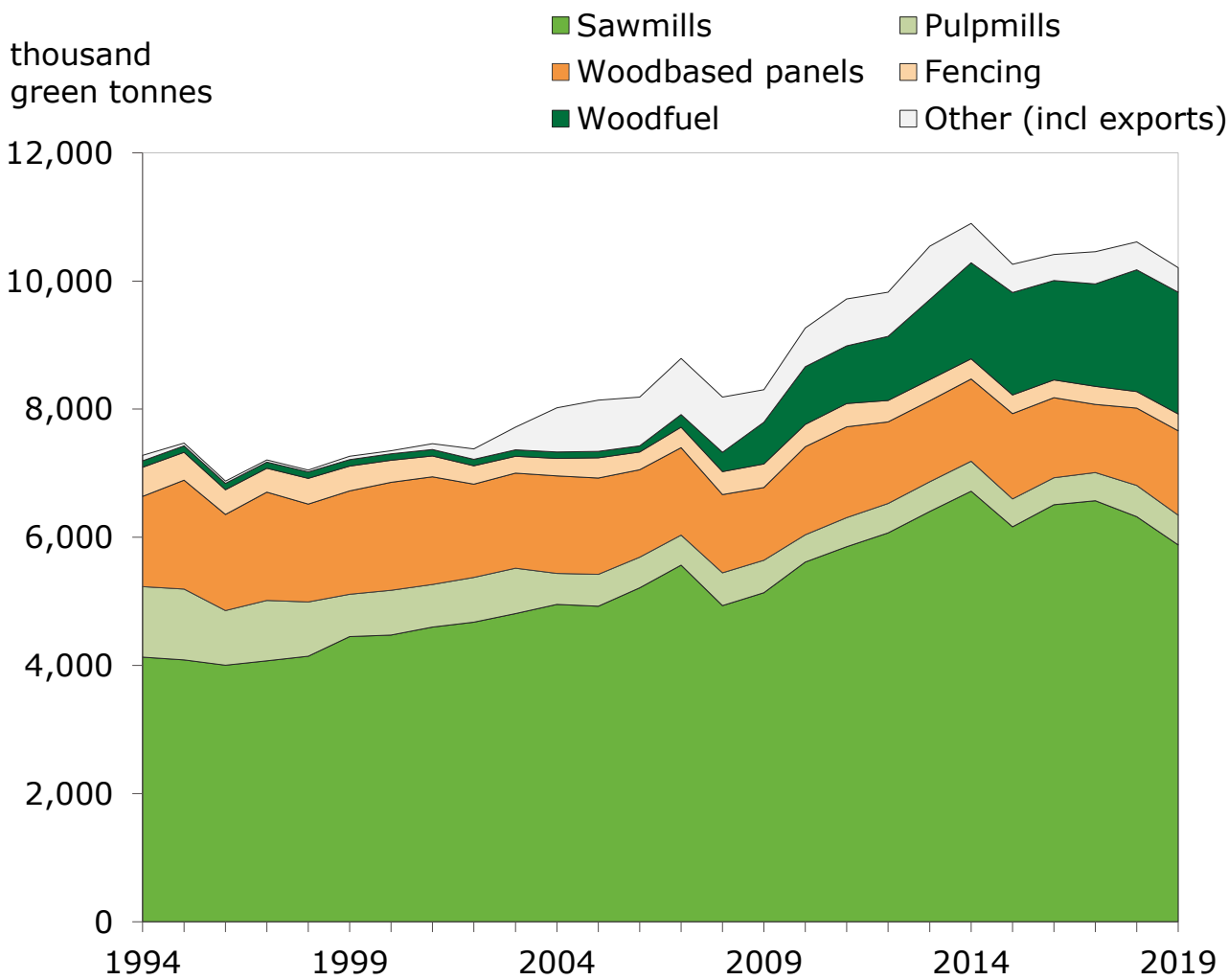
Year	Saw-mills	Pulp mills	Wood-based panels	Fencing	Wood fuel ¹	Other ²	Exports	Total
2010	5,611	428	1,375	349	900	135	467	9,265
2011	5,855	453	1,417	363	900	145	585	9,718
2012	6,069	461	1,269	338	1,000	154	535	9,826
2013	6,403	465	1,263	332	1,250	191	640	10,543
2014	6,721	465	1,283	317	1,500	176	437	10,899
2015	6,164	435	1,334	288	1,600	164	276	10,261
2016	6,507	423	1,248	277	1,550	178	231	10,415
2017	6,571	442	1,059	283	1,600	170	331	10,456
2018	6,322	486	1,210	255	1,900	174	264	10,611
2019	5,883	464	1,316	262	1,900	183	201	10,210

Source: industry surveys, industry associations.

Notes:

- 1. Woodfuel derived from stemwood, includes estimates of roundwood use for biomass energy. The figures are estimated by the Expert Group on Timber and Trade Statistics and make use of woodfuel data reported in the Private Sector Softwood Removals Survey.
- 2. Includes shavings and poles. Quantities for some uses are estimates by the Expert Group on Timber and Trade Statistics.

Figure 2.1 Deliveries of UK-grown softwood, 1994-2019



Source: industry surveys, industry associations.

2.2.2 Hardwood deliveries

There was a total of 0.9 million green tonnes of UK hardwood deliveries in 2019 (Table 2.6). The majority of UK hardwood deliveries (81% in 2019) were used for woodfuel.

Table 2.6 Deliveries of UK-grown hardwood, 2010-2019

thousand green tonnes

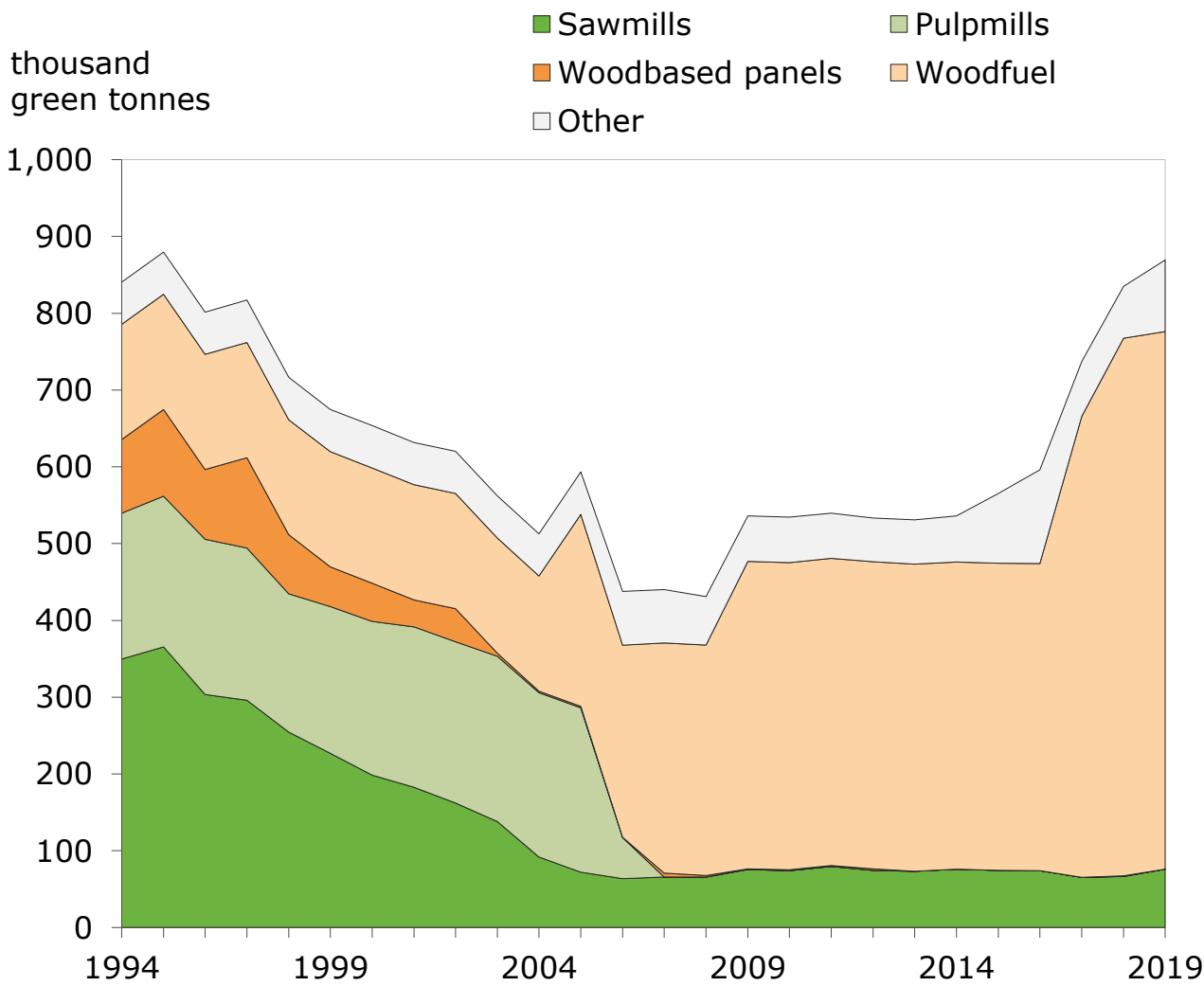
Year	Sawmills	Pulp mills	Wood-based panels	Woodfuel	Other	Total
2010	74	0	1	400	59	534
2011	80	0	1	400	59	540
2012	74	0	2	400	57	533
2013	73	0	0	400	58	531
2014	76	0	0	400	60	536
2015	75	0	0	400	91	565
2016	74	0	0	400	122	596
2017	65	0	0	600	71	737
2018	67	0	1	700	68	835
2019	76	0	0	700	93	869

Source: industry surveys, industry associations.

Notes:

1. Figures are based on processing industries' purchases of hardwood grown in the UK and estimates for woodfuel and other uses.
2. Woodfuel reported here is derived from stemwood and includes estimated roundwood use for biomass energy.
3. The apparent increase in woodfuel from 2016 to 2017 reflects a new estimate of the level of hardwood deliveries for woodfuel and should not be interpreted as an increase in a single year.
4. Other includes round fencing and roundwood exports.

Figure 2.2 Deliveries of UK-grown hardwood, 1994-2019



Source: industry surveys, industry associations.

Notes:

1. Other includes round fencing and roundwood exports.
2. The apparent increase in woodfuel from 2016 to 2017 reflects a new estimate of the level of hardwood deliveries for woodfuel and should not be interpreted as an increase in a single year.

2.3 Sawmills - All Mills

Data are collected by Forest Research in an annual Sawmill Survey. The following section includes summary results, covering number of mills, consumption and production are available for all mills.

In addition, there are also more detailed figures for larger mills only. The threshold defining larger mills was changed for the collection of 2016 data, from annual sawnwood production of 10 thousand m³ to annual sawnwood production of 25 thousand m³. Further information on this change is provided in the section on Larger Mills within this chapter and in the Sawmill Survey section of the Sources chapter.

Consumption units are given in green tonnes. For production, the units used are m³ sawnwood. For conversion factors between different units, see the Timber section of the Sources chapter.

2.3.1 Summary: consumption & production

In 2019, sawmills in the UK consumed a total of 6.2 million green tonnes of softwood, a 6% decrease from 2018 (Table 2.7a). A further 0.1 million green tonnes of hardwood were consumed by UK sawmills in 2019. Most of the logs, 5.9 million green tonnes softwood and 0.1 million green tonnes hardwood, were grown in the UK.

Despite a drop in the levels of softwood consumption in the UK in the last 2 years, the 2019 figure remains above the level earlier in the decade.

Table 2.7a Consumption by UK sawmills, 2010-2019

thousand green tonnes

Year	UK grown soft wood	Imported soft wood	Total soft wood	UK grown hard wood	Imported hard wood	Total hard wood
2010	5,611	103	5,715	74	19	93
2011	5,855	125	5,980	80	20	100
2012	6,069	124	6,194	74	17	92
2013	6,403	126	6,528	73	13	87
2014	6,721	159	6,880	76	14	90
2015	6,164	182	6,345	75	14	89
2016	6,507	209	6,716	74	17	91
2017	6,571	267	6,837	65	13	79
2018	6,322	325	6,647	67	13	80
2019	5,883	343	6,227	76	13	89

Source: Sawmill Survey

A total of 3.5 million m³ of sawnwood was produced in the UK in 2019, a 6% decrease from 2018.

In addition to producing sawnwood, sawmills also generate other products. Further information on other products produced by larger mills are provided in Tables 2.18 and 2.18a.

Table 2.7b Sawnwood production by UK sawmills, 2010-2019
thousand m³ sawnwood

Year	Softwood production	Hardwood production
2010	3,050	47
2011	3,223	51
2012	3,358	48
2013	3,532	45
2014	3,713	47
2015	3,447	46
2016	3,621	47
2017	3,720	41
2018	3,618	41
2019	3,410	47

Source: Sawmill Survey

2.3.2 Number of sawmills by size

A total of 150 sawmills processed UK roundwood in 2019 (Table 2.8). Most mills (83%) produced less than 25 thousand m³ sawnwood (softwood and hardwood) during the year.

Over the past ten years, the number of active sawmills has reduced by 20%. Most of this decrease has occurred in the smallest size categories.

Table 2.8 Number of sawmills by size category of mill, 2010-2019

Year	< 1	1 - <5	5 - <10	10 - <25	25 - <50	50 - <100	100+	Total
2010	73	51	13	24	8	10	9	188
2011	70	50	13	23	9	7	12	184
2012	69	48	14	19	11	8	11	180
2013	67	45	14	17	13	6	13	175
2014	69	40	14	17	13	8	12	173
2015	66	42	16	17	12	6	12	171
2016	60	41	16	20	6	10	13	166
2017	60	41	13	22	5	10	12	163
2018	60	35	12	21	8	7	12	155
2019	56	35	13	20	8	6	12	150

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m³.

Data: Longer time series of the above table are available from the Data Downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>

2.3.3 Number of sawmills by country

Around one half (54%) of the 150 active sawmills in 2019 were in England, around one third (32%) were in Scotland, 8% in Wales and 6% in Northern Ireland (Table 2.9).

Table 2.9 Number of sawmills by country, 2010-2019

Year	England	Wales	Scotland	Northern Ireland	UK
2010	98	17	64	9	188
2011	96	16	63	9	184
2012	95	15	61	9	180
2013	92	15	59	9	175
2014	92	15	57	9	173
2015	92	15	55	9	171
2016	89	14	54	9	166
2017	88	13	53	9	163
2018	83	12	51	9	155
2019	81	12	48	9	150

Source: Sawmill Survey

Data: Longer time series of the above table, and for mills in England by region, are available from the Data downloads web page at www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/.

2.3.4 Number of sawmills by type of wood sawn

Around two thirds (67%) of the 150 active sawmills in 2019 processed softwood only (Table 2.10). A further 27% processed both softwood and hardwood, and the remainder processed only hardwood.

Table 2.10 Number of sawmills by type of wood sawn, 2010-2019

Year	Softwood only	Hardwood only	Both	Total
2010	122	10	56	188
2011	120	10	54	184
2012	118	11	51	180
2013	118	11	46	175
2014	115	9	49	173
2015	112	9	50	171
2016	109	9	48	166
2017	109	10	44	163
2018	102	9	44	155
2019	101	8	41	150

Source: Sawmill Survey

2.3.5 Consumption of softwood by size of mill

Despite accounting for only 17% of all sawmills (see Table 2.8), those with total annual sawnwood production of 25 thousand m³ or more accounted for 85% of the total softwood consumed by sawmills in 2019 (Table 2.11).

Table 2.11 Consumption of softwood by size category of mill, 2010-2019

thousand green tonnes

Year	< 1	1 - <5	5 - <10	10 - <25	25 - <50	50 - <100	100 +	Total
2010	33	184	155	744	537	1,373	2,689	5,715
2011	32	176	156	685	615	830	3,486	5,980
2012	33	172	184	539	738	1,133	3,395	6,194
2013	36	173	177	476	804	777	4,085	6,528
2014	36	146	173	486	833	1,090	4,117	6,880
2015	31	156	204	553	795	801	3,805	6,345
2016	28	142	199	588	372	1,117	4,270	6,716
2017	29	152	152	692	339	1,352	4,122	6,837
2018	32	127	134	626	585	1,009	4,134	6,647
2019	30	127	169	639	550	831	3,881	6,227

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m³.

Data: Longer time series of the above table are available from the Data downloads web page at: <https://www.forestryresearch.gov.uk/tools-and-resources/statistics/data-downloads/>

2.3.6 Consumption of softwood by mills in each country

Mills in Scotland consumed around one half (48%) of the 6.2 million green tonnes of softwood delivered to UK sawmills in 2019 (Table 2.12). A further 32% was consumed by mills in England, 11% in Northern Ireland and 9% in Wales.

Table 2.12 Consumption of softwood by country, 2010-2019

thousand green tonnes

Year	England	Wales	Scotland	Northern Ireland	UK
2010	1,694	583	2,909	528	5,715
2011	1,726	634	3,078	543	5,980
2012	1,821	654	3,191	528	6,194
2013	1,879	702	3,416	532	6,528
2014	1,982	711	3,657	530	6,880
2015	1,917	655	3,243	531	6,345
2016	1,984	737	3,437	558	6,716
2017	2,089	691	3,475	583	6,837
2018	2,030	648	3,329	640	6,647
2019	1,993	561	2,994	678	6,227

Source: Sawmill Survey

Data: Longer time series of the above table, and for mills in England by region, are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>

2.3.7 Production of sawn softwood by size of mill

UK sawmills produced a total of 3.4 million m³ of sawn softwood in 2019, a 6% decrease from the 2018 figure (Table 2.13).

Sawmills with total annual sawnwood production of 25 thousand m³ or more accounted for 85% of the total sawn softwood produced by sawmills in 2019.

Table 2.13 Production of sawn softwood by size of mill, 2010-2019
thousand m³

Year	< 1	1 - <5	5 - <10	10 - <25	25 - <50	50 - <100	100 +	Total
2010	19	105	84	395	304	693	1,450	3,050
2011	18	101	86	374	335	443	1,867	3,223
2012	18	100	95	314	393	564	1,874	3,358
2013	20	100	93	287	429	404	2,200	3,532
2014	20	84	91	282	448	563	2,224	3,713
2015	18	90	111	296	466	422	2,045	3,447
2016	17	82	106	338	186	597	2,296	3,621
2017	17	88	77	384	178	647	2,328	3,720
2018	19	73	65	355	311	468	2,327	3,618
2019	18	72	80	349	306	382	2,203	3,410

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m³.

Data: Longer time series of the above table, are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>

2.3.8 Production of sawn softwood by mills in each country

1.7 million m³ (49%) of sawn softwood was produced by sawmills in Scotland in 2019 (Table 2.14). A further 33% was produced by mills in England, 10% in Northern Ireland and the remaining 8% in Wales.

Table 2.14 Production of sawn softwood by country, 2010-2019
thousand m³

Year	England	Wales	Scotland	Northern Ireland	UK
2010	927	291	1,556	275	3,050
2011	954	316	1,663	291	3,223
2012	1,001	326	1,743	288	3,358
2013	1,026	349	1,869	289	3,532
2014	1,091	354	1,981	286	3,713
2015	1,056	324	1,783	284	3,447
2016	1,093	366	1,867	294	3,621
2017	1,159	319	1,917	326	3,720
2018	1,122	308	1,837	351	3,618
2019	1,108	266	1,684	351	3,410

Source: Sawmill Survey

Data: Longer time series of the above table, and for mills in England by region, are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>

2.4 Sawmills - Larger Mills

The following, more detailed, tables are available for larger mills (those producing at least 25 thousand m³ sawnwood annually) only.

These larger mills are estimated to account for 85% of all sawn softwood produced in 2019 (see Table 2.13).

The threshold for inclusion in the more detailed survey of larger sawmills was raised from 10 thousand m³ sawnwood production to 25 thousand m³ sawnwood production in 2016. In order to provide consistent time series, data presented in this section for 2015 is also restricted to sawmills that produced at least 25 thousand m³ sawnwood.

The tables cover the following topics:

- Source of softwood logs;
- Sawn softwood product markets;
- Other softwood products; and
- Sawmill employment.

2.4.1 Softwood consumption and production

Total softwood consumption by the 26 sawmills covered by the detailed sawmill survey in 2019 was 5.3 million green tonnes (Table 2.15). Sawn softwood production by these mills was 2.9 million m³ and other softwood products (chips, bark, sawdust, etc) amounted to 2.5 million tonnes.

Sawmills in Scotland accounted for around one half (48%) of all softwood consumption by larger mills. A further 31% was consumed by mills in England, 12% in Northern Ireland and the remaining 8% in Wales.

Table 2.15 Larger mills¹, 2019: softwood consumption and production

Large mills	England	Wales	Scotland	Northern Ireland	UK
Number of mills	10	2	12	2	26
Consumption (thousand green tonnes)	1,652	434	2,538	638	5,262
Sawnwood production (thousand m ³)	928	198	1,435	329	2,891
Other products (thousand tonnes)	573	239	1,331	332	2,476

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

2.4.2 Source of softwood logs

Of all softwood sawlogs consumed by larger sawmills in 2019, 54% came from Scotland, 21% from England, 13% from Wales and 6% from Northern Ireland (Tables 2.16 and 2.16a). The remaining 7% were imported from other countries. The proportion of softwood sawlogs from Scotland has declined over the last 5 years, whilst the proportion of imported logs has increased.

96% of softwood sawlogs used by Scottish mills in 2019 came from Scotland. The corresponding proportions of mills' log use coming from within the same country were 60% for England, 72% for Wales and 46% for Northern Ireland.

Table 2.16 Larger mills¹, 2019: source of softwood logs
thousand green tonnes

Source	England	Wales	Scotland	Northern Ireland	UK
England	989	30	94	0	1,113
Wales	358	315	0	0	673
Scotland	305	78	2,444	12	2,839
Northern Ireland	0	0	0	294	294
Total UK logs	1,652	423	2,538	306	4,919
Other countries	0	12	0	332	343
Total log consumption	1,652	434	2,538	638	5,262

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

Table 2.16a Larger mills¹, 2015-2019: source of softwood logs
per cent of total softwood consumption

Year	England	Wales	Scotland	Northern Ireland	Other countries	Total
2015	19	13	60	4	3	100
2016	20	14	59	5	4	100
2017	20	14	57	4	5	100
2018	20	13	57	5	6	100
2019	21	13	54	6	7	100

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

2.4.3 Sawn softwood product markets

In 2019, 37% of sawn softwood produced by larger sawmills was used for fencing, 30% for construction, 26% for packaging and pallets, and the remaining 7% went to all other markets (Tables 2.17 and 2.17a).

Table 2.17 Larger mills¹, 2019 sawn softwood product markets
per cent of total softwood product markets

Product market	England	Wales	Scotland	Northern Ireland	UK
Construction	19	16	40	29	30
Fencing	53	30	27	36	37
Packaging/ pallets	24	45	24	26	26
Other	4	10	9	8	7
Total	100	100	100	100	100

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

Table 2.17a Larger mills¹, 2015-2019: sawn softwood product markets
per cent of total softwood product markets

Year	Construction	Fencing	Packaging/ pallets	Other	Total
2015	27	36	30	6	100
2016	28	35	30	7	100
2017	32	36	24	8	100
2018	33	36	24	7	100
2019	30	37	26	7	100

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

2.4.4 Other softwood products

Sawmills were asked to estimate the quantity of other products (excluding sawnwood) that they generated from softwood and sold to different industries. The figures presented below are based on these estimates.

Other softwood products amounted to 2.5 million tonnes in 2019 (Table 2.15). Around one third (36%) of other softwood products were sold to wood processing industries in the form of chips and 17% were sold to these industries in sawdust and other formats (Table 2.18). A further 20% of other products were sold to bio-energy (including pellet manufacturers), 19% were sold to others and 8% were used internally for heat or energy.

Table 2.18 Larger mills¹, 2019: other softwood products

per cent of total other softwood products

Destination and type of product ²	England	Wales	Scotland	Northern Ireland	UK
Sold to wood processing industries					
Wood chips	46	60	37	0	36
Bark	0	0	0	0	0
Sawdust & other	21	24	18	0	17
Total	67	84	54	0	53
Sold to bio-energy (incl pellet manufacturers)					
Wood chips	11	4	17	18	15
Bark	1	0	0	0	0
Sawdust & other	0	0	5	18	5
Total	12	4	22	36	20
Other sales					
Wood chips	3	0	6	20	7
Bark	9	11	9	11	9
Sawdust & other	4	0	4	2	3
Total	16	11	19	34	19
Internal use for heat/energy					
Wood chips	4	0	3	30	7
Bark	0	0	1	1	1
Sawdust & other	0	1	1	0	1
Total	5	1	5	31	8

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).

The proportions of other products that were reported as sold to wood processing industries have shown an overall reduction over the last five years (Table 2.18a).

Table 2.18a Larger mills¹, 2015-2019: other softwood products by destination

per cent of total other softwood products

Year	Sold to wood processing industries	Sold to bio-energy (incl pellet manufacturers)	Other sales	Internal use for heat/energy	Total ²
2015	60	21	17	2	100
2016	58	21	19	2	100
2017	56	22	19	3	100
2018	46	24	25	5	100
2019	53	20	19	8	100

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).
2. Total includes sales of firewood and other products disposed of as waste.

2.4.5 Sawmill employment

There were estimated to be 2.7 thousand full-time equivalent staff employed directly by sawmills producing at least 25 thousand m³ of sawnwood in 2019 (Tables 2.19 and 2.19a).

Table 2.19 Larger mills¹, 2019: sawmill employment

full-time equivalents

Employment type	England	Wales	Scotland	Northern Ireland	UK
Direct					
Line & production workers	777	152	1,039	252	2,220
Managerial & administrative staff	166	15	113	101	395
Haulage of logs to the mill	58	0	16	2	76
Total direct employment	1,001	167	1,168	355	2,691
Others²					
Line & production workers	20	0	56	0	76
Managerial & administrative staff	0	0	0	0	0
Total contract employment	20	0	56	0	76

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).
2. 'Others' refers to others undertaking work for the sawmill, including contractors and their employees.
3. The results exclude any employment on harvesting, and any employment at the site not directly related to the sawmill (e.g. exclude work producing pallets or other wood products from sawn wood).
4. Excludes haulage employment on contract.

Table 2.19a Larger mills¹, 2015-2019: sawmill employment
full-time equivalents

Employment	Line & production workers	Managerial & administrative staff	Haulage of logs to the mill	Total employment
Direct				
2015	2,341	394	44	2,779
2016	2,456	384	45	2,885
2017	2,369	428	79	2,875
2018	2,368	416	75	2,859
2019	2,220	395	76	2,691
Others²				
2015	58	0	..	58
2016	50	2	..	52
2017	76	3	..	79
2018	50	0	..	50
2019	76	0	..	76

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 25 thousand m³ sawnwood (softwood and hardwood).
2. Excludes haulage employment on contract.
3. .. Denotes data not available.

2.5 Pulp & paper

Statistics on inputs to the pulp & paper industry only cover the integrated pulp & paper mills in the UK that use UK roundwood. There were four such mills until 2003, three from 2004 and two from spring 2006. Figures on inputs are provided by the Confederation of Forest Industries (Confor).

Figures on production of pulp and paper are provided by the Confederation of Paper Industries, and cover all paper production in the UK, not just from mills using UK roundwood.

2.5.1 Inputs for the integrated pulp & paper mills

The integrated pulp & paper mills in the UK consumed a total of 0.5 million tonnes of material (all softwood) in 2019, a 3% decrease from the 2018 total (Table 2.20).

UK roundwood represented 88% of the inputs for the integrated pulp & paper mills in 2019, with the remaining 12% coming from sawmill products.

Table 2.20 Inputs for the integrated pulp & paper mills¹, 2010-2019
thousand green tonnes

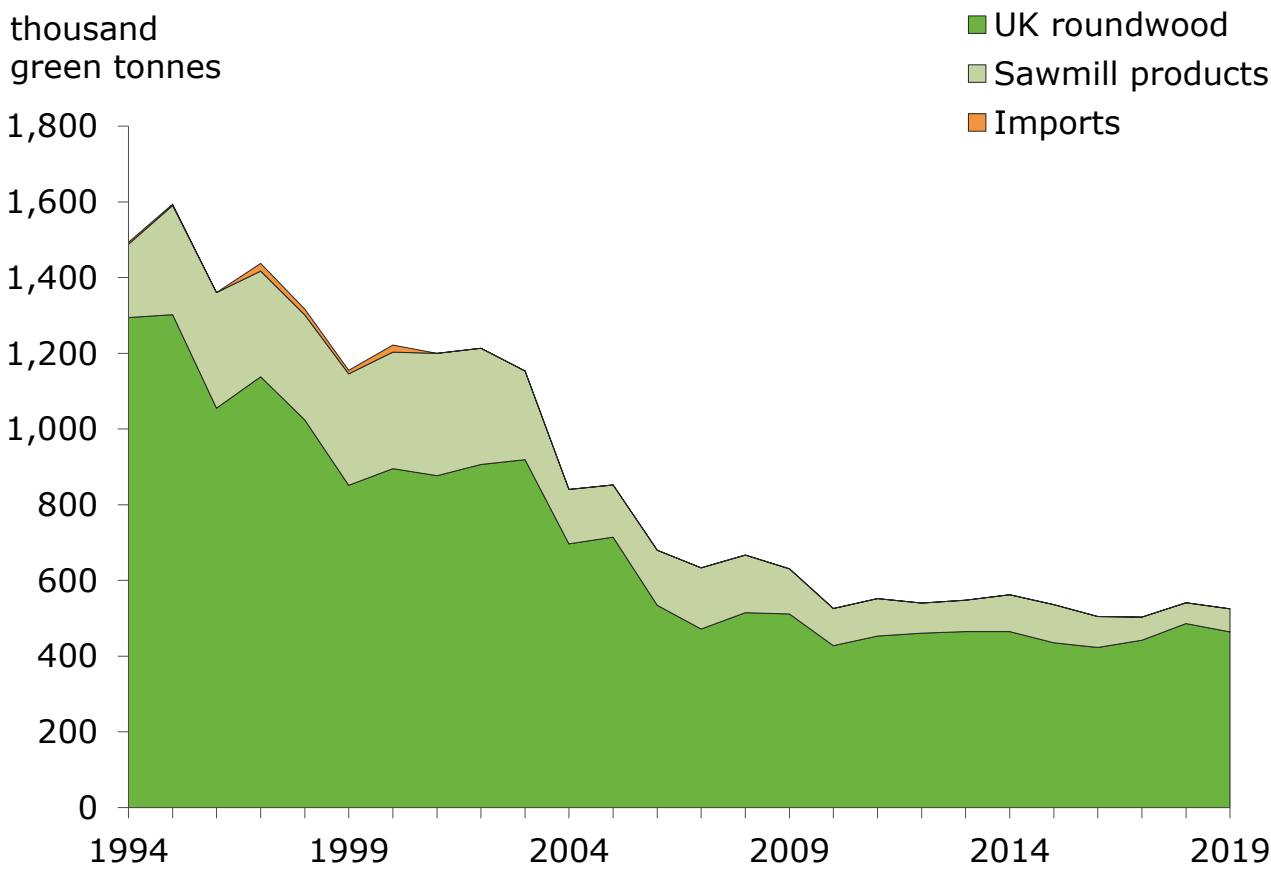
Year	UK roundwood ²	Sawmill products	Total
2010	428	98	526
2011	453	99	552
2012	461	79	540
2013	465	83	548
2014	465	97	562
2015	435	101	536
2016	423	82	505
2017	442	61	503
2018	486	55	541
2019	464	61	525

Source: Confor

Notes:

- 1. Excludes inputs of recycled paper and cardboard. All inputs are softwood.
- 2. UK roundwood derived from stemwood.

Figure 2.3 Inputs to integrated pulp and paper mills



Source: Confor

2.5.2 Production of paper

Figures for the production of paper (Table 2.21) are provided by the Confederation of Paper Industries. They cover all paper production from UK mills, not just those using UK roundwood. Most UK paper production uses recovered waste paper or imported pulp.

A total of 3.9 million tonnes of paper and paperboard was produced in the UK in 2019, a decrease of 1% from the previous year. Packaging materials accounted for 49% of the total UK paper production in 2019, graphic papers (including newsprint) for 24%, and sanitary and household papers for 20%.

Table 2.21 Production of paper and paperboard, 2010-2019
thousand tonnes

Year	Graphic papers (incl newsprint)	Sanitary & household papers	Packaging materials	Other	Total paper & paperboard
2010	1,637	729	1,640	294	4,300
2011	1,669	766	1,600	307	4,342
2012	1,616	795	1,798	271	4,480
2013	1,636	802	1,851	272	4,561
2014	1,544	768	1,801	284	4,397
2015	1,053	772	1,894	251	3,970
2016	897	730	1,800	250	3,677
2017	918	734	1,935	270	3,858
2018	962	738	1,904	291	3,894
2019	918	762	1,884	287	3,851

Source: Confederation of Paper Industries

2.6 Wood-based panels

Wood-based panels include oriented strand board (OSB), wood chipboard and cement bonded particleboard (which are all types of particleboard), and medium density fibreboard (MDF) and other fibreboard (which are both types of fibreboard).

Statistics on wood-based panels are provided by the Wood Panel Industries Federation (WPIF).

2.6.1 Inputs for wood-based panel products

Table 2.22 and Figure 2.4 provide statistics on the inputs to mills that produce wood-based panels in the UK. The mills used a total of 3.9 million tonnes of material in 2019, representing a 3% increase from 2018. The inputs in 2019 comprised 1.3 million green tonnes of roundwood (34%), 1.5 million green tonnes of sawmill products (38%), 1.0 million tonnes of recycled wood fibre (25%) and 0.1 million tonnes of imports (3%).

Table 2.22 Softwood inputs to wood-based panel mills, 2010-2019
thousand green tonnes

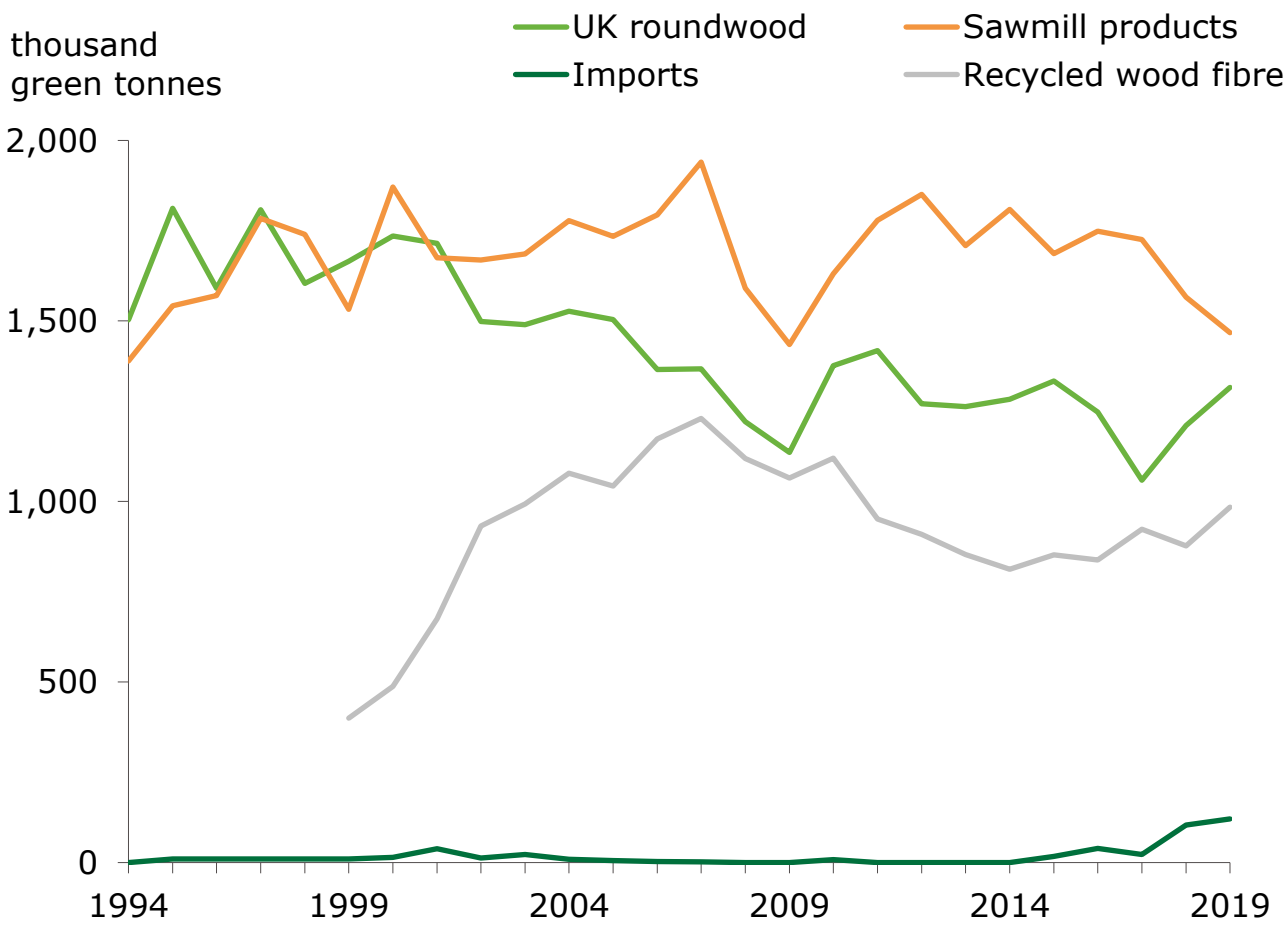
Year	UK round- wood ¹ softwood	UK round- wood ¹ hardwood	Sawmill products	Imports ² softwood	Imports ² hardwood	Recycled wood fibre ^{3,4}
2010	1,375	1	1,631	7	2	1,120
2011	1,417	1	1,779	0	1	952
2012	1,269	2	1,851	0	2	909
2013	1,263	0	1,709	0	0	853
2014	1,283	0	1,809	0	0	812
2015	1,334	0	1,687	12	5	852
2016	1,248	0	1,749	10	29	838
2017	1,059	0	1,726	0	22	923
2018	1,210	1	1,566	30	75	877
2019	1,316	0	1,468	43	78	984

Source: Wood Panel Industries Federation

Notes:

1. UK roundwood derived from stemwood.
2. Imports include roundwood, wood products and products from imported wood.
3. Recycled wood fibre is wood fibre recovered from both pre- and post-consumer wood waste for use in woodbased panel production. It comprises wood originally grown in the UK and wood originally grown in forests outside the UK.
4. Quantities are as delivered, with an assumed average moisture content of 25%. To convert to green tonnes (assuming moisture content of 52%), multiply by 1.56.

Figure 2.4 Inputs to wood-based panel mills



Source: Wood Panel Industries Federation.

Note:

1. Recycled wood fibre data not available before 1999.

2.6.2 Production of wood-based panel products

Total production of wood-based panels in 2019 was 3.2 million m³, a 5% increase from 2018 (Table 2.23). Over three quarters (77%) of wood-based panel products produced in the UK in 2019 were particleboard (including oriented strand board (OSB)).

The marked decrease between 2011 and 2012 largely results from the closure of a panel mill in 2012.

Table 2.23 Wood-based panel production, 2010-2019

thousand m³

Year	Particleboard ¹	Fibreboard ²	Total
2010	2,594	776	3,370
2011	2,625	759	3,384
2012	2,215	788	3,003
2013	2,276	756	3,032
2014	2,319	749	3,068
2015	2,324	756	3,080
2016	2,349	684	3,033
2017	2,501	675	3,176
2018	2,355	724	3,079
2019	2,495	751	3,246

Source: Wood Panel Industries Federation

Notes:

1. Includes Oriented Strand Board (OSB).
2. Includes Medium Density Fibreboard (MDF).
3. Changes in the mix of materials used and type of product produced can result in apparent discrepancies between the trends for inputs (Table 2.22) and production.

2.7 Miscellaneous products

Softwood

Data for softwood fencing are obtained from the Survey of Round Fencing Manufacturers. Figures for other uses are reported by manufacturers or are estimated by representatives of the wood processing industries.

1.9 million green tonnes of UK softwood were estimated to have been used directly for woodfuel (including biomass energy) in 2019, unchanged from the level in the previous year (Table 2.24). A further 262 thousand green tonnes of UK softwood were consumed by round fencing manufacturers and 183 thousand green tonnes for other uses in 2019.

Table 2.24 Miscellaneous uses of UK softwood roundwood, 2010-2019

thousand green tonnes

Year	Fencing	Woodfuel ¹	Other ²	Total
2010	349	900	135	1,384
2011	363	900	145	1,408
2012	338	1,000	154	1,492
2013	332	1,250	191	1,773
2014	317	1,500	176	1,992
2015	288	1,600	164	2,052
2016	277	1,550	178	2,006
2017	283	1,600	170	2,053
2018	255	1,900	174	2,329
2019	262	1,900	183	2,346

Source: Survey of Round Fencing Manufacturers, industry associations.

Notes:

1. Woodfuel derived from stemwood. Includes estimates of roundwood use for biomass energy. The figures are estimated by the Expert Group on Timber and Trade Statistics and make use of woodfuel data reported in the Private Sector Softwood Removals Survey.
2. Includes shavings and poles. Quantities for some uses are estimates by the Expert Group on Timber and Trade Statistics.

Hardwood

An estimated 700 thousand green tonnes of UK hardwood were used for woodfuel (including biomass energy) in 2019. A further 30 thousand green tonnes were estimated to have been consumed by round fencing manufacturers and 63 thousand green tonnes for other uses, including exports.

2.7.1 Softwood round fencing manufacturers

There were 46 active round fencing manufacturers in 2019 (Table 2.25).

Around two thirds of round fencing manufacturers (65%) consumed less than 5 thousand green tonnes of softwood annually.

Table 2.25 Number of softwood round fencing manufacturers by size category¹, 2010-2019

Year	< 1	1 - <5	5 - <10	10 +	Total
2010	21	24	13	6	64
2011	21	24	10	8	63
2012	21	21	11	7	60
2013	20	22	11	7	60
2014	18	21	10	7	56
2015	15	19	10	6	50
2016	17	16	11	6	50
2017	16	17	9	7	49
2018	15	15	10	6	46
2019	14	16	10	6	46

Source: Survey of Round Fencing Manufacturers

Notes:

1. Categories are based on total softwood consumption, in thousand green tonnes.

Data: Longer time series of the number of softwood round fencing manufacturers, by size category and by country (England/ Wales/ Scotland/ Northern Ireland) are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>.

2.7.2 Roundwood purchased by softwood round fencing manufacturers

A total of 288 thousand green tonnes of softwood (UK grown and imported) was purchased by softwood fencing manufacturers in 2019 (Table 2.26). This represents an increase of 4% from the 2018 total of 276 thousand green tonnes.

Table 2.26 Total roundwood purchased² by size category¹ of softwood round fencing manufacturers, 2010-2019

thousand green tonnes

Year	< 1	1 - <5	5 - <10	10+	Total
2010	7	63	86	213	369
2011	8	65	60	250	383
2012	8	57	69	226	360
2013	7	57	79	204	346
2014	7	54	74	201	335
2015	6	46	79	185	316
2016	7	41	78	177	303
2017	6	45	71	185	307
2018	6	37	71	162	276
2019	6	40	76	166	288

Source: Survey of Round Fencing Manufacturers

Notes:

1. Categories are based on total softwood consumption, in thousand green tonnes.
2. This table includes purchases of both UK grown and imported softwood, whereas table 2.24 relates to UK grown softwood only.

Data: Longer time series of roundwood purchased by round fencing manufacturers, by size category and by country (England/ Wales/ Scotland/ Northern Ireland) are available from the Data downloads web page at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/data-downloads/>.

2.8 Exports

UK softwood exports in 2019 consisted of 154 thousand green tonnes of sawlogs and 46 thousand green tonnes of industrial roundwood (excluding sawlogs), giving a total of 201 thousand green tonnes of roundwood (Table 2.27). The quantity of softwood roundwood exports decreased by 24% between 2018 and 2019.

The UK also exported 109 thousand tonnes of softwood chips in 2019, a 3% decrease from the previous year.

Table 2.27 Summary of softwood exports, 2010-2019
thousand green tonnes

Year	Industrial roundwood ¹	Sawlogs	Total roundwood	Chips
2010	301	166	467	136
2011	415	171	585	158
2012	405	130	535	142
2013	379	260	640	126
2014	228	209	437	151
2015	75	202	276	86
2016	48	183	231	51
2017	124	207	331	92
2018	67	197	264	112
2019	46	154	201	109

Source: industry associations

Notes:

1. Includes all roundwood other than sawlogs.

2.9 Certification

Forest certification assesses forest management practices against an agreed standard and awards a label to those forest products that meet the standard. In order for products to achieve certification, both [forest management practices and the Chain of Custody](#), which tracks timber from forest to retail outlet, must be assessed.

The following tables provide information on the level of certified wood produced in the UK (Table 2.28) and the number of sawmills and round fencing manufacturers holding Chain of Custody certificates (Table 2.29).

Estimates of the certified softwood removals in the UK by country, are also provided (Table 2.28a). As these figures are relatively new and the quality of data at this level is still improving, these estimates are currently labelled as experimental statistics.

Information on areas of certified woodland is provided in Chapter 1.

2.9.1 Volume certified

70% of private sector softwood removals in 2019 were from certified woodlands (Table 2.28). The percentage of private sector softwood removals that are certified has fluctuated over recent years; industry experts have indicated a general reduction in the level of certification amongst smaller estates and an increase in production from larger estates.

As nearly all removals from Forestry England, Forestry and Land Scotland, Natural Resources Wales and Forest Service woodland are certified, this equates to around 82% of all softwood removals in 2019 from certified sources.

77% of sawmills' roundwood consumption in 2019 was certified. For round fencing manufacturers, 69% of total softwood consumption was certified.

Table 2.28 Per cent of volume certified, 2010-2019

per cent certified volume

Year	Softwood removals from private sector woodland	Total softwood removals ¹	Consumption (softwood and hardwood) by sawmills	Consumption (softwood) by round fencing manufacturers
2010	73	87	83	62
2011	72	85	80	61
2012	70	84	81	60
2013	76	87	83	55
2014	72	84	80	69
2015	69	83	80	71
2016	66	82	81	70
2017	75	86	79	71
2018	71	82	78	61
2019	70	82	77	69

Source: Forestry England (FE), Forestry and Land Scotland (FLS), Natural Resources Wales (NRW), Forest Service (FS) and industry surveys

Notes:

1. Includes all removals from FE/FLS/NRW/FS woodland.

Experimental statistics providing a country breakdown of softwood removals from certified woodlands in 2019 indicate that 91% of softwood removals from woodlands in Northern Ireland were certified, 87% from Wales, 86% from Scotland and 70% from England.

Table 2.28a Per cent of volume certified by country¹: softwood removals, 2019

Country	per cent certified volume	
	Softwood removals from Private sector woodland	Total softwood removals ²
England	48	70
Wales	73	87
Scotland	78	86
Northern Ireland	17	91
UK	70	82

Source: Forestry England (FE), Forestry and Land Scotland (FLS), Natural Resources Wales (NRW), Forest Service (FS) and industry surveys

Notes:

- 1. These figures are currently experimental statistics.
- 2. Includes all removals from FE/FLS/NRW/FS woodland.

2.9.2 Chain of custody certificates

Sawmills and round fencing manufacturers were also asked whether they held a Chain of Custody certificate. 71% of sawmills for which the certification status was known held a Chain of Custody certificate in 2019 (Table 2.29). This proportion varied with size of mill, from 20% for mills producing less than 5 thousand m³ sawnwood to 100% for those producing 25 thousand m³ sawnwood or more. Around two thirds (69%) of round fencing manufacturers for which the certification status was known held a Chain of Custody certificate.

Table 2.29 Chain of custody certificates, 2019

number of mills				
Mills	Mills holding certificate	Mills without certificate	Certification status not known	Total ¹
Sawmills² (size of mill ³)				
< 5	4	16	71	91
5 - < 25	20	4	9	33
25 +	26	0	0	26
All sawmills	50	20	80	150
Round fencing manufacturers	11	5	30	46

Source: industry surveys

Notes:

1. Includes non-respondents to survey in current year.
2. For large sawmills (those producing at least 25 thousand m³) that did not report whether or not they held a certificate or did not respond to the 2019 survey, the certification status was obtained from the FSC database, where possible.
3. Categories are based on total sawnwood production (softwood and hardwood), in thousand m³.

2.10 Woodfuel and pellets

Wood from various sources can be used for fuel, including roundwood, chips and sawdust from wood processing, specific products such as pellets and briquettes, and recycled wood.

The following pages provide data on:

- recycled wood used for woodfuel (Table 2.30 below);
- woodfuel supply by sawmills and round fencing manufacturers (Table 2.31); and
- wood pellet production (Table 2.32) and feedstock (Table 2.33).

In addition, estimates of roundwood used directly for woodfuel are provided in tables 2.5 and 2.6.

2.10.1 Recycled wood used for woodfuel

Estimates of recycled wood used for woodfuel have been obtained from the Wood Recyclers' Association. In 2019, it is estimated that around 2.4 million tonnes of recycled wood were used for woodfuel, an increase of 14% from the 2018 estimate of around 2.1 million tonnes.

Table 2.30 Recycled wood used for woodfuel¹, 2010-2019
million tonnes

Year	Total
2010	0.55
2011	0.59
2012	0.76
2013	0.83
2014	1.34
2015	1.45
2016	1.55
2017	1.66
2018	2.10
2019	2.39

Source: Wood Recyclers Association

Notes:

- 1. Post consumer recovered wood, comprising wood originally grown in the UK and wood originally grown in forests outside the UK.
- 2. Figures from 2014 relate to capacity, rather than consumption.
- 3. Quantities are as delivered, with an assumed average moisture content of 25%. To convert to green tonnes (assuming moisture content of 52%), multiply by 1.56.

These figures are outside the scope of National Statistics.

2.10.2 Woodfuel supply by sawmills and round fencing manufacturers

An estimated 752 thousand green tonnes (mainly softwood) of woodfuel were supplied by sawmills in 2019 and a further 77 thousand green tonnes were supplied by round fencing manufacturers (Table 2.31). Around two thirds (69%) of the total woodfuel supplied was sold to bioenergy.

Table 2.31 Woodfuel supply¹ by sawmills and round fencing manufacturers, 2015-2019

thousand green tonnes

	Sales to bioenergy	Sales as firewood	Used internally for heat/ energy	Total
Sawmills				
2015	612	12	45	669
2016	581	14	65	660
2017	620	15	96	731
2018	633	7	152	792
2019	528	17	206	752
Round fencing manufacturers				
2015	51	7	2	60
2016	57	7	1	65
2017	55	7	3	66
2018	52	8	4	65
2019	43	10	25	77

Source: Sawmill Survey, Survey of Round Fencing Manufacturers

Notes:

1. Material reported as sales/use for woodfuel but may have been used for other purposes.

2.10.3 Wood pellets

Wood pellets and briquettes are processed wood products that can be made from roundwood, sawmill products and/or recycled wood. Some of the wood used to make wood pellets and briquettes will be accounted for elsewhere in this release (e.g. in Tables 2.30 and 2.31). Wood pellets and briquettes are often used for woodfuel, but pellets may also be used for other purposes (such as horse bedding or cat litter).

A total of 298 thousand tonnes of wood pellets and briquettes are estimated to have been produced in the UK in 2019. This represents a 7% increase from the 2018 estimate of 279 thousand tonnes.

Table 2.32 Wood pellet production, 2010-2019
thousand tonnes

Year	Total
2010	197
2011	244
2012	278
2013	301
2014	354
2015	343
2016	329
2017	287
2018	279
2019	298

Source: Survey of UK Pellet and Briquette Production

A total of 570 thousand tonnes of feedstock was used to produce wood pellets in the UK in 2019, a 16% decrease from the total for 2018 (Table 2.33).

The overall decrease in feedstock reflects a change in the composition of pellets. Roundwood fell by 32% in the latest year and accounted for over one half (54%) of the feedstock in 2019 (down from 67% in 2018).

Correspondingly, there was a 16% increase in sawmill products and other feedstock.

Table 2.33 Wood pellet feedstock, 2015-2019

thousand tonnes²

Year	Roundwood	Sawmill products ¹	Total
2015	332	290	621
2016	377	320	697
2017	354	295	648
2018	453	226	679
2019	307	263	570

Source: Survey of UK Pellet and Briquette Production

Notes:

- 1. May also include wood from other sources (e.g. energy crops, arboriculture arisings and recycled wood).
- 2. Tonnes as delivered.