Australian forest and wood products statistics
September and December quarters 2017

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Volume and value of log harvest

↑10% to 33.1 million m³ in 2016–17
↑13% to $2.6 billion in 2016–17

The volume and value of logs harvested in Australia increased strongly in 2016–17, following a similarly robust performance in 2015–16.

Dwelling commencements

↓5% to 220,900 in 2016–17

Following four years of strong growth, dwelling commencements decreased in 2016–17, primarily driven by a decrease in other residential buildings.

Sawnwood production

↑13% to 5.2 million m³ in 2016–17

Domestic production of sawnwood increased to its highest level since 2007–08.

Wood-based panel production

↑11% to 1.7 million m³ in 2016–17

Domestic production of wood-based panels increased to its highest level since 2010–11.

Overview

This issue of the *Australian forest and wood products statistics* (AFWPS) includes 2016–17 data for key domestic indicators of forestry sector activity, including Australia’s commercial plantation estate, volume and value of logs harvested, and data on production and trade of wood products. This issue also presents updated quarterly data for housing commencements for the September and December quarters 2017.

Sources of wood and wood-based products

Australia’s forests are classified nationally into three categories—native forest, commercial plantations and other forest. Australia’s native forest category is dominated by the forest types eucalypt (75 per cent of the total native forest area), acacia (8 per cent) and melaleuca (5 per cent), and a small area is rainforest (3 per cent). Australia’s commercial plantation comprises exotic softwood species (predominantly radiata pine) and mostly native hardwood species (predominantly eucalypts). The other forest category comprises a small area of mostly non-commercial plantations and forests of various types.

Native production forests

The main source of Australia’s native production forest wood is multiple-use public forest in New South Wales, Queensland, Tasmania, Victoria and Western Australia. Currently, much of the native forest on leasehold and private land contributes minimally to wood supply. Under relevant state and territory legislation, substantial areas of multiple-use public forest are reserved or excluded from wood production.

When additional operational restrictions to maintain and manage non-wood values are taken into account, the net area available for harvesting of Australia’s multiple-use public native forests is 5.5 million hectares (14 per cent of public native forests) as reported in *Australia’s State of the Forests Report 2013*. Wood is harvested from a small portion of the net harvestable area—1.4 per cent nationally each year.

Commercial plantations

Commercial plantations are intensively managed stands of native (mainly hardwood) or exotic (mainly softwood) tree species. The primary purpose of commercial plantation forestry is wood production.

Australia’s total commercial plantation area was 1,955,100 hectares in 2016–17, a decrease of 19,700 hectares (1 per cent) from 1,974,800 hectares in 2015–16. The total area of new plantations established in 2016–17 was 200 hectares, comprising softwood species mainly planted in Victoria and hardwood species mainly planted in Western Australia.

In 2016–17 the total area of softwood plantations was 1,036,900 hectares, an increase of 100 hectares from 2015–16, and the total area of hardwood plantations was 908,500 hectares, a decrease of 19,800 hectares since 2015–16. Softwood plantations accounted for 53 per cent of total commercial plantation area, hardwood plantations constituted 46 per cent and mixed plantations and unknown species made up the remaining 1 per cent.

In 2016–17 Victoria continued to have the largest total area of commercial plantations of Australia’s states and territories (421,700 hectares), followed by New South Wales (394,400 hectares) and Western Australia (367,900 hectares). Western Australia accounted for
the largest proportion of Australia’s hardwood plantations (29 per cent) and New South Wales had the largest share of softwood plantations (30 per cent).

In 2016–17 the ownership structure of plantations remained relatively unchanged from the previous year. Institutional investors owned 49 per cent of the total plantation area, governments owned 21 per cent, farm foresters and other private growers owned 21 per cent, managed investment schemes owned 5 per cent, and timber industry companies owned 4 per cent (Downham & Gavran 2018).

**Industry performance**

**Log harvest volume and gross value of production, 2016–17**

Australia’s total log harvest (from native production forests and commercial plantations) in 2016–17 reached a record high of 33.1 million cubic metres, a 10 per cent increase from the 2015–16 log harvest and 45 per cent higher compared with 2012–13. The gross value of log production also reached a record high of $2.6 billion (mill door prices), a 13 per cent increase from the previous year.

The majority of Australia’s annual total log harvest originates from commercial plantations and the remainder is sourced from native production forests. In 2016–17 commercial plantations accounted for 87 per cent of Australia’s total log harvest and native production forests contributed 13 per cent.

**Native production forests**

In 2016–17 the volume of logs harvested from native production forests increased to 4.3 million cubic metres, up 4 per cent from the previous year (Figure 1). This growth was driven by increases in the pullog harvest (up 7 per cent to 2.0 million cubic metres) and the sawlog harvest (up 1 per cent to 2.2 million cubic metres). In 2016–17 the majority of hardwood sawlogs were produced from native production forests (80 per cent).

Over the past decade the volume of logs harvested from Australia’s native production forests has more than halved, from 8.8 million cubic metres in 2006–07 to 4.3 million cubic metres in 2016–17. Figure 1 shows a significant decline in the annual native production forest total log harvest between 2007–08 and 2012–13, from 9.1 million cubic metres to a record low of 3.9 million cubic metres. Since 2012–13 annual log harvests from native production forests have been relatively stable.

The total log harvest from native production forests in 2016–17 comprised 95 per cent hardwood species and 5 per cent per cent softwood species (cypress pine). This total included 50 per cent saw and veneer logs, from which high-quality structural and appearance grade products are manufactured, primarily for the domestic market. Forty-six per cent of the total native production forest log harvest was pullogs for woodchip exports and domestic paper production. Other native production forest logs harvested included posts and poles, piles, sleepers and girders (4 per cent).

The total value of native production forest logs harvested in 2016–17 increased by 6 per cent from the previous year to $413 million (mill door price).
Figure 1 Volume and value of logs harvested from native production forests, 2006–07 to 2016–17

Note: Native forest sawlog volume includes a small amount of native softwood (cypress pine) sawlogs. Total native forest log volume includes the category ‘Other’, which comprises poles, piles, fencing and other logs not elsewhere included.

Commercial plantations
The total volume of logs harvested from Australia’s commercial plantations in 2016–17 reached a record level of 28.8 million cubic metres, an 11 per cent increase from the previous year, valued at $2.2 billion (mill door price). The total volume of logs harvested from commercial plantations in 2016–17 comprised 39 per cent hardwood plantations and 61 per cent softwood plantations.

Hardwood plantations
In contrast to the modest growth in the native production forest hardwood log harvest since 2012–13, the hardwood plantation log harvest more than doubled over the past four years to a record 11.4 million cubic metres in 2016–17, up 16 per cent from the previous year (Figure 2). The pullop harvest increased to 10.9 million cubic metres (up 13 per cent from the previous year) and the sawlog harvest more than doubled from the previous year to 482,000 cubic metres.

Ninety-six per cent of all hardwood logs harvested from commercial plantations in 2016–17 were pullogs, mainly for woodchip exports. Saw and veneer logs and other log products made up the remaining 4 per cent. Plantation hardwood logs represented 74 per cent of total hardwood logs harvested in Australia in 2016–17.

The total value of plantation hardwood logs also grew strongly in 2016–17, up 14 per cent to $807 million (mill door price) from the previous year.
Figure 2 Volume and value of logs harvested from commercial hardwood plantations, 2006–07 to 2016–17

Note: Total hardwood plantation log volume includes the category ‘Other’, which comprises other hardwood plantation log products.

Softwood plantations

The total volume of softwood plantation logs harvested annually in Australia has fluctuated over the past decade, largely in response to changes in housing construction.

Since 2012–13 annual harvests of softwood plantations have been increasing, though more slowly than the plantation hardwood log harvest (Figure 3). In 2016–17 the total volume of softwood plantation logs harvested reached a record 17.5 million cubic metres, up 8 per cent from the previous year. The softwood plantation sawlog harvest increased in 2016–17 to 10.6 million cubic metres (up 7 per cent from the previous year) and the softwood plantation pulplog harvest increased to 6.5 million cubic metres (up 11 per cent from the previous year).

The majority of softwood logs harvested from commercial plantations in 2016–17 were saw and veneer logs (61 per cent). Softwood plantation pulplogs—used for woodchip exports and domestic paper, paperboard and panel production—comprised 37 per cent of the total plantation softwood log harvest. Other log products, such as roundwood, posts and poles, made up the remaining 2 per cent.

In 2016–17 the total value of plantation softwood logs increased by 15 per cent from the previous year to $1.4 billion (mill door price).
Figure 3 Volume and value of logs harvested from commercial softwood plantations, 2006–07 to 2016–17

Note: Softwood plantation sawlog volume includes veneer logs. Total softwood plantation log volume includes the category 'Other', which comprises other softwood plantation log products.

Domestic production of wood products, 2016–17

The logs harvested from Australia's commercial plantations and native production forests are processed into a wide variety of wood-based products for the domestic market. These products include sawnwood, wood-based panels, and paper and paperboard. The production volumes of these wood products have followed varying trends over the past decade (Figure 4). More recently, domestic production volumes have been gradually increasing—sawnwood since 2011–12 and wood-based panels and paper and paperboard since 2012–13.

Figure 4 Volume of domestic production, selected wood products, 2006–07 to 2016–17

Note: Wood-based panels comprises plywood, particleboard and medium-density fibreboard.
Sawnwood
Sawnwood is produced in Australia using softwood and hardwood sawlogs sourced from commercial plantations and native production forests.

Softwood sawnwood is predominately used for structural purposes in housing construction—such as wall and floor framing and roof trusses—and accounts for the majority of total sawnwood production (87 per cent in 2016–17). As a result, one of the key factors influencing sawnwood consumption is domestic dwelling commencements. Hardwood sawnwood is generally used for its durability or appearance properties—for example, in flooring, decking and joinery—and is sourced predominantly from native production forests.

In 2016–17 Australia produced 5.2 million cubic metres of sawnwood, the highest level since 2007–08 and a 3 per cent increase from the previous year. Softwood sawnwood production increased in 2016–17 to 4.6 million cubic metres (up 3 per cent) and hardwood sawnwood production decreased to 665,000 cubic metres (down 1 per cent) from the previous year.

Wood-based panels
Wood-based panels refers to a broad category of engineered wood products—such as plywood, particleboard and medium-density fibreboard—that have various applications, including flooring, joinery, furniture and housing construction. Depending on the product, wood-based panels are manufactured using woodchips and lower grade logs sourced predominantly from softwood plantations.

Domestic production of wood-based panels was relatively stable between 2006–07 and 2016–17. Australia produced 1.7 million cubic metres of wood-based panels in 2016–17, the highest level since 2010–11 and up 1 per cent from the previous year.

Particleboard and medium-density fibreboard production together account for the majority (91 per cent) of Australia’s total wood-based panel production. In 2016–17 particleboard production increased to 968,000 cubic metres (up 1 per cent from the previous year) and medium-density fibreboard production increased to 593,000 cubic metres (up 3 per cent from the previous year). These increases were offset by a decline in plywood production to 151,000 cubic metres, down 12 per cent from a 10-year high in 2015–16.

Paper and paperboard
Australia produces a range of paper and paperboard products using pulplogs sourced from commercial plantations, native production forests and residues from wood processors. These products include packaging and industrial paper, printing and writing paper, newsprint, and household and sanitary paper.

In 2016–17 Australia’s total production of paper and paperboard increased to 3.2 million tonnes (up 0.3 per cent from the previous year). Production of packaging and industrial paper, which comprises 68 per cent of Australia’s total paper and paperboard production, increased to 2.2 million tonnes (up 1 per cent from the previous year). Production of household and sanitary paper increased to a record 232,000 tonnes (up 8 per cent from the previous year) and newsprint production increased to 327,000 tonnes (up 3 per cent from the previous year). The growth in these categories was offset by a decrease in printing and writing paper production to 482,000 tonnes, down 6 per cent from the previous year.
Housing and other residential building commencements

Construction of dwellings—houses and other residential buildings, including units, apartments, townhouses and house conversions—is a major market for structural and finished wood products and an important driver of economic growth in the forestry sector. Construction of houses generally requires a higher volume of wood products than construction of other residential buildings.

In 2016–17 dwelling commencements decreased by 5 per cent to 220,900 from 233,600 commencements in 2015–16. In the first half of the 2017–18 financial year, 112,900 new dwellings commenced across Australia (Figure 5). Taking into account the seasonal nature of the industry, this total represents a decrease of 5,900 commencements (down 5 per cent) from 118,800 commencements in the corresponding first half of 2016–17.

The softening of dwelling commencements in the first half of 2017–18 was primarily driven by decreases in the number of new other residential buildings, which decreased by 5,200 (down 9 per cent) to 51,700 commencements, compared with the corresponding 2016–17 quarters. The number of new houses remained relatively stable, declining by 700 (down 1 per cent) to 61,300 commencements, compared with the first half of 2016–17.

Trade in wood products

Australia’s annual trade in wood products has grown strongly since 2012–13. Total merchandise trade (imports plus exports) in wood products reached a record $8.7 billion in 2016–17, up 1 per cent from the previous year. Following three years of consecutive growth, the total value of wood product imports decreased in 2016–17 to $5.3 billion (down 4 per cent from the previous year). The strong export performance of Australia’s wood products industries since 2012–13 continued in 2016–17, with the total value of wood product exports increasing to $3.5 billion (up 11 per cent from 2015–16 and up 69 per cent since 2012–13).

Australia is a net importer of wood products in value terms and this is reflected in the types of products imported and exported. Relatively speaking, Australia tends to import lower volumes of more processed and higher value wood products, including printing and writing paper, and
finished wooden articles. The main wood products imported include paper and paperboard, wood-based panels, sawnwood and miscellaneous forest products. Australia also imports a significant amount of secondary wood products, mostly wooden furniture.

By contrast, Australia tends to export higher volumes of less processed and lower value wood products, such as woodchips (sourced mainly from hardwood plantation pulplogs) and roundwood (sourced mostly from softwood plantation sawlogs). The main wood products exported are woodchips, roundwood and higher value paper and paperboard.

**Imports of wood products**

The largest category of Australia’s wood product imports (by value) is paper and paperboard, which in 2016–17 decreased to $2.1 billion (down 6 per cent from the previous year) and constituted 40 per cent of the total value of Australia’s wood product imports.

The total volume of paper and paperboard imports has been declining since 2012–13 and further decreased in 2016–17 to 1.5 million tonnes (down 5 per cent from 2015–16) (Figure 6). Printing and writing paper, which accounts for the majority of paper and paperboard imports (57 per cent), decreased to 861,000 tonnes (down 10 per cent from the previous year). Packaging and industrial products increased to 427,000 tonnes (up 4 per cent from the previous year) and accounted for 28 per cent of paper and paperboard imports.

**Figure 6 Volume of paper and paperboard imports, 2006–07 to 2016–17**

![Graph showing the volume of paper and paperboard imports from 2006-07 to 2016-17](image)

Note: Other comprises newsprint and household and sanitary products.

In 2016–17 the total value of wood-based panel imports increased to $546 million (up 11 per cent from the previous year) and accounted for 10 per cent of the total value of Australia’s wood product imports.

The total volume of wood-based panel imports, which has trended upwards since 2008–09, increased in 2016–17 to 747,000 cubic metres (up 15 per cent from the previous year) (Figure 7). Australia mainly imports plywood panels (54 per cent of total panel imports). The total volume of plywood panel imports increased in 2016–17 to 405,000 cubic metres (up 13 per cent from the previous year).
In 2016–17 the total value of sawnwood imports decreased to $535 million (down 4 per cent from the previous year) and accounted for 10 per cent of the total value of Australia’s wood product imports.

The total volume of sawnwood imports has varied over the past decade and decreased in 2016–17 to 787,000 cubic metres (down 7 per cent from the previous year) (Figure 8). Australia mostly imports softwood sawnwood (92 per cent of total sawnwood imports), comprising dressed softwood and roughsawn softwood, which decreased in 2016–17 by 6 per cent and 9 per cent from the previous year, respectively.
Miscellaneous forest products, which encompass a broad range of wood manufactures, constitute a significant proportion of the total value of Australia’s wood product imports, contributing 23 per cent in 2016–17. In 2016–17 the total value of miscellaneous forest products imports decreased to $1.2 billion (down 8 per cent from the previous year), after increasing steadily since 2009–10 (Figure 9).

Builders’ carpentry products and mouldings, both used in housing construction, together accounted for over half of the total value of miscellaneous forest products imports in 2016–17. The value of builders’ carpentry decreased in 2016–17 to $359 million (down 3 per cent from the previous year) and mouldings decreased to $246 million (down 14 per cent from the previous year).

Figure 9 Value of miscellaneous forest product imports, 2006–07 to 2016–17

Note: Builders’ carpentry excludes doors. Other includes (in order of percentage contribution to total value of miscellaneous forest products imports) articles of wood (not elsewhere classified); forest products (not elsewhere classified); essential oils; doors; coopers’ products and staves; household utensils; cork and manufactures; picture, photograph and mirror frames; other household articles; assembled parquet flooring panels; ornamental figures; wood charcoal; packing cases, boxes, crates and drums; rosins and wood tar; lac, gums and resins; tools and tool handles; matches; shingles; and fuel wood.

Other wood products imported into Australia include paper manufactures (12 per cent of total wood product imports by value in 2016–17), which are paper articles that have had some further processing such as boxes, paper bags and notebooks; and pulp used for paper and paperboard production (4 per cent of total wood product imports by value in 2016–17). The value of paper manufactures decreased in 2016–17 to $648 million (down 2 per cent from the previous year) and the value of pulp decreased to $215 million (down 3 per cent from the previous year).

Australia also imports a significant amount of secondary wood products, but the value of these products is not directly related to their wood content. In 2016–17 the total value of wooden furniture imports decreased to $1.9 billion (down 4 per cent from the previous year). The majority of these imports came from China (60 per cent). The total value of printed articles imports, which include newspapers, printed books, magazines, journals and other printed paper products, decreased to $923 million in 2016–17 (down 14 per cent from the previous year).
Exports of wood products

The largest category of Australia’s wood product exports (by value) is woodchip, which in 2016−17 increased to $1.3 billion (up 9 per cent from the previous year) and accounted for 36 per cent of the total value of Australia’s wood product exports.

The total volume of woodchip exports has increased steadily since 2012−13 (Figure 10). In 2016−17 hardwood woodchips accounted for the vast majority of total woodchip exports (88 per cent). In 2016−17 the total volume of woodchip exports increased to 7.1 million tonnes (up 11 per cent from the previous year), reflecting increases in hardwood woodchip (up 11 per cent from the previous year to 6.3 million tonnes) and softwood woodchip (up 13 per cent from the previous year to 841,000 tonnes).

Figure 10 Volume of woodchip exports, 2006–07 to 2016–17

The total value of paper and paperboard exports in 2016−17 increased to $910 million (up 1 per cent from the previous year) and constituted 26 per cent of the total value of Australia’s wood product exports.

The total volume of paper and paperboard exports has trended upwards since 2008–09, increasing in 2016−17 to 1.2 million tonnes (up 10 per cent from the previous year) (Figure 11). This increase was driven by a nearly threefold increase in newsprint exports from 50,000 tonnes in 2015–16 to 193,000 tonnes in 2016−17. Packaging and industrial products accounted for the majority of paper and paperboard exports (76 per cent) and increased to 939,000 tonnes in 2016−17 (up 2 per cent from the previous year).
Roundwood represents a considerable proportion of the total value of Australia’s wood product exports (17 per cent in 2016–17). The majority of Australia’s roundwood exports are sourced from softwood plantations (89 per cent in 2016–17). The total value of roundwood exports increased in 2016–17 to $598 million (up 36 per cent from the previous year).

Roundwood exports have been growing strongly since 2012–13, in line with total woodchip exports, and increased in 2016–17 to 4.3 million cubic metres (up 17 per cent from the previous year) (Figure 12).
Australia's other wood product exports include recovered paper (7 per cent of total wood product exports by value in 2016–17) and miscellaneous forest products (5 per cent of total wood product exports by value in 2016–17), including items such as wooden doors, mouldings, packing cases, parquetry flooring, builders carpentry, cork, gums, resins and other miscellaneous wood articles. In 2016–17 the value of recovered paper increased to $260 million (up 5 per cent from the previous year) and the value of miscellaneous forest products increased to $170 million (up 21 per cent from the previous year).

Australia also exports secondary wood products, but their relative value is much lower than that of secondary wood product imports. In 2016–17 the value of printed articles exports, mainly to New Zealand, decreased to $266 million (down 1 per cent from the previous year).
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