

Forestry

HIGHLIGHTS

- A record harvest volume of 30.7 million cubic metres for the year ended 31 December 2016, which was mainly driven by record high log prices and a lower New Zealand dollar.
- We expect Chinese demand for New Zealand logs to be sustained as a result of the Chinese Government reducing its timber harvesting quota and banning commercial logging of its natural forests.
- In addition to exports, strong economic growth and construction activity within New Zealand has boosted domestic demand from the forestry sector.



New Zealand's forestry export revenue is forecast to reach \$5.5 billion for the year ending June 2017. This is an increase of 6.4 percent from the previous year, and is driven by a combination of record harvest volumes and strong log prices. The forestry sector has continued to benefit from rising global demand as well as strong domestic demand.

Domestically, there has been strong demand for construction materials as a result of robust housing and commercial markets. This is due to economic growth, high net migration, and historically low interest rates (despite a slowdown in Canterbury's rebuild).

Internationally, rising demand for New Zealand's logs and sawn timber, especially from China and the US, are placing upwards pressure on export prices.

Logs

Production

Log production is at a historically high level and is forecast to rise even further due to high log prices and extensive plantings in the first half of 1990s reaching harvestable age. As shown in Figure 16, new plantings peaked in 1994 when almost 100,000 hectares were planted. Harvest volumes reached 30.7 million cubic metres in the December 2016 year and expected to increase by around 2 percent annually to 34 million cubic metres by 2021, assuming log prices remain strong.

Some uncertainty exists around harvest volumes over the next five years, because small-scale owners account for around half of the 1990s plantings that are approaching maturity. These small-scale owners are more price-sensitive when making harvest decisions, unlike large-scale owners who prefer to smooth out their harvesting operations.

Table 10: Forestry export revenue, 2013–21 (\$NZ million)

Year to 30 June	Actual				Forecast				
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Logs	1,855	2,541	2,059	2,224	2,660	2,920	2,970	3,030	3,140
Sawn timber & sleepers	880	885	779	892	890	950	970	990	1,020
Pulp	552	611	634	689	660	720	720	730	750
Paper & paperboard	546	519	520	569	530	530	530	540	560
Panels	436	407	451	512	480	500	510	520	530
Chips	67	51	52	64	60	50	60	60	60
Other forestry products	190	185	186	190	200	200	210	210	210
Total exports	4,527	5,199	4,682	5,140	5,470	5,870	5,980	6,090	6,270
% Change	+4.6%	+14.9%	-9.9%	+9.8%	+6.4%	+7.3%	+1.9%	+1.8%	+3.0%

Source: Statistics New Zealand and MPI.

QUICK FACTS



Of New Zealand's \$5.1 billion of forestry products exported in 2016, 57% were "value-added" wood products.

57%



The approximate harvest age over the past 5 years:

Pinus Radiata	29 years
Douglas-Fir	40 years
Cypress	34 years
Eucalypts	21 years



New Zealand is the second largest log exporter in the world.

1.7 million



As at 1 April 2016, there was 1.7 million hectares of planted production forest in New Zealand.

Log production remains at record levels, due to high prices and large areas of forest reaching maturity.

Exports

New Zealand log export prices reached \$153 per cubic metre in March 2017, one of the highest points since March 2014. Favourable exchange rates and rising log prices may motivate increased harvesting as producers respond to higher returns.

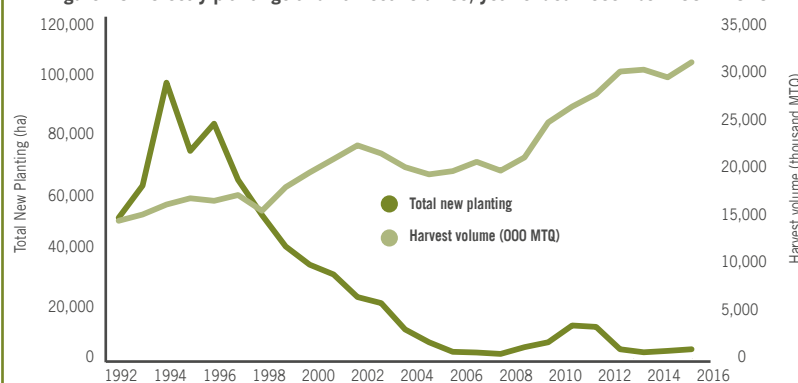
Almost half of forestry's export revenue comes from log exports, of which China, India, Japan, and South Korea are our main trading partners. Log exports are forecast to continue to rise, reaching \$3.1 billion by 2021.

As shown in Figure 17, around 57 percent of logs produced in New Zealand were exported in the year ended 31 March 2017.

This ratio has been trending upwards since 2005, suggesting a sustained increase in global demand for New Zealand logs relative to demand for processed wood products. This trend has put some pressure on domestic supply, and hence prices, as more and more logs are getting exported. Chinese demand for logs has remained strong and now contributes to 70 percent of New Zealand's log export revenue. Log exports are expected to remain strong over the medium term.

The Chinese Government has reduced its timber harvesting quota for 2016 to 2020 and banned commercial logging of its remaining natural forests. This limits China's supply of domestically sourced wood, and it is likely to have to import even more to meet domestic demand. New Zealand, the US and Russia are the main exporters of logs to China, and this presents a growth opportunity for New Zealand's log exporters. However, Russia's proximity to the Chinese market means it is likely to benefit from this policy as well.

Figure 16: Forestry plantings and harvest volumes, year ended December 1992–2016



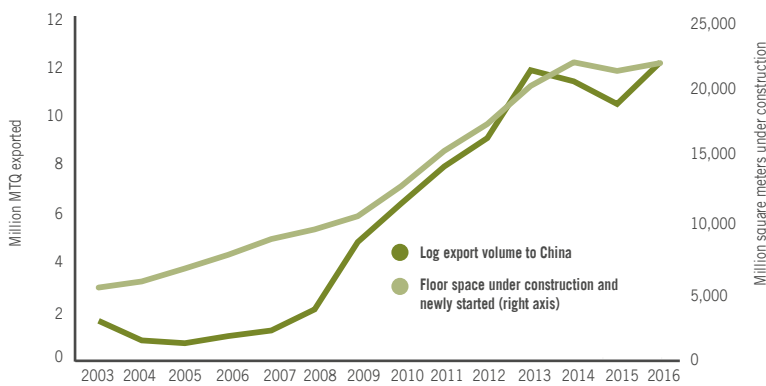
Source: Statistics New Zealand and MPI

Figure 17: Log export market shares and prices, year ended March 2005–17



Source: Statistics New Zealand and MPI

Figure 18: New Zealand log exports to China and Chinese construction activity, year ended December 2004–16



Source: Statistics New Zealand and National Bureau of Statistics of China

Consistently strong Chinese housing construction activities are expected to continue in 2017 as a result of increasing urbanisation, population growth, and per-capita GDP growth. As shown in Figure 18, a strong positive correlation exists between New Zealand log exports to China and Chinese housing activities.

There is some risk that the current construction pace cannot be sustained. Areas concerns include a rise in available housing inventory, mainly in third-tier cities, and high debt levels. To mitigate these concerns, China's housing ministry has initiated measures to reduce the risk by tightening lending policies for house buyers and promoting home ownership in certain cities.

Higher returns for New Zealand logs have recently been partially offset by rising shipping costs, especially to China, as a result of increased demand for vessels due to port congestion and a rise in China's raw material imports.

South Korea is New Zealand's second largest destination for log exports. Increasing economic activities in South Korea are also increasing demand for New Zealand logs, which, once processed overseas, are primarily used for packaging, industrial uses, and the completion and furnishing of housing units.

Trade with India, New Zealand's third largest export destination, was briefly disrupted in November 2016 as a result of implementation of their demonetisation policy.² Export volumes fell 58 percent in November 2016 compared to the same period in 2015, but volumes recovered to normal levels by February 2017. India's GDP is expected to grow by 7.5 to 7.8 percent per year for the next five years which, in addition to growing urbanisation and population growth, should increase its demand for logs.

Sawn timber

Sawn timber production has been trending upwards since the year ended March 2014 and is expected to reach 4.3 million cubic metres in the year ending June 2017. Much of New Zealand's timber production growth has gone into the domestic market rather than exports. As a result of this strong domestic consumption, New Zealand sawn timber export revenue is forecast at \$0.9 billion for the year ending June 2017 (unchanged from the previous year) before rising to \$1.0 billion by June 2021 as prices rise.

Economic growth in our major trading partners is underpinning strong demand for sawn timber

China is our main log export market and increased demand, rising construction activity, combined with regulations restricting domestic harvesting, will ensure it remains an important market over the outlook period.

Domestic demand for sawn timber is expected to remain strong for the remainder of the year, as more houses are built (particularly in Auckland) to meet growing housing demand. The strong relationship between domestic timber consumption and New Zealand's construction activities can be seen in Figure 21.

Around 59 percent of sawn timber production was consumed domestically for the year ended March 2017, the highest since the Global Financial Crisis. Figure 20 shows sawn timber exports falling as New Zealand's domestic timber consumption increases.

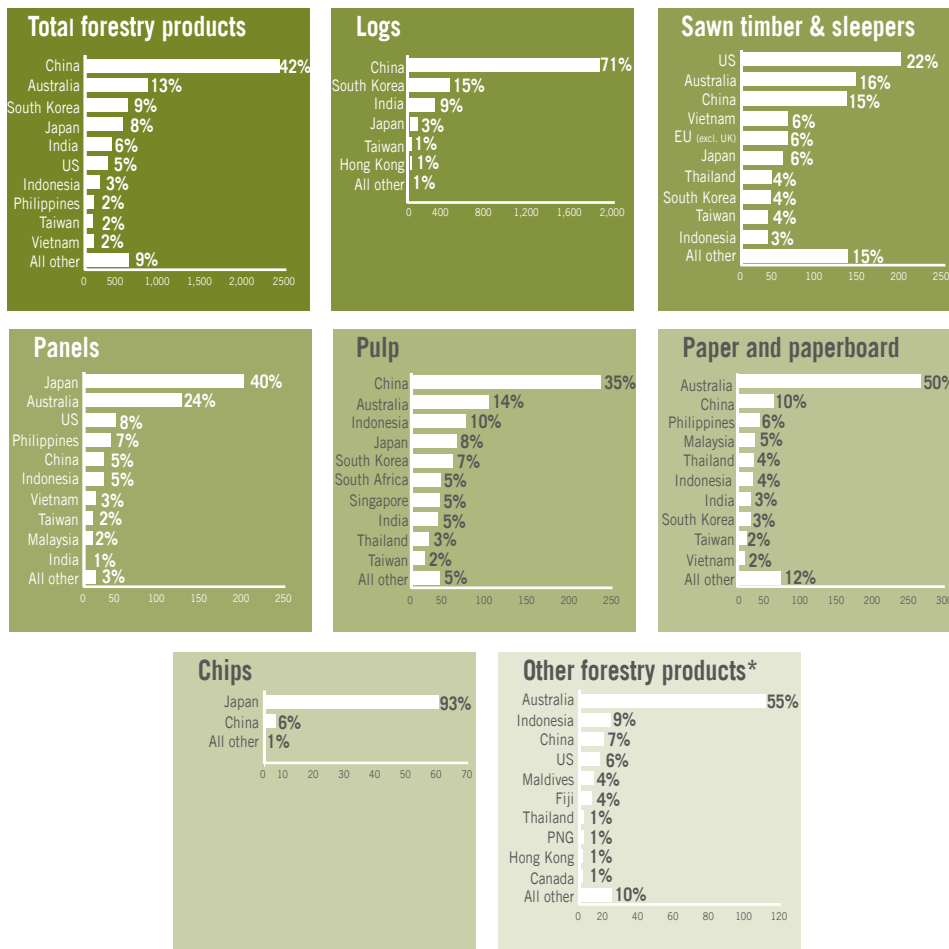
² On 8 November 2016, the Government of India announced that all 500 and 1000 rupee banknotes would become invalid after midnight. The main aim of this event was to curtail the shadow economy, but it caused widespread disruption.

Top 10 export destinations



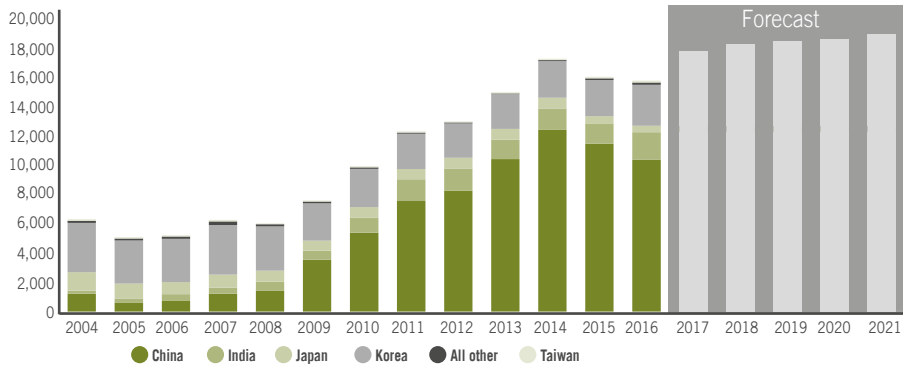
Product	Total export revenue \$ million (March 2017)	% of Total
Chips	64	1%
Logs	2,585	48%
Other forestry products	198	4%
Panels	487	9%
Paper and paperboard	530	10%
Pulp	656	12%
Sawn timber & sleepers	870	16%
Total forestry	5,390	100%

Top markets (\$NZ millions, year ended March 2017)



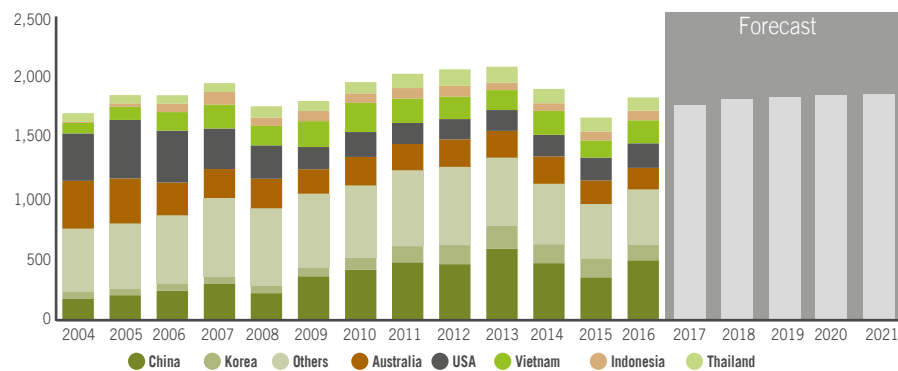
* Other forestry products include: structural or moulded wood, furniture and prefabricated buildings.

Figure 19: Log export volume by destination, 2004–21 (thousand cubic metres)



Source: Statistics New Zealand and MPI

Figure 20: Timber export volumes by destination, 2004–21 (thousand cubic metres)



Source: Statistics New Zealand and MPI

Domestic demand is expected to be robust and may place pressure on export volumes.

Exports

Sawn timber export prices are expected to rise from around \$491 per cubic metre in the year ended June 2016 to above \$500 per cubic metre for the year ending June 2017, backed by strong demand and a relatively low New Zealand dollar.

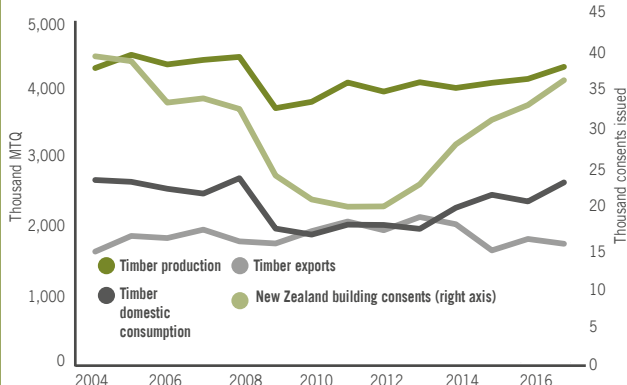
Timber export demand from New Zealand's main trading partners, the US and China, is expected to increase. This is

mainly underpinned by strong economic and housing growth in the US and China.

The US economy has been expanding steadily for the last few years, including a continuation of robust housing activity, historically low mortgage rates, and a declining unemployment rate.

Similarly to the demand drivers for log exports, China's construction demand and the ban on commercial logging of its natural forest should drive increased demand for imported timber products from its trading partners, including New Zealand.

Figure 21: Timber production, exports, consumption and building consents, 2004–17



Source: Statistics New Zealand and MPI

However, the impact on sawn timber exports is likely to be less than the impact on logs. Russia is the source for almost 30 percent of China's overall timber imports (compared to 1 percent for New Zealand), and continues to invest in forestry infrastructure and capital improvements to maintain its strong market position. Canada may also start diversifying its lumber export markets (especially China where it currently has an 11 percent market share in timber) after the US imposed a counter-vailing duty (CVD) on Canadian lumber exports to the US.

Pulp, paper and paperboard

Paper production fell 21 percent between 2011 and 2017. The main factor behind this fall has been a rise in electronic media, which has started replacing the need for paper for newsprint, and other uses. We expect paper production and

The rise of electronic media in developed markets has negatively affected paper production although exports remain steady due to demand from emerging markets.

consumption to fall further in the future. However, exports have been constant as a result of a resilient demand from Australia and emerging markets (especially Asian countries), which are experiencing growing per capita GDP and more urbanisation.

Pulp production has followed a similar trend to paper, but is falling more slowly thanks to strong export markets. One of the reasons behind the fall in pulp production has been a decline in domestic consumption of paper and paperboard.

Exports have risen recently as China, India and Japan have increased demand for tissue paper and packaging materials. Also, mechanical pulp is increasingly used as a source of tissue fibre due to its good quality compared to recovered paper. Pulp export revenue is forecast to grow further due to rising demand from emerging economies, reaching around \$750 million by the year ending June 2021.

Panels

Panel production has decreased slightly for the year ending March 2017 after generally rising since 2014, Figure 22. Despite the recent fall, panel exports have remained relatively flat since 2015 and account for around 46 percent of overall production.

Strong domestic demand for panels ensures that remaining production is consumed domestically, while panel imports have also almost doubled since 2012.

New Zealand's carbon market

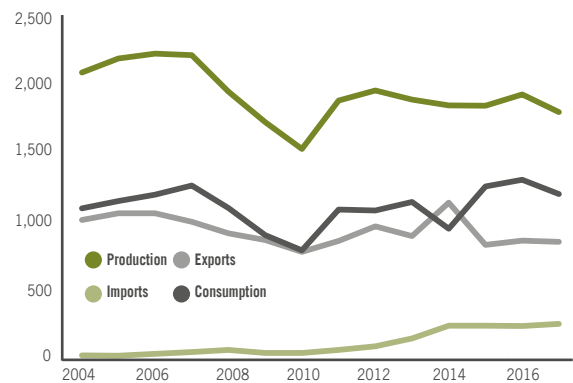
New Zealand's Emission Trading Scheme (NZ ETS) was first established in 2008 through an amendment to the Climate Change Response Act 2002. The main aim of NZ ETS is to

reduce emissions and to meet international targets for climate change. It does this by imposing a cost on businesses for their emissions and providing incentives for business for emissions reductions and removals (e.g. forestry). In the initial few years of the NZ ETS, it was linked to overseas carbon markets, which allowed New Zealand companies to offset their emissions by buying international emission units. As a result, cheaper international units pushed New Zealand carbon prices down and may have contributed to fewer new plantings.

International units have not been able to be used in the scheme since mid-2015. This, along with the decision to phase out one-for-two, has helped New Zealand carbon prices rebound. The current review of the NZ ETS is also currently considering how to further improve NZ ETS incentives for forestry.

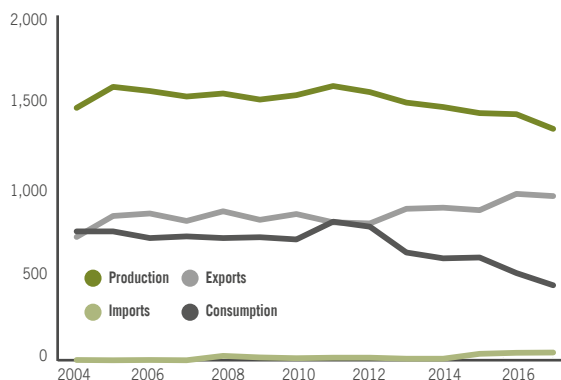
If carbon prices remain strong, forest owners may be motivated to increase plantings. Higher log prices in recent years may also support a recovery in plantings. In addition, MPI is encouraging new plantings through various government afforestation and carbon schemes, such as the Afforestation Grant Scheme, Erosion Control Funding Programme, Hill Country Erosion Fund, and Permanent Forest Sink Initiative.

Figure 22: Panel production, consumption and trade, year ended March 200–17 (thousand cubic metres)



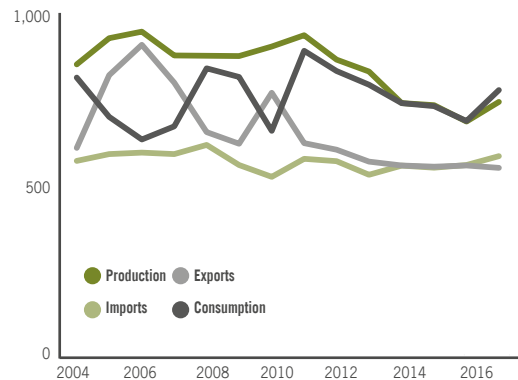
Source: Statistics New Zealand and MPI

Figure 23: Pulp production, consumption, and trade, year ended March 2004–17 (thousand air dry tonnes)



Source: Statistics New Zealand and MPI

Figure 24: Paper and paperboard production, consumption and trade, year ended March 2004–17 (thousand tonnes)



Source: Statistics New Zealand and MPI