



Sawn Timber in Australia 2008 – 2022

“The sawn timber industry is highly dependent on a cyclical building industry, which is nearing the end of a three year downturn. When will the next upturn begin, how long it last, and what are the prospects for sawn timber over the long term? Is the industry entering a new era of competition in international trade? What are the prospects for exports and imports?”



EXTRACT TO INDICATE THE GENERAL NATURE OF THE REPORT

FORESTRY

Contents

EXECUTIVE SUMMARY	i
1. INTRODUCTION	1
1.1 Objectives	3
1.2 Methodology.....	4
1.3 Organisation of the report	4
2. GLOBAL OVERVIEW	5
2.1 Global forest resources.....	7
2.1.1 Natural forests	9
2.1.2 Plantation forests.....	9
2.2 Global forest products industry	10
2.3 Global market for sawn timber	14
2.3.1 Global production of sawn timber	14
2.4 Global consumption of sawn timber.....	16
2.5 Global trade in sawn timber	19
2.5.1 Imports.....	19
2.5.2 Exports.....	21
2.6 Issues related to global trade in sawn timber	23
2.6.1 Tariffs.....	23
2.6.2 Trade and sustainability.....	24
2.6.3 Trade and certification	24
3. SAWN TIMBER INDUSTRY IN AUSTRALIA.....	25
3.1 Introduction	27
3.2 Resource availability	28
3.2.1 Native forests.....	28
3.2.2 Plantations.....	29
3.3 Industry structure	33
3.3.1 The hardwood sector.....	33
3.3.2 The softwood sector	33
3.4 Sawn timber production facilities	34
3.4.1 Hardwood	34
3.4.2 Softwood.....	36
3.5 Major issues affecting the sawn timber industry.....	40
3.5.1 Competitiveness of the Australian sawn timber industry.....	40
3.5.2 The Australian Forest Standard.....	40
3.5.3 Certification and labelling	41
3.5.4 Imported timber from Illegal logging	42

3.5.5	Building codes and standards	42
3.5.6	New technologies and wood based substitutes for sawn timber.....	43
4.	SAWN TIMBER USAGE BY MARKET SEGMENT	45
4.1	Detached houses	47
4.1.1	Timber usage by builders of detached houses.....	47
4.1.2	The number of storeys of detached dwellings.....	52
4.1.3	Material used in external wall frames	52
4.1.4	Decks and pergolas.....	53
4.1.5	Method of roof, wall and sub-floor framing construction by builders of detached houses	53
4.1.6	Floor coverings used in detached dwellings.....	57
4.1.7	Possible replacement of current timber species or material used.....	59
4.1.8	Source of Australian timber supply to builders of detached houses	61
4.1.9	Timber supplier selection factors by builders of detached houses.....	62
4.2	Timber usage by builders of other dwellings	63
4.2.1	Timber usage by builders of other dwellings	63
4.2.2	Decks and pergolas.....	68
4.2.3	Method of roof, wall and sub-floor framing construction by builders of multi-unit dwellings	68
4.2.4	Floor coverings used in other dwellings	69
4.2.5	Possible replacement of current timber species or material used.....	70
4.2.6	Source of timber supply to builders of other dwellings.....	72
4.2.7	Timber supplier selection factors for supply to builders of other dwellings	73
4.3	Builders of alterations and additions.....	73
4.3.1	Timber usage by builders of alterations and additions to dwellings.....	73
4.3.2	Decks and pergolas.....	78
4.3.3	Roof, wall and sub-floor framing used by builders of alterations and additions...78	
4.3.4	Floor coverings used in alterations and additions to dwellings	80
4.4	Non-residential builders	81
4.4.1	Timber usage by non-residential builders	81
4.4.2	Source of timber supply	85
4.5	Wall framing and roof truss manufacturers.....	86
4.5.1	Timber species/materials used in wall framing and roof trusses.....	86
4.5.2	Reason for using species in wall framing and roof trusses	88
4.5.3	Rating of timber species for wall framing and roof trusses	89
4.5.4	Source of timber supply to frame and truss manufacturers	90
4.5.5	Timber supplier selection factors for supply to frame and truss manufacturers...91	
4.6	Furniture manufacturers.....	92
4.6.1	Type of furniture manufactured	92
4.6.2	Type of domestic furniture manufactured.....	93

4.6.3	Material used in domestic furniture manufacture	94
4.6.4	Reason for using timber species or other material in furniture manufacture	101
4.6.5	Rating of timber species used in furniture manufacture	102
4.6.6	Change in timber species in future	102
4.6.7	Reason for changing timber species in future	103
4.6.8	Source of timber supply	105
4.6.9	Timber supplier selection factors for supply to furniture manufacturers.....	107
5.	SAWN TIMBER DISTRIBUTION IN AUSTRALIA	109
5.1	Timber species stocked	111
5.2	Source of timber stocked	114
5.3	Rating of Australian timber supplier by state	115
5.4	Rating of imported timber supplier by country	119
5.5	Timber sales by market sector.....	121
5.6	Anticipated change in demand in two years time	122
5.7	Anticipated change in price in two years time.....	123
5.8	Important factors in choosing timber supplier	124
5.9	Supply problems in past year.....	125
5.10	Anticipated future supply problems.....	128
5.11	Timber pricing	130
6.	PROSPECTS FOR THE AUSTRALIAN ECONOMY	137
6.1	Economic outlook.....	139
7.	PROSPECTS FOR THE BUILDING INDUSTRY IN AUSTRALIA	145
7.1	The building industry cycle.....	147
7.2	Underlying demand for dwellings.....	149
7.3	Building industry forecasts	150
7.3.1	Building forecasts, Australia	151
7.3.2	Dwelling building – detached houses and other dwellings.....	151
7.3.3	Alterations and additions to dwellings	155
8.	SAWN TIMBER DEMAND FORECASTS	165
8.1	Summary and scope of forecasts	167
8.2	Background.....	168
8.2.1	Demand for timber has trended higher since 1990	168
8.2.2	Demand for timber derived from building activity	170
8.2.3	Hardwood/softwood breakdown	170
8.2.4	Demand forecasting methodology.....	171
8.2.5	Detached dwellings methodology.....	171
8.2.6	Other dwellings methodology	173

8.2.7	Alterations and additions methodology	175
8.2.8	Non-dwelling building methodology.....	175
8.2.9	Furniture, and other usage methodology	175
8.3	Sawn timber demand forecasts, Australia	176
8.4	Sawn timber demand forecast, New South Wales	180
8.5	Sawn timber demand forecasts, Victoria	184
8.6	Sawn timber demand forecasts, Queensland.....	188
8.7	Sawn timber demand forecasts, South Australia (and the Northern Territory).....	192
8.8	Sawn timber demand forecasts, Western Australia.....	195
8.9	Sawn timber demand forecasts, Tasmania	198
9.	SAWN TIMBER SUPPLY FORECASTS.....	201
9.1	Background.....	203
9.2	Forecasting methodology.....	203
9.3	National sawn timber supply	205
9.3.1	Current national supply.....	205
9.4	Outlook for sawn timber production	207
9.5	Sawn timber supply, New South Wales (including ACT).....	210
9.6	Sawn timber supply, Victoria.....	213
9.7	Sawn timber supply, Queensland	215
9.8	Sawn timber supply, South Australia & Northern Territory	217
9.9	Sawn timber supply, Western Australia	219
9.10	Sawn timber supply, Tasmania.....	221
10.	PRICE FORECASTS.....	223
10.1	Introduction	225
10.2	Data sources	226
10.3	Price forecasts	226
10.3.1	Australian hardwood prices	226
10.3.2	Australian softwood prices.....	228
10.3.3	Imported sawn timber prices	229
APPENDICES		
	Appendix A: Material use in dwelling applications	A-3
A1	Estimated volume of sawn timber used in national dwelling applications, 2006 to 2022.....	A-4
A2	Timber usage by species and product type, Australia, 2007	A-7
	Appendix B: Forecasting methodology for domestic sawn timber supply.....	A-13
B1	Hardwood	A-15
B2	Softwood.....	A-17

Tables

I	Major hardwood producers by state, number of sawmills, log intake & location	iv
II	Production, imports, exports and demand for hardwood sawn timber, Australia, 1991–2022	v
III	Major softwood producers by state, number of sawmills, log intake & location	vi
IV	Production, imports, exports and demand for softwood sawn timber, Australia, 1991–2022	vii
V	Key economic indicators	viii
VI	Building activity forecasts, Australia, 2001–2022	ix
VII	Production, imports, exports and demand for sawn timber, Australia, 1991–2022	xi
VIII	Average softwood sawn timber prices, Australia, 2002–2012	xii
IX	Average price of unseasoned and seasoned hardwood sawn timber, Australia, 2001–2012	xiii
2.1	Global forest area and area of natural forests and plantations	7
2.2	Change in forest area, by country and region, 1990–2005	8
2.3	Global plantation area, 2005	10
2.4	The world's 20 largest forest product companies, by country of location and level of sales, 2007	12
2.5	Companies and sales by country of origin for world's 50 largest public forestry companies, 2007	13
2.6	Production of sawn timber, by type, by region, 2002 and 2006	14
2.7	Production of sawn timber by type, top 25 countries, 2005 and 2006	15
2.8	Apparent consumption of sawn timber, by type, by region, 2002 and 2006	16
2.9	Apparent* consumption of sawn timber, top 25 countries, 2002 to 2006	18
2.10	Imports of sawn timber, top 25 countries, 2005 and 2006	19
2.11	Imports of sawn timber by type and by region, 2002 and 2006	21
2.12	Exports of sawn timber, top 25 countries, 2005–2006	22
2.13	Exports of sawn timber, by type, by region, 2002 and 2006	23
3.1	Native forest type by vegetation cover, Australia, 2008	28
3.2	Native forest area by state and tenure, 2008	29
3.3	Plantation forest type by vegetation cover, Australia, 2006	29
3.4	Area of new softwood and hardwood plantations established, 1997–2006	30
3.5	Softwood and hardwood plantation area, by type and planting period, Australia, 1940–2009	32
3.6	Major hardwood producers by state, number of sawmills, log intake & location	35
3.7	Major softwood producers by state, number of sawmills, log intake & location	38
4.1	Timber and other materials usage by builders of detached houses, by application, Australia, 2007	50
4.2	Number of storeys for detached dwellings, by state, 2007	52
4.3	Type of external wall frame used in the construction of detached houses, by state, 2007	53
4.4	Percentage of detached houses including a pergola and deck, by state, 2007	53
4.5	Type of roof frame used by builders of detached houses, by state, 2007	55
4.6	Type of wall frame used by builders of detached houses, by state, 2007	56
4.7	Type of sub floor framing used by builders of detached houses, by state, 2007	57
4.8	Type of floor covering used by builders of detached houses, by state, 2007	58
4.9	More or less likely to offer floor covering in two years time detached houses, 2007	58
4.10	Possible replacement for current timber species or material, by builders of detached houses, by building application and state, 2007	60
4.11	Source of hardwood timber supply to builders of detached houses, by state, 2007	61

4.12	Source of softwood timber supply to builders of detached houses, by state, 2007	62
4.13	Source of imported timber supply of builders of detached houses, by state, 2007	62
4.14	Reason for choice of timber supplier for builders by detached houses, by state, 2007	62
4.15	Timber and other materials used by builders of other dwellings, by application, Australia, 2007	66
4.16	Percentage of low-rise other dwellings including a pergola and deck, by state, 2007	68
4.17	Type of roof framing used by builders of other dwellings, by state, 2007	68
4.18	Type of wall framing used by builders of multi-unit dwellings, by state, 2005	69
4.19	Type of sub-floor framing used by builders of multi-unit dwellings, by state, 2005.....	69
4.20	Floor coverings used by builders of other dwellings, Australia, 2005	70
4.21	More or less likely to offer floor covering in two years time, total dwellings, 2007.....	70
4.22	Possible replacement for current timber species or material, by builders of other dwellings, by building application and state, 2007	71
4.23	Source of hardwood timber supply to builders of other dwellings, by state, 2007	72
4.24	Source of softwood timber supply to builders of other dwellings, by state, 2007	72
4.25	Source of imported timber supply to builders of multi-unit dwellings, by state, 2007	73
4.26	Reason for choice of timber supply for builders of multi-unit dwellings, by state, Australia, 2007	73
4.27	Timber and other materials usage by builders of alterations & additions, by application and state, 2007.....	76
4.28	Percentage of alterations and additions to dwellings including a pergola and deck, by state, 2007	78
4.29	Roof framing by type used by builders of alterations and additions, by state, 2007.....	78
4.30	Wall framing by type used by builders of alterations and additions, by state, 2007	79
4.31	Sub-floor framing by type used by builders of alterations and additions, by state, 2007.....	80
4.32	Floor coverings used by builders of alterations and additions, by state, 2007	80
4.33	Timber and other materials usage by builders of non-residential buildings, by building application, by state, 2007	83
4.34	Source of hardwood timber supply to non-residential builders, by state, 2007	85
4.35	Source of softwood timber supply to non-residential builders, by state, 2007.....	85
4.36	Source of imported timber supply to non-residential builders, by state, 2007	86
4.37	Reason for choice of timber supplier, non-residential builders, by state, 2005	86
4.38	Timber species and/or material used in wall framing and roof trusses as a percentage of total material used, by state, 2007	87
4.39	Reason for using timber species in wall framing, Australia, 2007	88
4.40	Reason for using timber species in roof trusses, Australia, 2007	89
4.41	Rating of timber species for wall framing and roof trusses, Australia, 2005.....	89
4.42	Source of hardwood timber supply to frame and truss manufacturers, by state, 2007	90
4.43	Source of softwood timber supply to frame and truss manufacturers, by state, 2005.....	90
4.44	Source of imported timber supply to frame and roof truss manufacturers, by state, 2007	91
4.45	Reason for choice of timber supply of builders of multi-unit dwellings, by state, 2007.....	92
4.46	Furniture production by type as a percentage of total, by state, 2007	92
4.47	Furniture production by material as a percentage of total, by state, 2007.....	93
4.48	Domestic furniture production by type as a percentage of the total, by state, 2007	94
4.49	Timber species and other materials used in domestic furniture manufacture, by category, by state, 2007	97
4.50	Reasons for using timber or other material in furniture manufacture, 2007.....	101

4.51	Rating of timber species used in furniture manufacture, 2007	102
4.52	Change in timber species used in future by furniture manufacturers, 2007	103
4.53	Reason for increased use of timber species in future, 2007	104
4.54	Reason for decreased use of timber species in future, 2007	104
4.55	Source of hardwood timber supply, by state, 2007	105
4.56	Source of softwood timber supply, by state, 2007	106
4.57	Source of imported timber supply, by state, 2007	106
4.58	Reason for choice of timber supply of manufacturers of furniture, by state, 2007	107
5.1	Survey sample summary, timber merchants interviewed, by state, 2007	111
5.2	Timber species stocked by timber merchants, by state, 2007	113
5.3	Australian hardwood and Australian softwood sourced interstate, 2007	116
5.4	Rating of hardwood timber supplier, by state, by timber merchants, 2007	118
5.5	Rating of softwood timber supplier, by state, by timber merchants, 2007	119
5.6	Rating of imported timber supplier, by country of origin, 2007	120
5.7	Timber sales by end use market sector, by state, 2007	122
5.8	Anticipated change in demand for timber by species in 2 years time, 2007	123
5.9	Anticipated change in price for timber by species in 2 years time, 2007	124
5.10	Important factors in selecting timber supplier, by state, 2007	125
5.11	Supply problems in past year, by state, 2007	126
5.12	Timber species for which timber merchants experienced supply problems in past year, by state, 2007	126
5.13	Reasons for supply problems, by species, 2007	127
5.14	Anticipated supply problems in 2 years time, by state, 2007	128
5.15	Anticipated supply problems in 2 years time, by species, by state, 2007	128
5.16	Reasons for supply problems in 2 years time, by species, 2007	129
5.17	Prices paid for Australian hardwood, by grade, by state, 2007	131
5.18	Prices paid for Australian softwood, by grade, by state, 2007	133
5.19	Prices paid for imported timber, by grade, by state, 2007	135
6.1	Key economic indicators	143
7.1	Underlying demand, dwelling commencements and stock deficiency (excess)	150
7.2	Forecasts of dwelling commencements	153
7.3	Building activity forecasts, Australia, 2001–2022	158
7.4	Building activity forecasts, New South Wales/ACT, 2003–2022	159
7.5	Building activity forecasts, Victoria, 2003–2022	160
7.6	Building activity forecasts, Queensland, 2003–2022	161
7.7	Building activity forecasts, South Australia and Northern Territory combined, 2003–2022	162
7.8	Building Activity Forecasts, Western Australia, 2003–2022	163
7.9	Building Activity Forecasts, Tasmania, 2003–2022	164
8.1	Average floor area for total new houses approved, 1998–2022	172
8.2	Number of low-rise dwelling commencements, 2003–2022	174
8.3	Number of high-rise dwelling commencements, 2003–2022	174
8.4	Sawn timber demand forecasts, Australia, 2003–2022	176
8.5	Sawn timber demand forecast by sector, Australia, 2003–2020	179
8.6	Sawn timber demand forecasts, New South Wales, 2003–2022	180
8.7	Sawn timber demand forecasts by sector, New South Wales (including A.C.T.), 2003–2020 ...	183
8.8	Sawn timber demand forecasts, Victoria, 2003–2022	184

8.9	Sawn timber demand forecasts by sector, Victoria, 2003–2020.....	187
8.10	Sawn timber demand forecasts, Queensland, 2003–2022	188
8.11	Sawn timber demand forecasts by sector, Queensland, 2003–2020	191
8.12	Sawn timber demand forecasts, South Australia & Northern Territory, 2003–2022.....	192
8.13	Sawn timber demand forecasts by sector, South Australia & Northern Territory, 2003–2020 ...	194
8.14	Sawn timber demand forecasts, Western Australia, 2003–2022.....	195
8.15	Sawn timber demand forecasts by sector, Western Australia, 2003–2020	197
8.16	Sawn timber demand forecast, Tasmania, 2003–2022	198
8.17	Sawn timber demand forecasts by sector, Tasmania, 2003–2020.....	200
9.1	Sawn timber supply by source and state, 2006/07	203
9.2	Potential supply of softwood sawn timber, Australia, by state, 2001–2020	204
9.3	Imports of sawn timber by selected country of origin, Australia, 2007.....	206
9.4	Exports of sawn timber by country of destination, Australia, 2007	206
9.5	Production, imports, exports and demand for sawn timber ('000m ³), Australia, 1991–2022.....	208
9.6	Production, imports, exports and demand for softwood sawn timber ('000m ³), Australia, 1991–2022	209
9.7	Production, imports, exports and demand for hardwood sawn timber ('000m ³), Australia, 1991–2022	210
9.8	Demand, trade and production of sawn timber, New South Wales and Australian Capital Territory, 2003 to 2022.....	212
9.9	Demand, trade and production of sawn timber ('000m ³), Victoria, 2003– 2022	214
9.10	Demand, trade and production of sawn timber ('000m ³), Queensland, 2003–2022.....	216
9.11	Demand, trade and production of sawn timber ('000m ³), South Australia & Northern Territory, 2003 to 2022.....	218
9.12	Demand, trade and production of sawn timber ('000m ³), Western Australia, 2003–2022.....	220
9.13	Demand, trade and production of sawn timber ('000m ³), Tasmania, 2003–2022.....	222
10.1	Average price of unseasoned and seasoned hardwood sawn timber, Australia, 2001–2012....	227
10.2	Average softwood sawn timber prices, Australia, 2002–2012	229
10.3	Average price* of imported rough sawn timber, Australia, 2001–2012.....	230
10.4	Average price* of imported dressed sawn timber, Australia, 2001–2012.....	231

Charts

I	Sawn timber demand forecasts, Australia.....	x
II	Potential supply of softwood sawn timber, Australia, 2005–2022.....	x
2.1	Forest Industry structure and products	11
3.1	Area of new softwood and hardwood plantation established, 1995–2006.....	31
8.1	Sawn timber demand forecasts, Australia.....	178
8.2	Sawn timber demand forecasts, New South Wales.....	182
8.3	Sawn timber demand forecasts, Victoria.....	186
8.4	Sawn timber demand forecasts, Queensland	190
8.5	Sawn timber demand forecasts, South Australia & Northern Territory	193
8.6	Sawn timber demand forecasts, Western Australia	196
8.7	Sawn timber demand forecasts, Tasmania.....	199
9.1	Potential supply of softwood sawn timber, Australia, 2005–2022.....	205

1. INTRODUCTION

This is the eleventh edition of *Sawn Timber in Australia*. Previous editions have been produced every two years since 1984.

The market for sawn timber in Australia has changed profoundly over the past fifteen years. It has shifted from an industry dominated by hardwood (55% of production), predominantly small scale, Australian owned and domestically focussed, to an industry that is dominated by softwood (77% of production), has major multinational producers and has become an exporter.

The industry is expected to continue to restructure over the next decade, as the supply of softwood increases, the availability of hardwood declines, foreign investment increases, and the capacity to export expands. Producers will need to adapt to this changing environment.

The Regional Forest Agreement (RFA) process was intended to secure the future of the hardwood processing industry, with certainty of wood supply over the next 20 years. However, subsequent decisions by the Western Australian and Victorian State Governments to reduce the supply of hardwood beyond the terms of the agreements, and the strategy of the Queensland government to phase out the hardwood industry within 20 years, will result in a significant reduction of hardwood production in those states.

Remaining hardwood producers in Western Australia, Victoria and Queensland will need to focus on high value added products, and users of hardwood products will need to find substitutes such as softwood, laminated veneer lumber, oriented strand lumber and steel. These industries will benefit from the reductions.

1.1 Objectives

The objective of this report is to provide a basis for which firms and organisations operating in the industry can make strategic decisions on issues such as marketing, pricing, production, investment and trade. The report:

- highlights the major developments and changes facing the industry in Australia and internationally over the next fifteen years,
- provides forecasts of supply, demand, international trade and prices for sawn timber in Australia,
- provides an analyses of current timber usage patterns in Australia by species, by application and by market segment, and
- provides an analysis of trends in these usage patterns and competition with substitutes, through a survey of key end users and suppliers, including residential and non-residential builders, frame and truss manufacturers, furniture manufacturers, and timber merchants.

1.2 Methodology

Details of the current status of the market, including production, consumption, and trade are derived from a thorough search of available literature and by accessing relevant databases, such as the United Nations Food and Agriculture Organisation (FAO), Australian Bureau of Agricultural and Resource Economics (ABARE), Australian Bureau of Statistics (ABS), and Forests New South Wales annual price survey to gain historical data on production, consumption, trade and prices for sawn timber in Australia and internationally.

In order to estimate the current usage of various timber species for specific applications, a survey of participants in key end use sectors is undertaken. The surveys include both face to face and telephone interviews with industry participants in all Australian states, using structured questionnaires. The results are compiled, thoroughly scrutinised and analysed to provide a detailed assessment of timber usage within each of the key end used sectors.

The forecasts for production, consumption, trade and prices are based on a number of variables including:

- the short term and long term economic outlook,
- current and projected end use patterns,
- historical demand, supply and price cycles,
- forecast cycles of key market drivers, especially housing construction,
- projected level of substitution by alternative products, and
- projected availability of raw materials.

1.3 Organisation of the report

The report is organised into ten chapters. An overview of international market is provided in Chapter 2. Chapter 3 provides an overview of the industry structure in Australia, and key issues facing the industry.

The results of the survey of current and expected future timber usage in Australia are provided in Chapter 4. Chapter 5 provides the results of the survey of merchants, the distribution system, and the current and projected stocking by timber merchants.

As a basis for forecasting production, consumption, trade and prices, an outlook for the Australian economy and the building industry are provided in Chapters 6 and 7.

Historical and future demand forecasts are provided in Chapter 8, based on a model of timber usage by application within the key end use sectors. Total timber usage by state is aggregated to provide demand forecasts at the national level.

The supply and demand for sawn timber are brought together in Chapter 9 to assess the prospects for trade. The analysis includes fifteen years of historical data for demand, imports, exports and production, and fifteen year forecasts.

Chapter 10 provides a five year historical price series, and five year forecasts for the main structural and appearance grade categories.

