



Indufor ...forest intelligence

Forest Products Commission

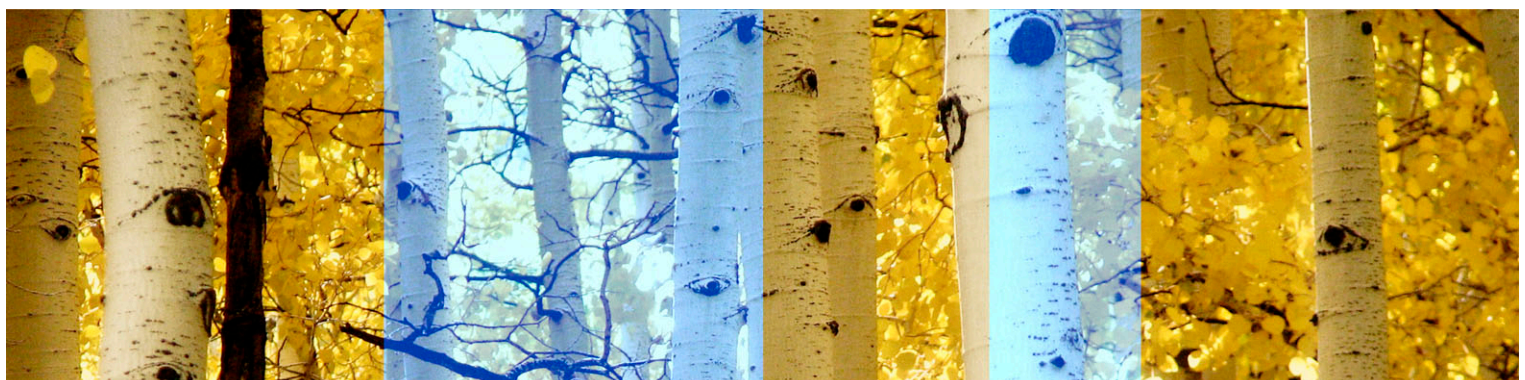
Growing the Softwood Estate

Mechanisms required for farm forestry to contribute to an expansion of the plantation estate in Western Australia

Final Report

22 December 2017
Melbourne

A17-21334





DISCLAIMER

Indufor makes its best effort to provide accurate and complete information while executing the assignment. Indufor assumes no liability or responsibility for any outcome of the assignment.

Copyright © 2017 Indufor

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including, but not limited to, photocopying, recording or otherwise.

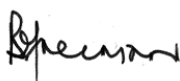
PREFACE

This report was prepared at the request of the Forest Products Commission of Western Australia (the Client) by Indufor Asia Pacific (Australia) Pty Ltd. The intended user of this report is the Client. No other third party shall have any right to use or rely upon the report for any purpose.

The project involved data analysis and stakeholder consultation conducted between August and September 2017; and the views expressed in this report reflect outcomes of the review during this period.

This report may only be used for the purpose for which it was prepared, and its use is restricted to consideration of its entire contents. The conclusions presented are subject to the assumptions and limiting conditions noted within.

Indufor Asia Pacific



Blair Freeman
Project Manager



Andrew Morton
Project Director

Contact:

Indufor Asia Pacific (Australia) Pty Ltd
Level 8, 276 Flinders Street
PO Box 425
Flinders Lane, Melbourne VIC 8009
AUSTRALIA

Tel. + 61 417 381 609

blair.freeman@indufor-ap.com

www.indufor-ap.com

TABLE OF CONTENTS

PREFACE	I
TABLE OF CONTENTS	II
1. INTRODUCTION	1
1.1 Report purpose	1
1.2 Stakeholder consultation	1
1.3 Definition of farm forestry	2
2. CONTEXTUAL SETTINGS	3
2.1 Plantation resources	3
2.1.1 Softwood	3
2.1.2 Hardwood	4
2.2 Markets	5
3. REGIONAL MODELS FOR FARM FORESTRY SUPPORT	8
3.1 South West Agroforestry Network	8
3.2 Private Forests Tasmania	8
3.3 Otway Agroforestry Network	10
3.4 Gippsland Agroforestry Network	11
3.5 Private Forestry Service Queensland	12
3.6 The Softwood Working Group in NSW	13
3.7 Summary of findings	14
3.7.1 Review of regional farm forestry organisations	14
3.7.2 WA farm forestry arrangements	15
4. STAKEHOLDER CONSULTATION	16
4.1 Constraints on new plantation expansion	16
4.2 Market trends for plantation logs and timber	17
4.3 Roles for the government in farm forestry development	18
4.4 Roles for the private sector in farm forestry development	19
4.5 Existing regional models for farm forestry promotion	20
4.6 Opportunities for farm forestry to support plantation expansion	21
5. MECHANISMS TO SUPPORT FARM FORESTRY	24
5.1 Creating an enabling environment for farm forestry	25
5.1.1 Forest policy development and support	25
5.1.2 Resourcing for extension services	26
5.1.3 Master TreeGrower courses and Peer Mentoring program	26
5.1.4 Market information on plantation log prices	27
5.1.5 Dedicated funding to promote private forestry development	28
5.2 Direct interventions	28
5.2.1 Supply of high quality seedlings	28



Indufor

5.2.2	Afforestation grant for new plantations	29
5.2.3	Market for carbon sequestration	31
5.2.4	Off-take agreements and market access	32
5.2.5	Establish industry fund to manage investment in new plantations	33
6.	RECOMMENDATIONS	39

APPENDICES

Appendix 1: Project Consultation Paper

1. INTRODUCTION

1.1 Report purpose

The Forest Products Commission (FPC) has engaged Indufor Asia Pacific (Australia) Pty Ltd (Indufor) to provide recommendations on the mechanisms required for farm forestry to contribute to an expansion of the softwood plantation estate in Western Australia (WA).

This review has been conducted within the context of the FPC softwood industry strategy, published in 2016, and its nominated target for government, industry (i.e. processors) and private growers to collectively work towards an increase in the softwood plantation estate of 20 000 hectares (ha) over five years. The purpose of the FPC strategy is to promote a viable local softwood processing industry through ensuring a sufficient plantation base for long-term resource supply. There is clearly scope for farm forestry to contribute to that plantation base, if there is an enabling environment and support from private landowners for the broader initiative.

This report presents Indufor's review of relevant issues and recommendations for consideration by the FPC and plantation forestry stakeholders.

1.2 Stakeholder consultation

FPC recognised stakeholder consultation was critical to realising effective outcomes from this review and engaged Indufor to conduct this engagement on an independent basis.

Following project inception, Indufor met with the FPC and South West Agroforestry Network (SWAN) representatives in Perth in July 2017 to discuss further the scope for the project and engagement with key stakeholders.

Based on this preliminary engagement, Indufor proposed an approach that centred on the use of a consultation paper to effectively engage stakeholders and focus the feedback on specific issues. Indufor prepared the consultation paper incorporating a range of consultation issues and relevant data for consideration. For each of these issues, Indufor provided an outline of relevant perspectives; followed by a short series of questions (e.g. multiple-choice answers) and the opportunity for stakeholders to comment further.

A copy of the Consultation Paper is attached at [Appendix 1](#).

The consultation paper was sent to a broad range of stakeholders, identified and agreed to with the FPC and SWAN. These stakeholders included SWAN members and farm foresters as individuals; industry associations and major industry processors; forest industry consultants and service providers, environmental organisations; and representatives of FPC engaged directly in working with the farm forestry sector. Indufor invited stakeholder recipients to consider the consultation paper and submit responses in writing; with the option to discuss further as and where requested.

To complement this form of engagement, Indufor conducted a series of phone call interviews and in-person interviews with selected representatives of the range of stakeholders' groups. Stakeholder groups engaged through this interview process included representatives of the SWAN management committee, other individual farm foresters, forest industry service providers, industry associations, industry processors and FPC personnel.

In total, Indufor sent the consultation paper to 36 farm forestry stakeholders; received written responses from 20 stakeholders; and conducted 13 interviews in person or by phone; with some parties choosing not to respond.

The outcomes of this consultation are reflected in semi-quantitative assessments of responses, and Indufor commentary on qualitative input from stakeholders to this review.

1.3 Definition of farm forestry

Farm forestry means different things to different people. The Australian Government Department of Agriculture and Water Resources has defined it as essentially the *incorporation of commercial tree growing into farming systems*¹. It can take many forms, including timber belts, alley plantings and widespread (fence to fence) plantings.

Indufor has adopted this definition for this review, adding the primary focus relates to *private land managed by farmers*, rather than Crown or public land, or large-scale corporate interests. A key element of this definition is that the risk and return of planting the tree is largely borne by the land owner, like other farming land use enterprises such as cropping or grazing. This is distinct to *share farming* where the tree crop risks may be shared between a land owner and a third-party tree crop owner, or largely borne by the tree crop owner who is a third party; and land leasing to a third party who bears the entire risk and return for a tree crop's performance.



Pine plantations near Nannup in Southwest WA. Image source: FPC.

¹ Australian Government Department of Agriculture and Water Resources:
<http://www.agriculture.gov.au/forestry/australias-forests/plantation-farm-forestry>

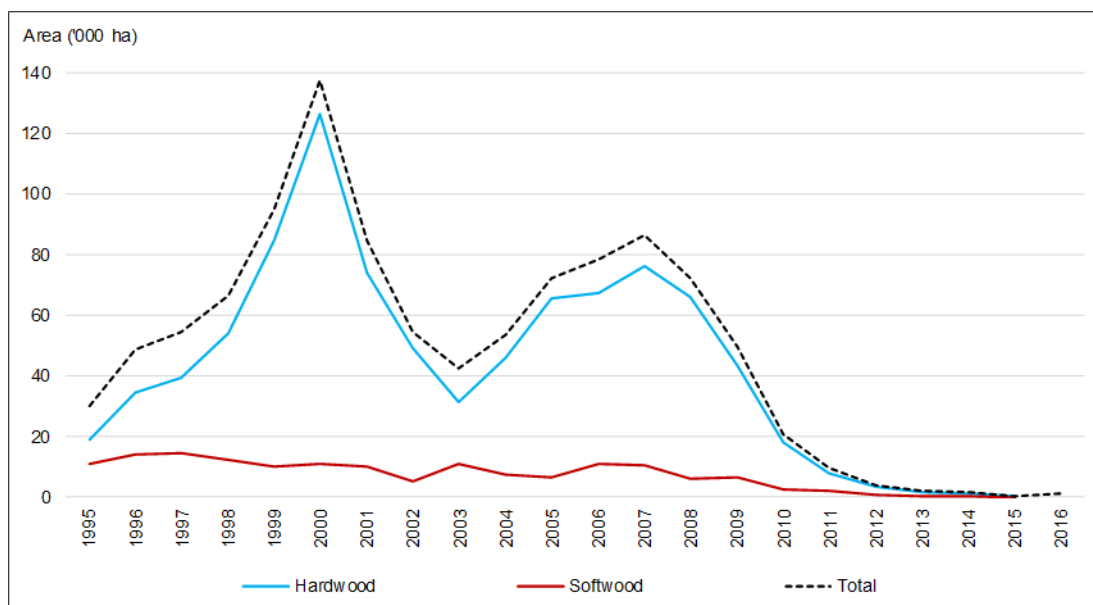
2. CONTEXTUAL SETTINGS

2.1 Plantation resources

While farm forestry interests can comprise both native forests and plantations, this review is focused on plantation resources and softwood plantations specifically. Notwithstanding this, the relationship between softwood and hardwood plantations is an important consideration in relation to factors such as industry structures and infrastructure facilitating market access, and landowner choices on which species to plant based on their view of optimal land use decisions.

Over the past decade there has been a marked decline in new plantation development across Australia (Figure 2-1). In 2004-05, the establishment of new hardwood plantations was around 65 000 ha; by 2015-16 it had dropped to zero. Over the same period, annual establishment of new softwood plantations declined from 6 500 ha to 1 400 ha. Meanwhile, there has been some significant areas of hardwood and softwood plantation converted to other land uses (i.e. plantations harvested and not replanted).

Figure 2-1 New plantation development in Australia, 1994-95 to 2015-16



Source: ABARES (2017) Australian plantation statistics 2017 update

The marked decline in new plantation development since 2007/08 can be attributed principally to the collapse of retail-based investment in Managed Investment Scheme (MIS) forestry plantations; which can in turn be partially attributed to a downward turn in global market conditions and a tightening of credit requirements in Australia and elsewhere.

The national trend of a decline in plantation development is as evident in WA as in other states. According to ABARES, the total area of hardwood plantations in WA declined by over 35 000 ha between 2009-10 and 2014-15 and softwoods declined by over 3 000 ha over the same period.² This trend overlooks the expanding area of Indian sandalwood (*Santalum album*) and Australian sandalwood (*S. spicatum*) plantations; which are beyond the scope of this report.

2.1.1 Softwood

In 2016-17 the total softwood estate in WA was approximately 81 000 hectares (ha); most of which is radiata pine (*Pinus radiata*) and a lesser proportion of maritime pine (*P. pinaster*).

² ABARES 2016, Australia's plantation log supply 2015–2059.

This estimate of the total softwood estate is based on FPC reporting on FPC-owned and FPC-managed pine plantations, totalling approximately 78 500 ha;³ and industry estimates of the current area of privately owned softwood plantations being in the order of 3 000 ha. There is currently a lack of detailed inventory data on privately owned softwood plantations in the south west region; hence the need to draw on industry knowledge rather than use of published statistics at the State or national level.

Most of the softwood plantations in south west WA were established by the State Government between the 1960s and mid-1990s, creating a resource base to support significant local processing facilities including the Wespine sawmill (Dardanup), the Laminex particleboard facility (Dardanup) and the Wesbeam LVL plant (Neerabup).

Since the 1990s, there has been some smaller scale private investment in softwood plantations and a more substantial investment through a range of share-farm arrangements between private landowners and the State Government. These arrangements commonly involved sharing of the risk and return between the parties involved, but with the shares being agreed at the time of establishment and potentially varying by agreements. Typically, tree crop establishment costs were borne largely by the State, and the parties planned to share the net harvest returns (i.e. prices paid for the logs after any harvesting and haulage costs have been accounted for). The tree crop owner may also have paid an annuity to the land owner for the right to occupy the land. These share-farm plantings contributed over 28 000 ha of softwood plantations to the total estate in WA.⁴

The results of these share-farm arrangements have been varied, with some of these producing a viable tree crop and the landholder receiving an appropriate return for the use of the land. However, some agreements have resulted in plantations with little realisable value as well as impacting on land uses options for the land owners. This legacy influences current stakeholder perspectives on share-farm models.

Overall there has been no new softwood plantings over the past 8-9 years, and some areas of mature softwood plantations on private land have been clear-felled, with no subsequent replanting. Industry information and stakeholder input to this project indicates the decline in softwood plantation areas is continuing. FIFWA's current policy position on plantation development in WA states a combination of factors including drought, fire, the Government's decision not to replant the Gnangara plantation north of Perth and a consolidation of share-farm plantations could reduce the softwood estate to less than 40 000 ha by 2025.⁵

Outside of the share-farm holdings involving State government, the current private resource of softwood plantations in south west WA is estimated to be in the order of 3 000 ha in total; therefore, relatively small in total. This estate comprises two significant holdings by corporate interests, and then a wide range of relatively small 'farm forestry' holdings. Indufor observes the spatial and size distribution of these existing farm forestry resources provides minimal scope for aggregating resource to sufficient scale that would support a management overhead; and at present there are no substantial linkages between ownership of private plantations and processing interests – i.e. no direct investment by major processors in plantation holdings or off-take agreements in place to secure market access for private plantation owners.

2.1.2 Hardwood

In contrast to softwood, most of the hardwood plantation estate in WA is on private land and is managed by private sector companies. The total area of hardwood plantations in WA was over 250,000 ha in 2015-16.

As noted above, there has been a substantial reduction in area of hardwood plantations in recent years; down by 35 400 ha between 2009-10 and 2015-16⁶. Further to this, there has been no

³ FPC Annual Report 2016-2017.

⁴ FPC Annual Report 2016-17; p36.

⁵ FIFWA 2016, *WA plantations the Missing Piece of the Puzzle*. A FIFWA policy paper.

⁶ ABARES 2016, *ibid*.

substantive new plantings in the state. Like softwood, the decline in softwood plantation areas is expected to continue; however, the reasons are not entirely the same. The removal of hardwood plantations is due principally to conversion of plantations that were not ideally located to enable commercially viable return on investment given the land value and harvesting and haulage costs. This has resulted in low financial returns and disappointing returns for private investors, while harvesting of the current crop allows release of the land to higher value non-forestry land uses.

In contrast to softwood, consolidation and aggregation of the hardwood resource has occurred, and multiple ownership arrangements remain. In addition, there are substantive examples of linking plantation ownership with processing interests, e.g. direct investments by pulp and paper company interests in plantation holdings, and direct investments by plantation managers in processing (chipping) and export facilities. Farm forestry holdings of hardwood plantations are estimated to represent a relatively minor part of the current supply of pulpwood to international markets.

In relation to hardwood plantations for sawlogs, the resource base in WA is predominantly based on farm forestry, comprising a highly fragmented assemblage of small holdings. The production of high quality sawlogs from hardwood plantations is still in a formative stage of development, with relatively small volumes of projected yields and supply to industry. There is minimal data on which to base an outlook for the commercial potential of hardwood plantation sawlogs. The extent to which it supports or constrains the farm forestry development of softwood plantation holdings is uncertain; but in many cases, the biophysical characteristics of the farms will lend themselves better to eucalypts or pines, and therefore there is a natural choice of preferred species to plant.

2.2 Markets

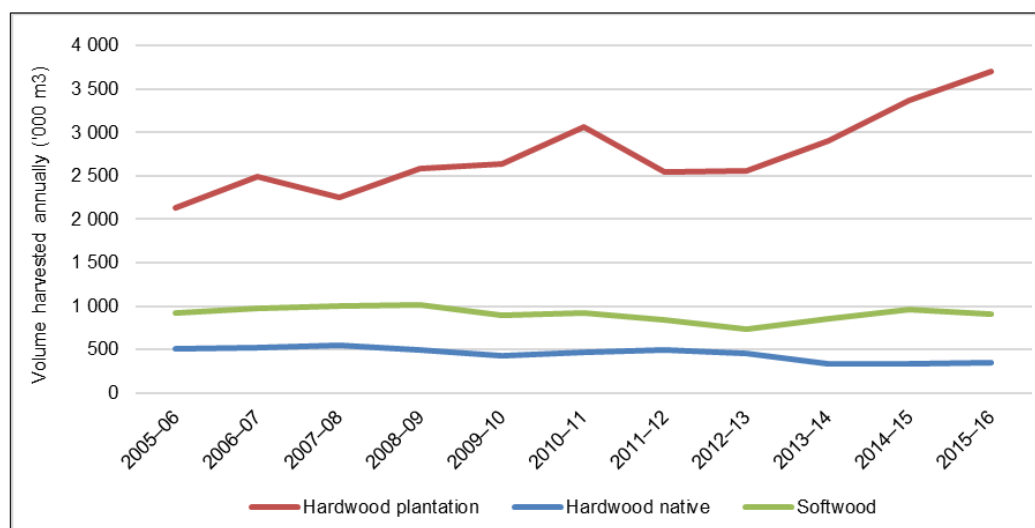
Market access arrangements are largely in place for both domestic and export markets for softwood plantation wood and hardwood plantation wood. It should be noted the FPC (and its predecessor agencies) have provided a key contribution to the development of these markets, which has enabled private forestry and farm forestry interests in WA to follow and supply to the same markets or via the same market channels.

Specifically focussing on softwood, the primary domestic markets for sawlogs are the Wespine mill at Dardanup and the Wesbeam LVL facility at Neerabup. FPC supplies these processors under State pine log supply agreements, which specify a minimum level of annual log supply for the next 10+ years. These processors receive supply from private softwood holdings (including farm forestry interests) also; however, there are some conditions or constraints that apply:

- The delivered log prices paid to private growers are significantly influenced by the prices paid to FPC under long term State agreements, which can limit scope for negotiation of recognising varying costs of production and supply to the processors; and
- The capacity of the processors to receive private wood can be constrained to some extent, if market demand for timber products is soft and FPC's ongoing supply (at or above the minimum threshold under the State agreements) satisfies the processor requirements to meet demand. In this context, changes to processor intake levels can impact on private suppliers. However, the major processors have advised that the intake of private forest logs has remained at significant levels relative to the total supply over the past 7-8 years. Therefore, while constraints on supply from small holders to domestic markets may exist, private plantation owners are finding routes to these markets at this time.

Softwood log sales to domestic markets have remained relatively constant over the past 10 years (Figure 2-2); although the FPC supply to major processors has tended to moderate the more up-and-down supply of private softwood supplies.

Figure 2-2 Logs harvested in WA, 2005-06 to 2015-16



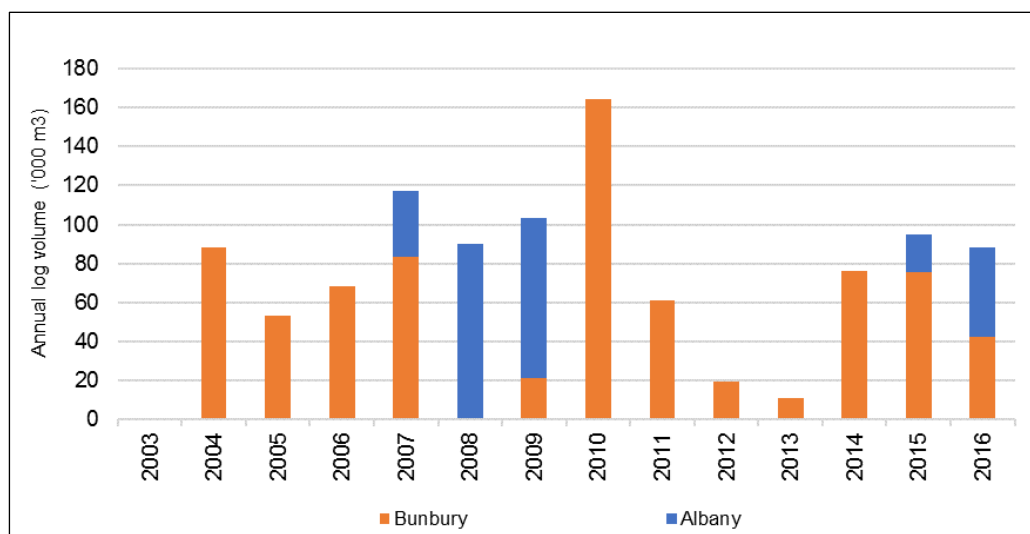
Source: ABARES

The alternative market access for softwood sawlogs is log exports through Bunbury or Albany. Log exports have increased again over the past few years, reflecting more attractive returns being offered by log importers in China and Korea (Figure 2-3). However, the supply to these markets tends to relate to the rise and fall in domestic demand for private logs to complement FPC supply; and the on-and-off nature of these operations tends to limit the extent to which scale efficiencies can be developed to improve returns along the supply chain to growers.

The Laminex particleboard mill at Dardanup has provided an important market for softwood chip logs and other industrial wood; although private growers have faced a similar issue to that for sawlogs, whereby the FPC supply can account for most if not all the demand through that facility.

Significantly, other markets have opened in recent years, through chip export facilities in Bunbury and the emergence of bioenergy related markets within the Bunbury-Geographe region, based on operations of the mining and resources sector. These alternative markets are still being developed, and the scope for establishing a more stable supply over the long term is yet to develop. This development will partly depend on the extent to which the plantation resource base continues to be established.

Figure 2-3 Softwood log exports through WA ports of Bunbury and Albany, 2003-2016



Source: Global Trade Information Service

In this context, Indufor observes that most plantation products have at least one sale opportunity for each plantation product type i.e. sawlog, chip log and plantation fibre residues, being sold either domestically or to export markets.

Further to this, there is evidence of functioning supply chains for the management of private sector softwood plantations and the sales and marketing of private softwood logs and fibre. There are existing private sector operators that are providing a range of services, including mapping, establishment, maintenance, harvesting and sales to domestic and export markets. Existing operators in the southwest include professional firms as well as experienced individuals.

This means that market access exists for softwood plantation timber and fibre products in WA. The primary challenge for the farm forestry sector is realising acceptable terms of trade and returns from their supply of plantation timber and fibre (or other non-market values) to justify investment in softwood plantation holdings, over other land use options.

Improvements in the efficiency of plantation management services, including marketing and sales, could presumably increase the potential returns for farm forestry interests. The capacity for service providers to do this is constrained largely by the relative small scale, the dispersed spatial distribution of these holdings compared to the State government holdings, and the ongoing reduction in area of plantation holdings in the southwest region.

3. REGIONAL MODELS FOR FARM FORESTRY SUPPORT

The purpose of this report is to identify and assess mechanisms that could enable farm forestry to contribute to an expansion of the softwood plantation estate in WA.

To inform this consideration, Indufor conducted a review of regional farm forestry models. This review provides a comparison of the leading farm forestry support network in WA with similar networks and related organisations operating in other states. Key findings are presented below.

3.1 South West Agroforestry Network

The South West Agroforestry Network (SWAN) is a branch of the Australian Forest Growers (AFG) and is managed through a committee structure with a President and support from an Executive Officer (part-time, paid position). The group supports approximately 100 members of tree growers and landowners by running field days, providing peer group mentoring, facilitating Master TreeGrowers (MTG) programs, providing access to information and services, and a regular newsletter.

SWAN was successful in recent years in being awarded a grant of \$60,000 from the Australian Government's *Caring for our Country* fund to implement a Peer Group Mentoring Program, modelled on the Otway Agroforestry Network program through the Australian Agroforestry Foundation.

<i>Model strengths:</i>	<ul style="list-style-type: none"> • Affiliation with AFG, enabling offer of broader benefits to members as an option.
<i>Activity highlights:</i>	<ul style="list-style-type: none"> • Has secured funding and implemented a peer group mentoring program, developed in Victoria (refer discussion below of the Otway Agroforestry Network and related organisations); and • Ongoing implementation of MTG program.
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> • SWAN is developing a database of members and planting activity; however, there is limited data available to inform regional analysis or prospective investors in plantations or buyers of wood. • New plantings over the past five years are indicatively up to 500 ha.

3.2 Private Forests Tasmania

Private Forests Tasmania (PFT) is a statutory authority established in 1994 under the *Private Forests Act 1994* to promote, foster and assist the private forestry sector in Tasmania. It is Australia's only government-funded private forestry agency. PFT is governed by a board appointed based on their industry knowledge; and eight employees across three locations.

Tasmania has 1.1 million ha of private forest and around 5 000 forest owners. The private forest estate covers around 15% of Tasmania's land mass, comprising over 240 000 ha of plantations and native forests of 858 000 ha⁷. The sector is recognised as a significant contributor to the State economy⁸.

PFT's focus is on encouraging the sustainable use of trees and forests for commercial wood production, farm productivity and environmental benefits. PFT supports growers through the provision of on-ground advice, field days, research and forest practices and policy advice to the regulator and government.

⁷ PFT Annual Report 2015/16:

http://www.pft.tas.gov.au/_data/assets/pdf_file/0011/141032/Annual_Report_2015-16.pdf

⁸ PFT website: <http://www.pft.tas.gov.au/about-pft/overview>

PFT is partially funded through a levy paid by private forest growers, based on net harvest area. Because the levy is tied to harvest area, revenue to PFT varies with market conditions. Over the five years from 2012 to 2016, levy revenue ranged from a low of \$42,000 (3% of total revenue) in 2012 to \$237,000 (13% of total revenue) in 2016. An issue recognised by PFT is that although grower capacity to pay is higher at the time of harvest, demand for PFT services is generally higher in softer market conditions. For this reason, ongoing funding support from the State government has been crucial to sustaining the organisation through market downturns. State government annual appropriations ranged from \$1.4 to \$1.6 million over the same period, comprising 85% of PFT's total revenue.

A key resource created and maintained by PFT is the Farm Forestry Toolbox (FFT), a suite of programs downloadable free of charge, that are designed to assist forest owners and managers to plan, monitor and manage plantations. The FFT was developed with funding from Commonwealth and state governments, initially for use in Tasmania, but has broader application in other states where commercial forestry is established. It continues to be supported by Commonwealth funding.

PFT maintains an inventory of private forests, as a statutory function. Data is used to inform policy advice and is aggregated for national forest statistics reporting through the Australian Bureau of Agricultural and Resource Economics and Science (ABARES). Data is obtained through agreements with industrial forest owners; processing of Private Timber Reserve applications and revocations; access to Forest Practices Plans for harvesting and establishment of private forests; and remotely sensed data with professional assistance from an outsourced GIS and mapping specialist organisation⁹. PFT also annually reports on the contribution to the State's total wood production contributed by harvest of private forests, which peaked at two-thirds (67%) in 2015/16.

Although PFT reports on changes to the private forest estate, identifying changes that are attributable to PFT's activities is not feasible. PFT is aware that the non-industrial private plantation estate has been contracting since 2008, with the cessation of share farm arrangements (sharing of capital outlay to establish plantations between industrial grower and landowner) offered by the forestry companies, post the global market downturn¹⁰. Share farm arrangements were successful, as landowners/farmers did not need to outlay the full cost of establishment, and the industrial company provided ongoing forest management expertise.

In its 2016 Annual Report, PFT acknowledged that a barrier to the expansion of the private plantation estate was a lack of evidence to convince landowners of the financial benefits of integrating trees on farms. To address this issue, PFT established a Private Forest Development Program with additional funding through the State Government's *Agrivision 2050 Plan*. The program, a partnership with the University of Tasmania and CSIRO, will produce economic analyses on a range of sites, based on measured biophysical interactions between trees and other agricultural enterprises. These case studies will be used as evidence to support extension services aimed at expanding the private plantation estate¹¹.

Model strengths:

- Ongoing state government funding of around \$1.5 - 1.6 million/year, comprising over 80% of total revenue, supplemented by a \$15/ha levy payable at harvest
- Statutory authority status and board experience in the industry
- Statutory responsibility for maintaining state private forest database
- Private forestry recognised as a significant contributor to the economy and PFT able to provide policy input on behalf of private growers.

⁹ PFT Annual Report 2015/16

¹⁰ Arthur Lyons, PFT (*pers. comm.*) 12 Sept 2017.

¹¹ PFT Annual Report 2015/16

<i>Activity highlights:</i>	<ul style="list-style-type: none"> • Research/case studies to demonstrate financial benefits of commercial trees on farms • Development and ongoing investing in Farm Forestry Toolbox • Annual reporting on contribution of private forest harvesting to the State's total wood production.
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> • The non-industrial private plantation resource has been contracting since 2008 • There are numerous factors contributing to changes in the private forest estate, and identifying changes directly attributable to PFT activities is not possible • PFT has commenced its Private Forest Development Program in response to lack of economic data on benefits of planting trees on farms, with a view to influencing growth of the private plantation estate in the post MIS environment.

3.3 Otway Agroforestry Network

The Otway Agroforestry Network (OAN) is a not-for-profit community organisation supported by a management team, advisory group and a group of trained peer mentors. All the OAN personnel operate on a voluntary basis, with nominal payment/reimbursement for time and travel costs when funds permit.

OAN has over 200 members; however, membership fees contribute only a small proportion (around 5%) of the some \$250,000 annually raised to fund the organisation, arising from federal government grants and contributions from philanthropic organisations.

OAN's focus is on benefits to member farmers to explore how to make farming more environmentally sustainable and financially rewarding, rather than meeting specific government policy objectives around tree planting. The network uses the term 'vegetation' more broadly than trees and forests, including bush foods, mushrooms and seed production. Notable features and initiatives of the group are:

- Peer mentoring program, where experienced and trained local members are paid an hourly rate to provide individual and tailored support to other members;
- Site visit reports by experienced members; and
- Assistance with marketing of products, including through shop-front/gallery in local town.

A key success factor for the organisation has been the peer mentoring program. Several mentors meet with the landowner on site to discuss the owner's specific needs and aspirations, and assess the site capabilities. OAN has observed the fact that the mentors receive some financial compensation for their time is a key contributing factor in other landowners being willing to take up the offer of assistance, i.e. knowing they are not inconveniencing the mentors.

The Master TreeGrower (MTG) program originated from within the OAN and was hosted by the University of Melbourne. However, it is now managed by a not-for-profit community group, MTG Inc.¹², and is associated with the Australian Agroforestry Foundation and the MTG program founder, Rowan Reid. The rollout of the MTG program reportedly costs \$500,000 per year¹³. Participants pay a \$200 course fee as a contribution to catering and materials, with other costs

¹² Australian Master TreeGrower website. Online: http://agroforestry.org.au/Main.asp?_MTG

¹³ Otway Agroforestry Network, 2009. *House of Representatives Primary Industries and Resources Committee Inquiry into Australian Farmers and Climate Change*. 2 September 2009.

covered by local partners or sponsors, such as landowner groups or networks, government agencies, catchment management authorities, non-government organisations or industry bodies.¹⁴

The group has a database of growers' private forest areas, with the focus intended to be commercial plantations and enabling forecasting of harvest areas and volumes. However, many plantations intended for harvest have not been harvested; and there have been issues with maintaining the data.

<i>Model strengths:</i>	<ul style="list-style-type: none"> • Strong and consistent leadership over decades • Innovative initiatives such as the MTG program and peer group mentoring program
<i>Activity highlights:</i>	<ul style="list-style-type: none"> • Peer group mentoring program • Focus on needs and aspirations of the landowner and land capability • Collaboration with Landcare groups and CMAs to achieve shared objectives and contribute to attracting funding • Attraction of philanthropic donors (e.g. the Norman Wettenhall Foundation provided a \$30,000 grant towards a collaborative project to link remnant native vegetation across the landscape)
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> • Anecdotally, OAN has observed that vegetation has increased across the landscape. However, no substantiated data is available to show expansion of the private forest estate.

3.4 Gippsland Agroforestry Network

Gippsland Agroforestry Network (GAN) is a Special Interest sub-group under the Latrobe Catchment Landcare Network. It was originally established as a non-affiliated group in the early 1990's, then joined AFG, until recent changes to AFG membership options made this option financially unviable. The group services the whole of Gippsland and has around 30 members.

GAN's focus is on supporting member farmers and landowners to maximise returns from growing trees on their properties, while promoting sustainable land management.

The group facilitates field days to share information and has a small range of forestry tools and equipment for loan to members. Members provide mutual support to one another through sharing experiences and hosting field days. The main source of funding is through memberships, and through small grants from time to time for specific projects.

GAN does not keep a database of members' private forest areas, and does not have a forest information system or land suitability assessment database. Members can voluntarily assist other members to assess suitability of land for forestry based on field inspections, or engage local consultants. GAN applied for, but was unsuccessful in obtaining, government funding to implement a Peer Networking Program modelled on the OAN program.

¹⁴ Australian Master TreeGrower website. Online: http://agroforestry.org.au/Main.asp?_MTG

<i>Model strengths:</i>	<ul style="list-style-type: none"> • Mutual assistance between forest growers.
<i>Activity highlights:</i>	<ul style="list-style-type: none"> • Field days, e.g. forest health assessments and inventory programs • Upcoming launch of a cidery in Foster, built from timber. Four members were involved in the growing, harvesting, processing of the timber, and construction of the building
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> • Anecdotally, GAN has observed incremental increases in farm plantings. However, no substantiated data is available to show expansion of the private forest estate.

3.5 Private Forestry Service Queensland

PFSQ is a not-for-profit association, which was set up with the primary objective of assisting in the sustainable development of Queensland's private forest sector, through growing the area under private forest (native and plantation) and providing advice to landowners, industry, governments and the community.

The organisation was originally formed as one of 18 Regional Plantation Committees (RPC) established with Australian Government funding. PFSQ is now governed by a non-remunerated board of industry representatives and employs 7 professional staff. PFSQ is based in Gympie and operates throughout Queensland, with consulting services extending beyond the state. The organisation has been operating without government funding since around 2010.

The Queensland Department of Agriculture, Fisheries and Forestry has responsibility for agricultural research, development and extension across the state; and PFSQ has been successful in tendering for private forest extension programs through the Department's vision of doubling the state's agricultural production by 2040. PFSQ also has a range of project partners and commercial sponsors predominantly focused on specific projects.

PFSQ provides technical advice and extension services to land and forest owners to promote private forestry as diversification of farm income, landscape restoration, catchment protection and carbon sequestration. It also provides input into Federal, State and local government policy and processes and assists members to understand policy.

Additionally, and importantly for its ongoing financial viability and continued development of professional expertise, PFSQ offers a suite of forest management consultancy services to forest growers, on a fee-for-service basis. Services include forest management planning, monitoring and review, forest assessment, financial planning, mapping, and operational and silvicultural works. PFSQ is also able to offer access to Australian Forestry Standard (AFS) certification by bringing forests under its management system, either through management by the forest owner in accordance with a PFSQ management plan and procedures, or through management directly by PFSQ under contract. In recent years, consultancy services have been broadened to the provision of vegetation offsets to developers for meeting statutory obligations.

PFSQ is no longer membership based; rather, its services are available to anyone on a fee-for-service basis; and its field days are free of charge or for nominal dollar contribution to cover basic catering. Under the tender arrangements for the provision of field days, the organisation sees little value for members in retaining a membership structure.

Private native forests in Queensland cover more than 10 million hectares but generally are relatively very low yielding. They supply the timber processing sector with more than 50% of the hardwood and less than 10% of the white cypress pine (*Callitris glaucophylla*) (softwood) processed in Queensland. Across most of this land, timber production is combined with

grazing¹⁵. There has been little interest in establishing new areas of plantation due to poor agricultural returns over the past 10 years and the evident failures of MIS hardwood plantations in the area.

Providing fee-for-service management has been critical to PFSQ longevity, in the absence of ongoing government funding. Longevity has enabled the development and maintenance of expertise within the group as well as on-ground examples of successful, inventoried plantations that can be used as demonstration sites.

<i>Model strengths:</i>	<ul style="list-style-type: none"> • Strong and consistent leadership over decades • Innovative responses to changing funding availability and market opportunities (e.g. development of vegetation offsets and fee for service consulting)
<i>Activity highlights:</i>	<ul style="list-style-type: none"> • Broad range of forest management services providing for revenue diversification and building a broad base of experience
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> • PFSQ has observed the cyclical nature of climatic conditions on agricultural commodity enterprises directly impacts farmers' interest in tree management • In the current climate of low interest in plantation establishment, the PFSQ focus has been on providing extension and support for private native forests; more so than plantation establishment.

3.6 The Softwood Working Group in NSW

NSW's Softwood Working Group (SWG) was formed in 1987 to plan and secure funding for the future needs of a growing timber industry in the south-west slopes region, and industry worth \$970 million per annum¹⁶. The activities of the group have expanded to include involvement in other forestry-related issues, including how to promote new softwood plantation development in the region and NSW more broadly; and to facilitate industry representation in lobbying government on sustainable growth of the industry.

The group comprises representatives from the three relevant local government areas, Regional Development Boards, Forestry Corporation and major plantation growers and processors in the region. The group meets quarterly and is governed by a board of industry, local government and relevant state government agencies, supported by an executive officer.

<i>Model strengths:</i>	<ul style="list-style-type: none"> • Longevity of the group based around a relatively stable resource and ongoing industry profile • Specific focus of the group on softwood plantation sector requirements; not trying to cover hardwood plantation and native forests also • Coordinated approach between industry, the State regional development agency and local government
-------------------------	---

¹⁵ Queensland Government Department of Agriculture and Fisheries website: <https://www.daf.qld.gov.au/forestry/private-native-forestry>

¹⁶ Snowy Valleys Council website: *Plantation expansion key topic for Softwoods Working Group*, 30 June 2016. Online: <http://www.snowyvalleys.nsw.gov.au/all-news/plantation-expansion-key-topic-for-softwoods-working-group.aspx>

<i>Activity highlights:</i>	<ul style="list-style-type: none"> The group is currently developing a business case for the expansion of the softwood plantation estate, in a concerted effort to stimulate new plantings
<i>Impact on expansion of the private forest estate:</i>	<ul style="list-style-type: none"> There has not been any substantive growth of the estate in this region in recent years. However, the group is currently developing a business case for expansion of the softwood estate.

3.7 Summary of findings

3.7.1 Review of regional farm forestry organisations

A summary of core functions performed by selected regional farm forestry models is set out below. This highlights the key functions of the differing models.

Table 3-1 Comparison of selected regional models for farm forestry organisations

Grower organization functions	SWAN (WA)	OAN (VIC)	GAN (VIC)	PFT (TAS)	SWG (NSW)	PFSQ (QLD)
Supporting growers to access knowledge and equipment	✓	✓	✓	✓	-	✓
Facilitating Australian Master TreeGrower courses	✓	✓	✓	✓	-	✓
Representing farm forestry interests in forest policy forums	✓	✓	-	✓	✓	-
Representing farm forestry interests in industry policy	✓	✓	-	✓	✓	-
Pursuing public or philanthropic funding to support growers	✓	✓	✓	✓	✓	-
Conducting research and market access studies	-	✓	-	✓	-	✓
Consulting services on a commercial basis	-	-	-	✓	-	✓
Forest management on behalf of members or clients	-	-	-	-	-	✓
Sales and marketing on behalf of members or clients	-	-	-	-	-	✓

Source: Indufor

Based on this review of regional models for farm forestry support networks, Indufor observes:

- There is a wide range of regional models set up to support farm forestry and plantation forestry across Australia. However, there is a suite of common features; most notably, the formation of an association of like-minded people who become a nucleus supporting farm forestry within a region. This nucleus can provide information about tree growing and markets in a form beneficial for land owners, and can identify and secure funding that supports natural resource enhancement arising from growing trees on farms. Most of the regional associations now provide various forms of support including field days; facilitating MTG courses; and representing farm forestry interests in forest policy and industry forums. SWAN is providing these services in south west WA, to the extent it has funding made available.
- Funding and expenditure arrangements vary across these models. In the case of regional associations, funding for activities are typically derived from membership fees, either via AFG or directly through the local association. Several farm forestry models have funding derived from fee-for-service functions conducted by the organisation, for members and non-members. Several of the bodies also secure funding support from various public funding programs, i.e. natural resource management (NRM) or regional development programs.

Groups such as the OAN and PFSQ have continued to provide support for private growers through accessing funds through philanthropic bodies and fee for service. Strength and consistency in leadership, and innovative approaches, have been key features of these two quite different groups, and is a common feature across the more prominent farm forestry networks.

- Notwithstanding this, there is minimal data to show any substantive new plantings over the past decade, in WA or across any of the models in other states. This indicates there are other factors beyond the models, notably the imbalance between expected return and risk of an investment, that impact on landowner land use decisions. These other factors were explored further through stakeholder consultation.

3.7.2 WA farm forestry arrangements

Within WA, SWAN is established to support farm forestry in the southwest, and has an active association providing a range of services to farm foresters. In addition, FPC provides support to SWAN in respect to extension officers assisting in respect to plantation harvesting and identification of market access opportunities and market data.

Despite these arrangements, farm forestry in the southwest is a minor contributor to current plantation harvests, and farm forestry plantations face the risks and challenges presented by commercial influences observed more broadly across the plantation forestry sector. These challenges and influences on farm forestry investment decision-making include:

- information limitations, including detailed understanding of expected plantation productivity, market prices and market access;
- the timeframes between plantation establishment and realising a return, and the inferred restraints on liquidity to this investment;
- limitations to access and allocate capital required for establishing and maintaining long term tree crops; and
- the apparent gap between the expected returns to investing in a greenfield plantation and that being acceptable to an investor for this type of investment compared to alternative land use investment options available to the land owner.

Collectively, these challenges and influences have generally constrained the establishment of new softwood plantations for farm forestry in WA. This outcome is reflected across many forestry regions of Australia, with farm forestry not being a significant supplier of logs for wood processing, while having perceived value in that farm forestry provides an alternative land use and diversification option for farming enterprises.

A further common element is that in many farm forestry settings across Australia, farm foresters commonly have had limited capacity to provide capital for off-farm activities such as accessing market information or paying for professional forestry services. This has resulted in governments (at each of the three levels) providing a degree of support to on-farm activities, through aspects such as extension services or targeted advice that supports trees on farms outcomes.

Within this dependency on various forms of government support, farm forestry in Australia generally benefits from clear forest sector policy statements. These statements can be explicit in supporting farm forestry, or be part of a broader sectoral policy framework such as in natural resource management or industry policy. Policy guidance can assist decision making in respect to long term investment and supports the identification of specific programs arising from a policy position that can assist achieving farm forestry outcomes.

The apparent need for a renewed policy statement supporting farm forestry in WA was explored further through the stakeholder consultation conducted for this project.

4. STAKEHOLDER CONSULTATION

Indufor consulted with a broad range of stakeholders principally through the circulation of a project consultation paper (August 2017), complemented by a set of interviews with nominated representatives of SWAN, private forest growers and the wood processing industry. After discussion and agreement with FPC, the range of consultation was expanded beyond participants in the softwood-based farm forestry sector of WA, to include representatives of the wider plantation industry and wood processing industry. The purpose of this was to consider the interplay between hardwood and softwood plantations, and the dynamics of land use decisions as well as market access and infrastructure considerations.

With this broad range of respondents in mind, Indufor prepared the consultation paper incorporating a range of consultation issues and relevant data for consideration. The issues encompassed the following considerations:

1. constraints on new softwood and hardwood plantation expansion in WA;
2. market trends for plantation logs and timber in WA;
3. the roles of Government in farm forestry development;
4. the roles of the private sector in farm forestry development;
5. existing regional models for farm forestry promotion and coordination in other states; and
6. key opportunities to increase softwood plantations through farm forestry in WA.

For each of these issues, Indufor provided an outline of relevant perspectives; followed by a short series of questions (including multiple-choice answers) and the opportunity for stakeholders to comment further. A summary of the aggregated responses is set out below, addressing each of the issues in turn. These responses inform subsequent commentary on stakeholder feedback and the assessment of mechanisms to support farm forestry in WA.

4.1 Constraints on new plantation expansion

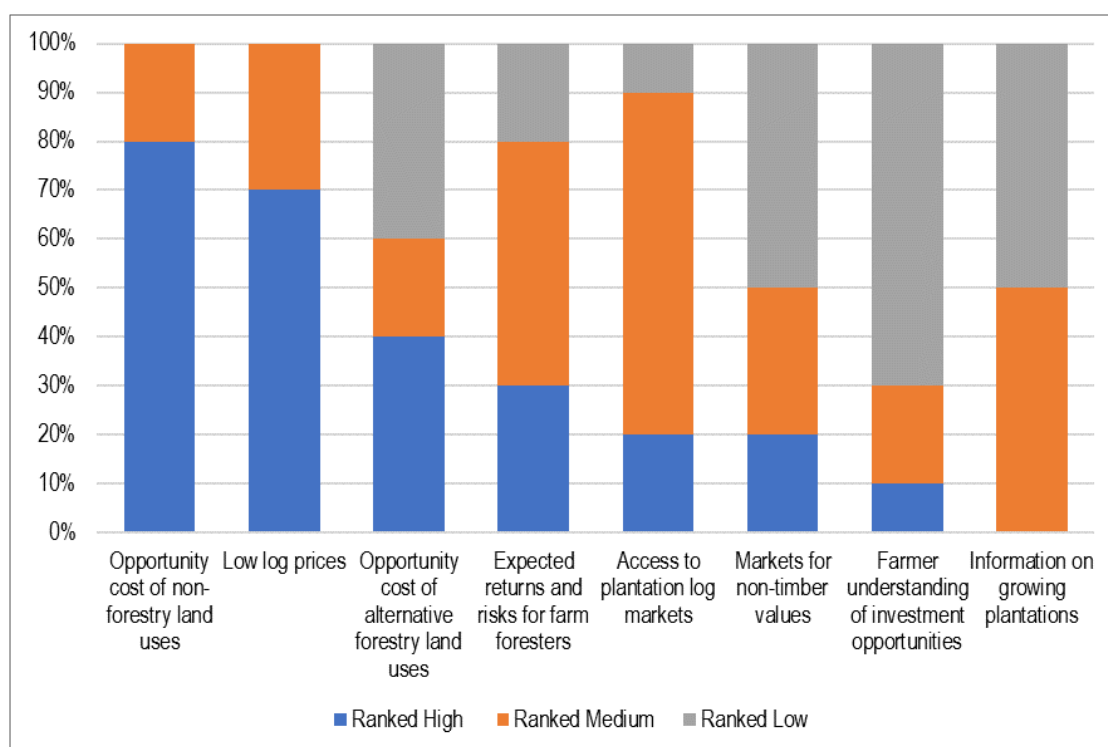
The consultation paper focussed first on constraints on new plantation development in WA, and asked survey participants to rank the most significant constraints from their perspective. A summary of the responses is shown below.

The responses indicate the primary constraints relate to expectations of low financial returns from plantation development compared to other land uses; i.e. the *opportunity cost of (foregoing) returns from non-forestry land uses*. Approximately 80% of respondents ranked this constraint as high (either their first, second or third highest rankings). This concern reflects both the overall return, as well as the foregoing of annual or semi-regular cashflow arising where a long-term tree crop is established. Furthermore, this reflects the impact on the liquidity of land use and land use optionality once a tree crop is established (for a rotation of up to 30 years), with a related impact on the pool of potential buyers of the property in the event a farmer wishes to entertain selling their land.

This concern is reflected further in approximately 70% of respondents ranking *log prices* as high on their list of most significant constraints; while concerns about the *opportunity cost of alternative forestry land uses* (e.g. the opportunity cost of planting softwoods for a 30-year rotation when you could plant hardwoods on a 10 to 12-year rotation) and the expected returns and risks for farm foresters featured prominently in responses.

Interestingly, *access to plantation log markets* did not rank as highly – most respondents ranked this as a medium level constraint. This supports the remarks made earlier in this report, noting there is market access for softwood plantation timber and fibre products in WA. The primary challenge for the farm forestry sector is realising acceptable terms of trade and returns from their supply of plantation timber and fibre (or other non-market values) to justify investment in softwood plantation holdings, over other land use options.

Figure 4-1 Stakeholder rating of most significant constraints on new plantations in WA

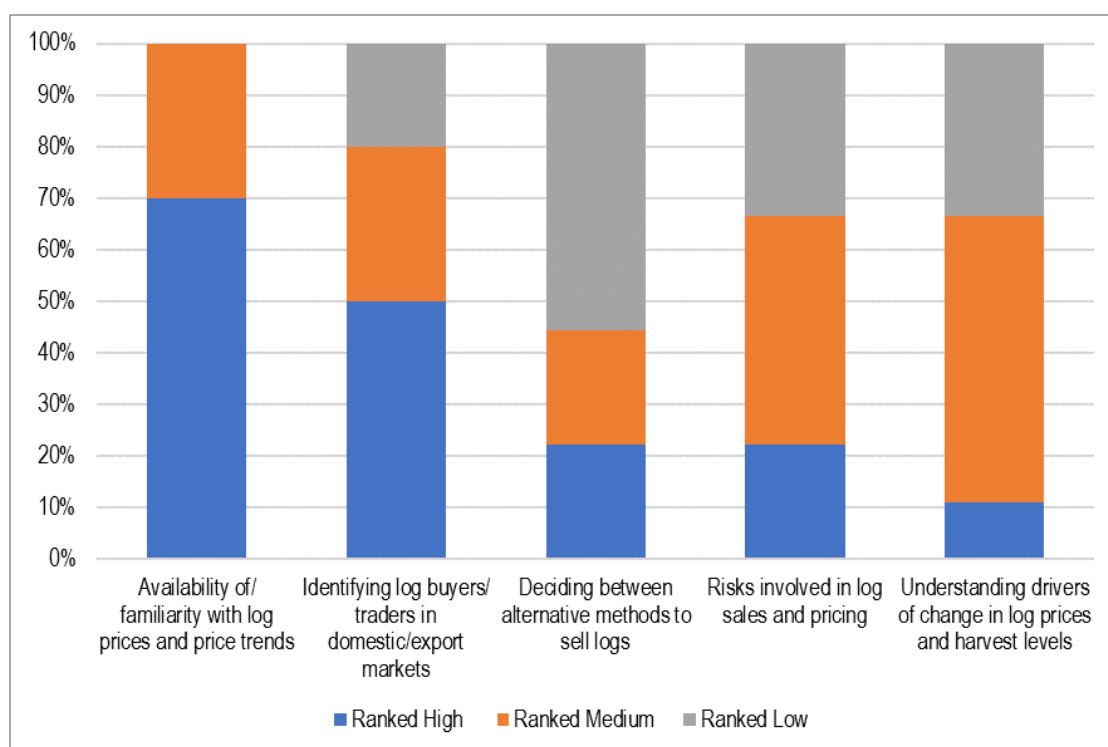


Another interesting observation from this question was that none of the respondents considered *(a lack of) information on growing plantations* as a key constraint. This may indicate organisations including SWAN and FPC are providing a good service in providing information to prospective growers. It also highlights the primary concern relates to perceptions of inadequate financial returns and opportunity costs.

4.2 Market trends for plantation logs and timber

The consultation paper then focussed on the most significant issues in relation to market access for plantation logs in WA. This provided for some cross-checking of perspectives relating to markets and financial returns. A summary of responses is shown below.

Figure 4-2 Stakeholder rating of market access issues for farm forestry in WA



The responses indicate that most (70%) were concerned about *availability and ready access to price trend information*, across domestic and export markets.

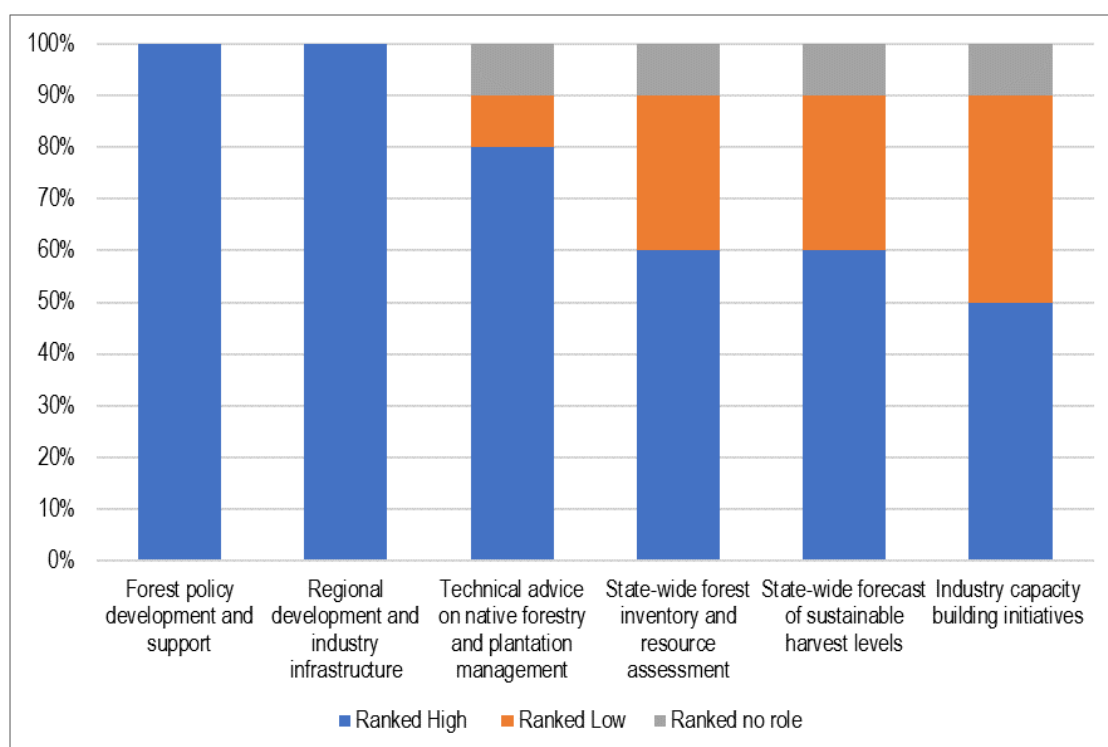
Around half the respondents also raised the issue of how and where to *identify log buyers and traders*; however, this issue of access was apparently ranked lower than the lack of availability of log price information, to enable comparisons and focus on obtaining the highest net price.

The issue of *deciding between alternative methods to sell logs*, e.g. whether to sell on a stumpage basis or a mill gate price was not ranked as highly by survey respondents.

4.3 Roles for the government in farm forestry development

The roles for government – principally focusing on State government but potentially local government also – was another issue for consultation. A summary of responses is shown below.

Figure 4-3 Stakeholder rating of roles for Government in farm forestry development



The responses show very clear support and endorsement for Government roles in *forest policy development and support* as well as *regional development and industry infrastructure*. In supplementary responses, multiple respondents called for a clear policy statement on State government support for farm forestry, in the context of wider forest industry development. Following is an example of this type of response, which is reflective of others:

“The biggest constraint is the WA government does not have a plantation forest policy that actively promotes/supports private growing of hardwood and softwood. A proactive policy is needed, particularly for softwood, given the long term (30 year) nature of the investment. Other countries have implemented such policies. They have flourishing softwood plantations and downstream softwood industries that provide significant value to their communities (e.g. New Zealand, Canada and South Africa) ...”

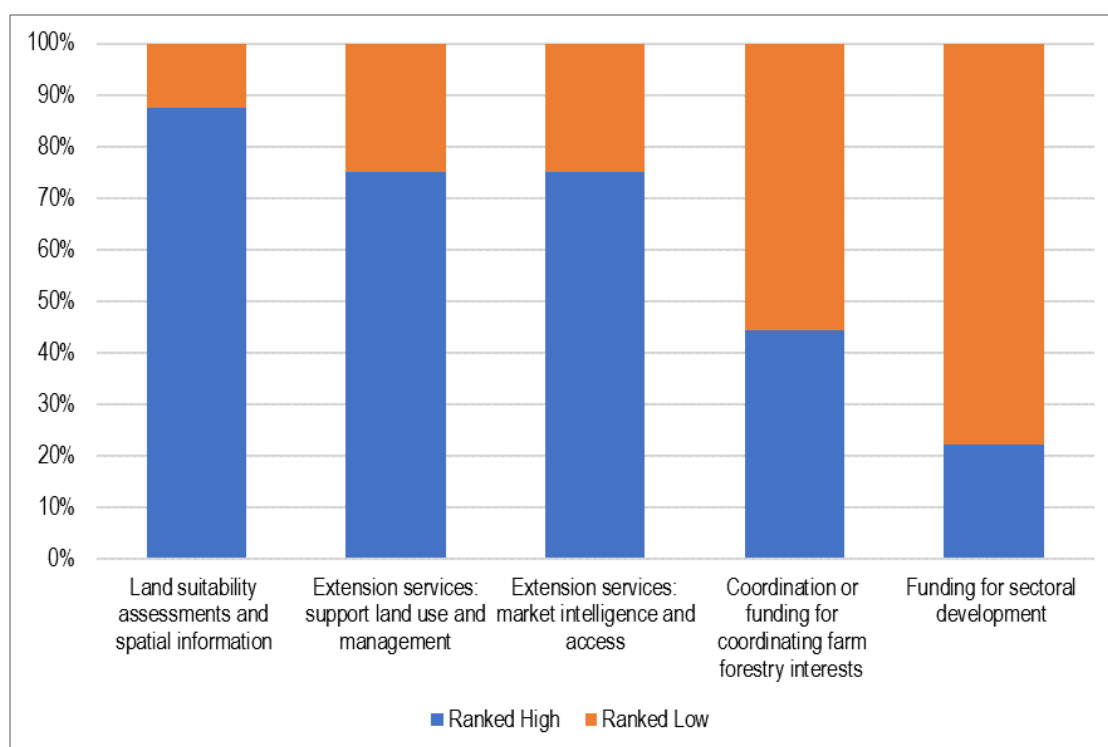
Several respondents linked the need for Government support on infrastructure development to establishing more cost-effective access to export markets, to improve margins for growers.

Approximately 80% of respondents also gave a high ranking to the role that Government can play in providing *technical advice on native forestry and plantation management*. While some respondents indicated that SWAN or private sector entities could provide this technical advice, most respondents indicated the Government – through FPC – is well placed to provide this type of support. Most respondents also thought the Government should conduct *State-wide forest inventory and resource assessments*, encompassing farm forestry interests.

4.4 Roles for the private sector in farm forestry development

The roles for the private sector was also addressed through the consultation paper. A summary of responses is presented below.

Figure 4-4 Stakeholder rating of roles for private sector in farm forestry development



The responses indicate an expectation the private sector, encompassing not-for-profit organisations (notably SWAN) as well as commercial entities providing fee-for-service forest management services, can play a leading role in providing *land suitability assessments* and *extension services*. This means the sector is not looking for the State government to provide these services entirely. Qualitative commentary in the survey responses indicate that most respondents see the primary focus of Government roles should be on coordination (including clear policy settings and coordination of extension services), which can be complemented by private sector capacity for providing technical expertise and management services. An example of this commentary is set out below:

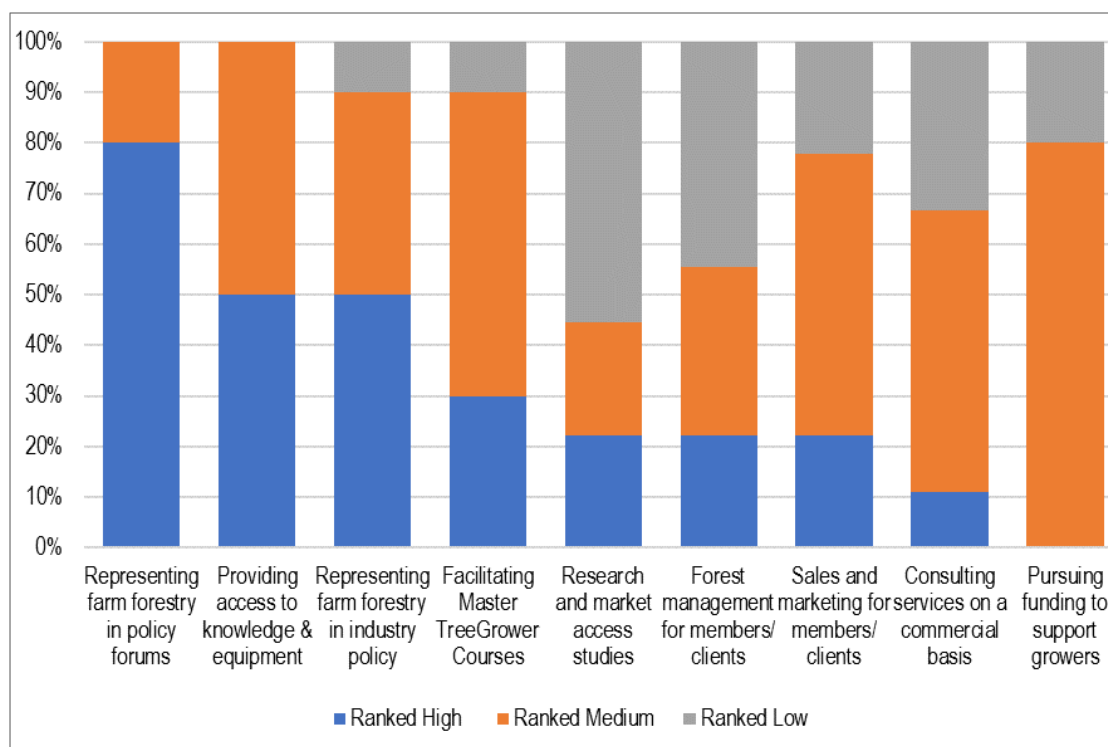
“... within the private sector there is sufficient hardwood and softwood growing expertise, resources and extension services to enable private landholders to participate in the timber plantation industry. What is holding private softwood growers back are the factors principally [relating to farm forestry] economics and global market access [through exports or export parity prices for plantation wood].”

4.5 Existing regional models for farm forestry promotion

The consultation paper presented a range of regional models for farm forestry support across the states, based on the review presented in section 3. Having outlined their strengths and limitations, the paper then asked respondents to identify and rank the most important functions for a farm forestry support organisation (notably SWAN) to support farm forestry and new plantation investment in WA.

A broad range of support functions were identified through this process and Indufor has compiled the responses based on rankings of most to least importance. A summary of the responses is shown below.

Figure 4-5 Stakeholder rating of core functions for farm forestry network organisations



The survey responses indicate the most important roles for a not-for-profit farm forestry support organisation are *representing farm forestry in policy forums* and *industry policy/development*, as well as providing *access to knowledge and equipment* (such as through arranging field days, the peer mentoring programs and facilitation of Master TreeGrower courses), as reflected in the activities of regional organisations across Australian states.

Respondents appeared to separate the roles of policy support and access to knowledge and equipment from the more commercial aspects of farm forestry management, e.g. *research and market access studies*, *forest management*, and *sales and marketing*. In most of the qualitative responses and the interviews, there was a delineation between these roles for not-for-profit organisations and those more overtly relating to commercial plantation management services.

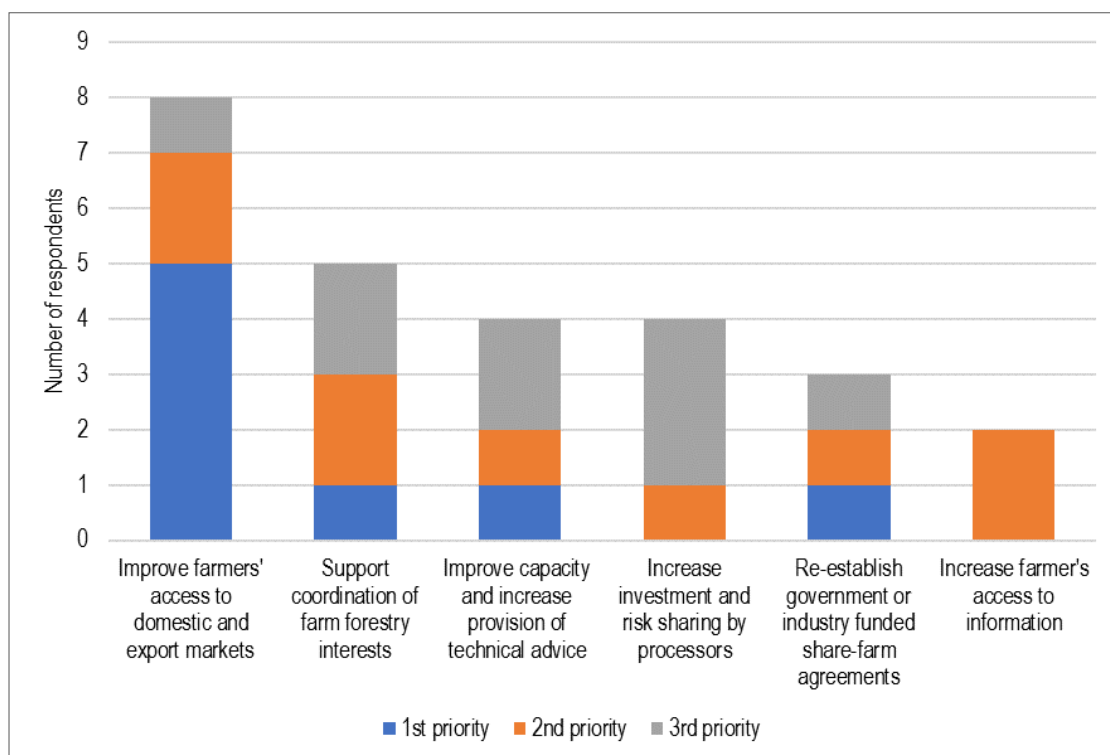
Another noteworthy observation was several respondents identifying a key feature of the Softwood Working Group in NSW providing a forum for a specific focus on softwood plantation development, encompassing representation from major growers and processors. Farm foresters growing softwoods in WA do not currently have access to this type of forum addressing resource supply and infrastructure issues. Subsequent interviews with industry representatives identified FIFWA's Plantations Subcommittee as a forum in which these types of issues are addressed by growers and processors, across hardwood and softwood interests. In addition, there are regional forums developing, such as the Bunbury Geopraphe Regional Growth Plan, which supports subcommittees looking at needs of specific sectors including plantation forestry.

4.6 Opportunities for farm forestry to support plantation expansion

The consultation paper concluded with a set of broad, open-ended questions relating to stakeholder views on the most prospective mechanisms for increasing investment in softwood plantations through farm forestry in WA. Stakeholders were asked to list the three most prospective mechanisms in their own words. These responses were grouped under broad themes, which are presented in the summary below.

Given the breadth of perspectives held by stakeholders, some of these responses are outside the focus of this report which relates to mechanisms for farm forestry contributing to an expansion of the WA softwood estate.

Figure 4-6 Stakeholder rating of most prospective mechanisms for increasing investment in softwood plantations through farm forestry in WA



Not all respondents addressed these questions, and some respondents identified one or two rather than three prospective mechanisms. The chart above represents a summary of approximately 10 respondents (encompassing representatives of farm foresters and industry interests) who provided valuable commentary.

The summary indicates the most prospective mechanisms relate directly to *improving farmers' access to domestic and export markets*. This theme encompasses ideas relating to creating co-operatives or other partnering relationships between industry and growers, including off-take agreements; and 'breaking down' the perceived barriers and constraints on private growers created (or perceived to be created) by the State Agreements, i.e. the FPC supply displacing opportunities for private forest supply, and the State Agreement effectively setting a fixed price which may not reflect an open market and reasonable parity with export market prices.

Relatedly, two respondents gave first or second priority to introduce a market value for carbon credits and/or other environmental service (e.g. salinity credits for new plantings in target areas).

Supporting coordination of farm forestry interests included calls for:

- the introduction of a progressive State farm forestry policy, or a State forest policy that clearly recognises the farm forestry sector and the need to provide ongoing support;
- establishing a forum/organisation comprising representatives from across the WA softwood industry, including farm forestry but importantly broader industry interests also; and
- the allocation of funding to support the coordination of regional groups or that are leading group initiatives relating to plantation management certification, marketing and sales.

Only a few respondents linked these coordination requirements directly to a grower-based organisation. Those that did emphasised the important roles of a regional organisation in providing network linkages, access to knowledge, peer group mentoring, and securing grant funding available to support farm forestry initiatives.

There was also some support for mechanisms that *increase the investment or risk-sharing by processors*; which is broadly aligned with other calls to redefine and *re-establish share-farm agreements* with private landowners, notably incorporating the involvement of major processors in these agreements, e.g. through funding contributions, off-take agreements or other forms of direct support.

In broad terms, these responses reflected a wider view that the farm forestry sector is looking for more direct engagement with industry, i.e. major processors, who can provide a higher level of assurance relating to market access.

In addition, some stakeholder responses noted the challenges of farm forestry being able to develop a significant plantation resource, citing cultural differences to other jurisdictions (notably the Scandinavian farm forestry model, which is a major supplier to the domestic processing industry). Given these challenges, some of these responses outlined new plantation models that would be substantially outside farm forestry and better characterised as industrial scale plantings albeit on private land and 'farm' land.

These responses were considered in the selection of mechanisms discussed in section 5.

5. MECHANISMS TO SUPPORT FARM FORESTRY

The purpose of this report is to identify and assess mechanisms that could enable farm forestry to contribute to an expansion of the softwood plantation estate in WA. These mechanisms are provided for consideration by Government (both Commonwealth and State), FPC (as the commercial arm of the WA Government dealing with commercial management of the State's plantations) and private sector interests (including industry processors of fibre from plantations and plantation investors).

Based on the review of regional models in other states (section 3) and stakeholder consultation (section 4), a range of potential mechanisms have been identified for consideration. These comprise the following:

Creating an enabling environment for farm forestry:

1. Provide a clear State-wide forest policy that supports public and private plantation development and utilisation and clear guidance on the level of support for farm forestry
2. Provide increased resourcing to extension services designed to promote and support farmers with establishing and managing plantations
3. Provide ongoing support for farm forestry development through funding the peer mentoring program and/or contributions to MTG courses
4. Provide access to regular market information on plantation log prices (on a stumpage or delivered basis), including domestic and export market log prices, e.g. APLPI equivalent for domestic logs and export logs reported by AgriHQ in New Zealand
5. Set up a funded organisation with the specific purpose of promoting plantation development on private land

Direct interventions for farm forestry specifically:

6. Facilitate supply of high quality seedlings (selected/improved genetic stock) to third parties, i.e. farm foresters
7. Introduce an afforestation grant for new plantations within target areas, e.g. the Wellington catchment, based on specified conditions (as proposed by FIFWA and based on New Zealand models)
8. Establish a realisable market for carbon dioxide (CO₂) sequestration in new plantations, or re-establishing softwood plantations on private land, in accordance with the ERF methodologies and functioning to date
9. Encourage processors to offer off-take agreements for farm forestry log products, based on agreed specifications, and linked to State Agreement prices (or otherwise alternative markets parity prices such as export markets)

Direct interventions that extend beyond farm forestry:

10. Establish a fund with substantive contributions (annual or otherwise) to facilitate related parties or a third-party organisation to secure land for re-establishment of existing plantations or establishment of new plantations; recognising that this option extends beyond farm forestry, with a primary focus on achieving substantial scale in plantation expansion within the state.

These mechanisms are outlined in turn, and then compared in terms of their complexity to implement (in terms of resourcing requirements to establish and maintain), and the extent to which they are expected to contribute substantially to a commercially viable plantation estate.

5.1 Creating an enabling environment for farm forestry

5.1.1 Forest policy development and support

Clear policy directions are a critical lead to participants in each of the sectors of the WA economy, providing a forthright statement on the views of the State Government in respect to support for each sector, and clarity about supporting mechanisms to implement the policy.

Stakeholders consulted for this review of mechanisms to support farm forestry in WA generally indicated strong support for the development of a clear state-wide forest policy. These perspectives recognised that a forest sector policy statement would extend beyond the interests of farm forestry, while expecting that farm forestry would be part of the policy setting. Stakeholders observed the strength that other forest sectors have received from clear policy statements in jurisdictions such as New Zealand and specific Canadian provinces. Similarly, in 2016 the New South Wales Government released a *forestry industry roadmap*¹⁷ which outlines a vision for the future construct of the NSW industry, and a suite of actions the current Government commits to undertake. This roadmap represents a current example of a whole-of-government plan that encompasses multiple sectors within the industry (i.e. native forests, plantations, cypress pine and red gum forestry), and incorporates policy commitments as well as industry development actions.

Clear policy statements provide support and guidance for the industry's participants in respect to how they engage with their constituents and with differing Government agencies. Furthermore, policy statements provide transparency and therefore confidence to decision making for industry participants.

It would be envisaged the policy statement could be broad in its mandate, covering plantations and potentially native forests as well as processing. Equally it could be explicit in terms of the desired economic and environmental outcomes. This type of policy statement would be representative of a whole-of-government position in respect to the forest sector.

This mechanism is not expected to provide a substantial uplift in plantation expansion, but it should reduce ambiguity to sectoral decision making, and provide a clear suite of actions and opportunities for industry participants including farm forestry in which to participate and enhance the potential for new plantations.

Since the start of this review of mechanisms to support farm forestry and softwood plantation expansion, the WA Government has committed to the development of a *Timber Industry Development Plan* over the course of the next 12 months. The objective for this plan ('*A Strategic Growth Plan for WA's Forestry Industry*') is to guide the key directions and actions required to revitalise the forestry industry in WA, to achieve long-term regional economic growth and employment viability, attract investment, foster ecological sustainable development, and leverage associated social and environmental benefits.¹⁸

The Timber Industry Development Plan is expected to incorporate a state-wide forest policy statement or position, and the FPC has advised that it will encompass farm forestry as well as the plantation sector more broadly and native forests. Therefore, the new plan should directly address the apparent need for a clear government policy in relation to farm forestry, as part of the wider forest industry, and provide guidance on the extent to which farm forestry will be supported by government and industry over coming years.

¹⁷ *NSW Forest Industry Roadmap*: <http://www.crownland.nsw.gov.au/forestry/industry-roadmap>

¹⁸ *WA Timber Industry Development Plan - A Strategic Growth plan for WA's Forestry Industry*: <http://www.fpc.wa.gov.au/industry/timber-industry-development-plan-strategic-growth-plan-was-forestry-industry>

<i>Proposed primary funding source:</i>	• State government
<i>Proposed implementing organisation:</i>	• State government
<i>Complexity to implement:</i>	• Low
<i>Potential to expand commercially viable softwood plantation estate:</i>	• Low

5.1.2 Resourcing for extension services

The second mechanism is to increase and maintain funding support for extension services designed to promote and support farmers with establishing and managing plantations.

The FPC has recently recommenced providing extension services for farm forestry and this includes provision of a dedicated farm forestry adviser based in Bunbury. More broadly, FPC continues to service share-farming plantation forestry. The extension services have identified mechanisms to assist farm foresters, including provision of data and contacts that potentially assist farm foresters to access markets or services.

The existing level of extension services could be increased with policy support and a relatively modest level of additional funding. There is scope for FPC to provide all these services directly, and stakeholder consultation provided strong support for this. There is also scope for FPC to engage some these services through external partner organisations, which may include not-for-profit organisations such as SWAN. The engagement of external services would need to be subject to sufficient alignment with government policy objectives, and accountability for regular reporting on the allocation of resources and performance against agreed targets.

This mechanism would increase the availability of information and contribute to creating an enabling environment for farm forestry plantings. However, on its own this mechanism appears unlikely to make a substantial contribution to expanding the softwood plantation estate, as it does not directly address the issues of financial returns and opportunity cost compared to other land use decisions on private land.

<i>Proposed primary funding source:</i>	• State government
<i>Proposed implementing organisation:</i>	• FPC or contracted entity
<i>Complexity to implement:</i>	• Low
<i>Potential to expand commercially viable softwood plantation estate:</i>	• Low

5.1.3 Master TreeGrower courses and Peer Mentoring program

Another relatively straightforward mechanism is to increase and maintain funding support for farm forestry development through contributions to MTG courses and the peer mentoring program. These programs increase the knowledge and capacity of private landowners to consider alternative farm forestry options, including their potential to establish and manage softwood plantations for supply to industrial processing facilities.

SWAN has provided and facilitated these programs in WA previously, and the extent to which it can continue to do so is limited only by funding. SWAN has sought and obtained Government funding for these programs, but does not have an ongoing funding stream to maintain these programs year on year.

These programs are core components of regional farm forestry models in other states, reflecting the perceived value in supporting farm forestry. In broad terms, most stakeholders whom were consulted for this review considered these programs were well worthwhile. For a relatively modest level of annual funding (compared to other mechanisms considered), these programs can continue to support private landowners and increase capacity for plantation expansion through farm forestry; noting the funding arrangements can incorporate user-pays contributions.

In relation to the MTG courses, one of the critical observations arising from the stakeholder consultation was that previous courses delivered to WA participants were apparently lacking in detailed consideration of the more commercial aspects of marketing and sales of plantation logs. Several respondents observed that while previous courses were excellent in addressing the challenges of growing trees (silviculture) and whole farm planning, there could be more focus on the commercial considerations of aligning plantation management decisions with industry requirements to maximise the value recovery from farm forestry. This feedback could be incorporated in further investments in the MTG course for farmers in WA.

The logical entity to implement this mechanism is SWAN, or an aligned Grower organisation; but a new and preferably ongoing source of funding is required to contribute to the administration and delivery. This funding could be drawn from Government grants or potentially an industry fund (refer section 5.2.5 for further discussion of an illustrative industry fund structure). On its own, this mechanism is unlikely to make a substantial contribution to expanding the softwood plantation estate, although arguably more so than extension services because it can increase the level of capacity. Furthermore, it can provide a platform for introducing other mechanisms.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • Government grants (Commonwealth/State/Local) or industry fund
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Grower organisation
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Low; previously delivered
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Low

5.1.4 Market information on plantation log prices

Stakeholder concerns about the availability and ready access to log price trend information could be addressed by the industry via direct provision of the data to interested parties, or an external market intelligence provider, compiling and publishing market information on plantation log prices for domestic and export markets, on a stumpage or delivered basis, i.e. delivered to mill, Free on Board (FOB), or Cost, Insurance, Freight (CIF)).

However, currently there is no service that relates specifically to the WA industry. There is scope to draw on the eastern Australian Pine Log Price Index (APLPI), which tracks pine log prices sold to domestic processors and is updated twice a year for domestic logs; and AgriHQ in New Zealand publishes data on export logs by grade. These sources provide some guidance for the softwood industry in WA, but stakeholder feedback indicates the farm forestry sector is not well informed on market developments outside the State Agreements for supply to major processors.

Furthermore, the nature of the State Agreements for pine log supply to major processors means that releasing current prices would require a Government policy decision with support from processor counterparties. This suggests that if the Government is willing to support this initiative, it may prefer to manage this process directly at least in the first instance, before encouraging the private sector to provide this information for industry and the farm forestry sector.

Like most mechanisms, there are merits and limitations. The primary merit is transparency and the availability of current market information to enable private landowners to make informed decisions on options for investment in softwood plantations.

The limitations include the prospect of effectively ‘setting’ the price by publishing price information. For example, if the delivered log price for a domestic facility is published on a regular basis, then importers in other countries may only offer the same equivalent price (net of port costs and shipping costs) or one dollar more; rather than a more fulsome expression of capacity to pay for these logs.

The potential for this mechanism to expand the commercially viable softwood plantation estate on its own accord is considered low to medium; arguably higher than providing extension services, given stakeholder responses indicating the lack of regular market information as a

major market access issue. However, it is a mechanism that could support other initiatives, as part of a platform for supporting farm forestry investment in the state.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • Industry with FPC initially
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • FPC in the first instance
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Low
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Low to Medium

5.1.5 Dedicated funding to promote private forestry development

Another mechanism to consider is setting up a dedicated, appropriately funded organisation with the specific purpose of promoting plantation development on private land. This organisation could potentially be a State government unit, separate to FPC, or a not-for-profit organisation that has funding from the government or industry (i.e. FPC, other major growers of softwood and hardwood plantations, and downstream processors).

This mechanism is broadly aligned with the PFT model in Tasmania. PFT focuses on encouraging the sustainable use of trees and forests for commercial wood production, farm productivity and environmental benefits. PFT supports growers through the provision of on-ground advice, field days, research and forest practices and policy advice to all stakeholders.

The rationale for establishing PFT in Tasmania reflects the substantial contribution of private native forests to forest industry production volumes and industry development over a long time; much more so than seen in WA to date. Without this private native forest resource base, the rationale for establishing a government authority focussing specifically on private forests would not be as strong. However, there is a substantial hardwood plantation resource on private land in WA, and this may provide the scale of production activity across private land to support an entity focussing specifically on promoting and representing private forestry development.

Note this mechanism does not extend to any form of direct investment in new plantations; the new organisation would provide a promotional, supporting role only for farm forestry and plantation forestry more broadly. The merit of this model is that there would be a dedicated organisation focussing specifically on promoting plantation development on private land; separate to FPC's primary roles relating to sustainable forest management on public land, and with a level of funding and accountability (to Government and industry) that extends beyond reasonable expectations of not-for-profit farm forestry organisations.

This type of organisation could assist to increase the level of landowner awareness of opportunities; however, the challenge remains of addressing the key issues of financial returns and opportunity cost compared to other land use decisions on private land. Implementation issues associated with this mechanism include determining whether the organisation should sit within or outside Government, and how it could be funded on an ongoing basis, which would likely be a relatively significant annual cost depending on the adopted model.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • State Government or Industry
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Government unit outside FPC, or Grower organisation
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Medium
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Low to Medium

5.2 Direct interventions

5.2.1 Supply of high quality seedlings

One of the issues raised during stakeholder consultation was the challenge for private entities to obtain high quality softwood (pine) seedlings for planting. Several farm forestry stakeholders

mentioned that FPC has not made pine seedlings available to the general public in recent years; and there was a perception that this represented a constraint on farm forestry development.

Indufor understands the main reason why the FPC has not sought to supply seedlings to private growers is that under previous government policy frameworks, FPC had moved to ensure it was not (as a government trading enterprise) directly competing and ‘crowding out’ private nurseries capable of supplying seedlings to farmers. However, Indufor also understands there is no policy directive currently in place, and based on project consultation suggesting this may be perceived as a constraint on farm forestry, it is timely to review the supply opportunities.

Notwithstanding the concerns about a government nursery ‘crowding out’ private investment, there is merit in the scope for FPC to produce seedlings for the FPC and private sector (including farm forestry) operations. The arguments for this include:

- The FPC nursery has the land, infrastructure and systems to produce high quality seedlings, i.e. selected or improved material, propagated and grown to specifications;
- The FPC has invested in obtaining or developing high quality seedling material (including its membership of the Southern Tree Breeders Association Inc.), and presumably it would be beneficial for the State to leverage this investment by increasing nursery production;
- The FPC nursery could sell seedlings at a price that reflects reasonable costs of production, or on a marginal cost basis depending on Government policy;
- The availability and consistent supply of high quality seedlings should contribute to plantation stand improvements across the public and private estate; and
- The availability and supply of seedlings to the private sector would provide a clear signal of intent to support farm forestry development in the State.

Indufor understands that FPC has already taken steps to address this issue and assist private growers with access to a supply of seedlings for plantation development, either from FPC or a private nursery; recognising that private growers will (like FPC) need to provide notification of their requirements with sufficient lead-time for nurseries (either FPC-owned or privately-owned) to propagate and prepare these orders.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • User pays principles, i.e. farmers pay for seedlings
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • FPC nursery supply
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Low
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Low to Medium

5.2.2 Afforestation grant for new plantations

It is clear from this review that stakeholders generally consider the financial returns to landowners from growing softwood plantations (over the course of a full rotation), based on farm gate sales of logs (with timber values only), to be marginal at best and currently inferior to other land use options (including short rotation hardwood plantations as well as agricultural commodities). Essentially, the costs and risks of growing softwood logs and foregoing other land use options for approximately 30 years are seen to outweigh the financial benefits and externalities.

Stakeholders who raised this issue tended to refer to ‘financial returns’ in broad terms only; and they did not specify the relative importance of component aspects of these returns, for example, the importance of positive cash flows on an annual basis as compared to returns from the project (over the whole 30+ year rotation); and related issues of liquidity of the plantation assets and encumbered land. Indufor notes from its previous studies of impediments to plantation development in Australia is that there is a range of factors associated with financial returns, including cash flows on an annual basis and investment liquidity, which can be critically important to decisions on farm forestry investments.

In this context, one mechanism to stimulate investment in farm forestry and plantation expansion through farm forestry is to reduce or offset the costs of establishment by introducing an afforestation grant. This mechanism has been proposed by FIFWA¹⁹, based on a model introduced in New Zealand. In recognition of a decline in new planting rates in New Zealand over the past 20 years, the Ministry of Primary Industries (MPI) introduced a goal to have 15 000 ha of new forest planted by 2020, to help with:

- reducing soil erosion (on the basis that forest cover is the best form of erosion control);
- improving land-use productivity and boost regional economic development; and
- storing carbon (i.e. CO₂ sequestration) and improve water quality.

To assist in realising this goal, the Ministry is providing grants of \$1,300 per hectare for growers to plant new small to medium-sized forests (5 to 300 ha). Up to \$18 million (NZD 19.5 million) has been made available until 2020. MPI receives applications and checks these against a set of criteria, which incorporates a detailed assessment of the eligibility and suitability of the land. Land owners (and farm foresters) who receive a grant retain ownership of the trees and the timber. However, the Crown gets the carbon credits for the first 10 years.

This type of mechanism could be introduced in WA, potentially for other specified values, for example, reducing salinity in catchments such as the Wellington catchment, or providing habitat for Carnaby's Cockatoo and supporting the conservation of other biodiversity values.

This type of mechanism can give rise to risks that trees are not planted in the 'right locations', or are not managed to a professional standard required for producing high quality timber. These risks can be mitigated to extent, by capping the allocation of funds or the size of new plantings (such as in New Zealand), and by specifying specific species and locations, e.g. within designated catchments or defined zones.

In New Zealand, this scheme is funded by the Federal Government. The Australian Government has not introduced this type of scheme, other than the Emission Reduction Fund (see further discussion in section 5.2.3). Alternatively, State government funding could be considered; and possibly an industry fund with or without contributions from the State government (see section 5.2.5). If properly designed, this type of mechanism could result in an increase in new plantings. Key implementation challenges include:

- securing the source of funding;
- setting an appropriate grant contribution that creates the incentive to farm foresters, while maintaining an appropriate balance in risks borne by Government and private land owners;
- resolving equitable treatment between private landowners seeking the grants; and
- setting up processes for ensuring the 'right trees are planted in the right locations', such as initial suitability assessments and design, and timely audit and reporting processes.

If these implementation challenges can be addressed, the potential to expand the commercially viable softwood plantation estate is expected to be of a medium level relative to other mechanisms.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • State or Commonwealth government, or industry fund
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Private land owners or Grower organisation
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Medium
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Medium

¹⁹ FIFWA 2016, Western Australia - Plantations the Missing Piece of the Puzzle; page 16.

5.2.3 Market for carbon sequestration

Like an afforestation grant for new plantations, there is the opportunity to create a market value specifically for carbon credits, based on CO₂ sequestration, to add a complementary revenue stream to commercial wood production.

The potential for plantation development to generate carbon credits has been long mooted and called for by the industry. In August 2014, the Commonwealth Government introduced a methodology for *New Farm Forestry Plantations*, designed for application under the *Emissions Reduction Fund* (ERF)²⁰, which provides a pathway for applying for Commonwealth funding to support new farm forestry plantations. The scope for applications under this method was limited to landholders who want to establish a permanent planting of trees or a harvest plantation on land used for grazing or cropping, on areas of land up to 100 ha (where annual rainfall is greater than 400 mm) or 300 ha (where annual rainfall less than 400 mm).

A review of the ERF Projects Register (September 2017) shows there has been no uptake of this method by land owners and the farm forestry community, in terms of successfully securing ERF funding for new farm forestry plantations. Indufor considers the issues likely to relate to the challenges associated with:

- The onerous pathway for demonstrating eligibility under Carbon Farming Initiative (CFI) Regulations, setting up a project design and registering a projection;
- The (limited) capacity of individual landowners or farm forestry organisations to understand how to use the Full Carbon Accounting Model (FullCAM) software and manual field measurements to estimate the carbon abatement of project;
- The (limited) capacity of individual landowners or farm forestry organisations to prepare and submit a sufficiently low-cost abatement bid to a future auction, and then secure a Government contract on this basis; and
- The overall costs of preparation contrasted with the expected price attained under a reverse auction purchasing process.

In August 2017, the Commonwealth Government introduced a Plantation Forestry method²¹ designed for application under the Emission Reduction Fund (ERF), which provides a pathway for applying for Commonwealth funding to support new plantations and converting short rotation plantations to long rotation hardwoods. This was welcome news for the plantation forest industry, seeking recognition of the renewable nature of sustainable forest management and the industry's capacity to contribution to emission reductions as well as regional development and socio-economic benefits.

However, the pathway to applying for and securing ERF funding using this method appears no less onerous than the Farm Forestry Method, and the potential to realise a funding contribution is dependent on a range of factors like those above. One of the key challenges is satisfactorily addressing and meeting eligibility requirements under the Carbon Farming Initiative (CFI) Regulations, specifically in relation to establishing new plantations in areas with more than 600 mm of annual rainfall and the conditions precedent in these cases.

Further to this, there is now the uncertainty around the Commonwealth Government funding for the ERF beyond the next auction in December 2017.

As noted above, the likelihood of individual landowners or farm forestry organisations obtaining funding through this pathway appears more challenging in the near term, as they typically do

²⁰ *Measurement Based Methods for New Farm Forestry Plantations* under Emissions Reduction Fund, <http://www.environment.gov.au/climate-change/government/emissions-reduction-fund/methods/measurement-based-methods-new-farm-forestry-plantations>

²¹ *Plantation Forestry method* under Emissions Reduction Fund, <http://www.environment.gov.au/climate-change/government/emissions-reduction-fund/methods/plantation-forestry>

not have the personnel resources, systems and financial capacity of corporate entities to support the substantial inputs required to engage effectively in the ERF auction process.

In this context, the State Government of WA may need to consider setting up another form of carbon-based incentive for new plantations in target areas. This could potentially be modelled on the afforestation grant concept (per section 5.2.2 and as seen in New Zealand), or a direct carbon credits sales arrangement for eligible plantation projects within the State.

This type of mechanism could be based on the ERF Farm Forestry or Plantation Forestry methods, firstly to leverage the extensive stakeholder contributions to these ERF processes; secondly to establish the rigour and credibility of the WA scheme; and thirdly, to facilitate the scope for on-selling to the Commonwealth or other parties that may look to buy ERF-compliant credits in the future (recognising there is minimal development of secondary markets at present).

This mechanism presents a range of substantive challenges including:

- The funding source for paying for carbon credits – notionally the WA Government, although potentially it could be linked to major resource development projects and requirements for developers to ‘make good’ on project emissions;
- WA Government policy decisions on supporting State-sponsored carbon credits (emission reductions) either outside or in parallel with the ERF;
- The most suitable design for a WA scheme – that is, whether it is based on a fixed price for eligible abatement, or (like the ERF) an allocation to least cost abatement options;
- The most suitable governance and administration arrangements for a WA scheme; and
- Managing equal opportunities for small scale landowner interests and corporate interests.

In this context, the development and implementation of this type of mechanism could be highly complex, and a wide range of issues would need to be considered including cross sectoral treatment such as carbon credits for agriculture land uses. Furthermore, it would require substantial government funding (Federal or State) to create this new market. Notwithstanding this, the potential for this mechanism to expand the commercially viable softwood plantation estate is significant; either medium to high, compared with other options considered. This is based on the premise that there is apparently a high level of interest among landowners in establishing new plantations; but they require an additional financial incentive to provide the impetus, particularly for long rotation (softwood) plantations. If there was realisable market value for carbon credits, the private sector could be expected to respond and drive the expansion.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • State Government or major development projects
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Private land owners, operating under regulations
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • High
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Medium to High

5.2.4 Off-take agreements and market access

A less challenging mechanism would be for the WA government and industry to encourage major processors to offer off-take agreements for farm forestry log products, in such a way as to provide assurance of market access on reasonable terms (e.g. the prevailing ‘market’ price for logs of agreed specifications) and reduce this uncertainty for farm forestry interests.

Through the stakeholder consultation process, some respondents reported that they considered the supply of private forests softwood logs to the major processors was potentially supplementary to the primary supply from the FPC (provided under State Agreements), and therefore vulnerable to being ‘turned off’ particularly during market downturns. For example, some stakeholders considered that when there is a downturn in downstream markets, the major processors will reduce their intake, and it is the private supply that is ‘turned off’ first.

Private forests are typically looking for an export market outlet for plantation logs when their supply exceeds domestic market access opportunities. This dynamic can result in the export supply chains being 'turned on' for a period, then 'turned off' again when the domestic market picks up again. This has further implications relating to risks and increased costs for private forest supply chains. When the export market outlets are used to address short term supply surpluses, there is reduced scope to establish scale and efficiency along the supply chains (including for example, through port facilities for receiving, handling and loading pine logs). Therefore, these supply chains can incur higher unit costs, which tend to reduce the margins and returns for growers.

In this situation of quantum shifts between key markets, private forests including farm forests can carry higher levels of risk (selling on a spot basis into export markets) and higher unit costs (for smaller scale operations) than larger corporate interests selling to domestic markets under long-term agreements.

Conversely, an opportunity exists for growers to be able to leverage the presence of export markets in their negotiation with domestic buyers, noting export prices can be higher than the domestic equivalent. In the event a private grower is truly a marginal supplier to a domestic customer, such as when domestic market demand exceeds the State Agreement potential to supply, an opportunity exists to secure a marginally priced sale.

In this context, the scope for domestic processors to offer off-take agreements to farm forestry interests would go some way to reducing their risks and possibly reducing some of their costs. This mechanism may involve processors outlining their requirements for a minimum level of resource aggregation, or dealings through an approved agent (e.g. a private forest manager or marketing and sales agent) who carries responsibility for aggregating resource and negotiating sales. It may also involve the WA Government and the FPC making some concession to the major processors in prioritising the receipt of private forest logs when they are ready for harvest.

Coupling the potential for an off-take agreement with the knowledge of market situations and pricing would assist private growers in assessing suitable times to harvest and sell.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • Industry (in-kind funding)
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Industry and farm forestry marketing and sales agents
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Low to Medium
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • Low to Medium

5.2.5 Establish industry fund to manage investment in new plantations

The objective of this review, focussing on mechanisms to support *farm forestry*, forms part of a wider issue facing the *softwood plantation industry in WA* and other states - i.e. how to reverse the nationwide trend of a decline in plantation areas, and reignite investment in plantations to maintain a resource base that can support downstream processing and economic development.

If the incremental decline of the plantation estate is not reversed within the next 5-10 years, there is likely to be substantial adverse impacts on continuity of supply for major processors over the medium to longer term, which may impact on major reinvestment decisions in the nearer term.

The plantation industry clearly recognises this issue, as reflected in FIFWA's 2016 policy statement²² and FPC's softwood industry strategy for WA²³. In addition, the WESFI and Wesbeam State Agreements include specific provisions for the processors to make an annual

²² FIFWA 2016, *WA plantations the Missing Piece of the Puzzle*. A FIFWA policy paper.

²³ FPC 2016, *Softwood Industry Strategy for Western Australia*.

Online: <http://www.fpc.wa.gov.au/softwoodstrategy>

contribution (a minimum financial commitment) to the establishment and management of softwood plantations, to maintain or increase the long-term supply of softwood logs to industry²⁴.

As a result, industry participants comprising FPC, private plantation forest management companies and the major processors have been engaged for some time in considering alternative strategies and funding models to address the issue and implement effective initiatives to address the decline.

The consideration in this review of mechanisms to enable *farm forestry* to contribute to plantation expansion therefore leads to consideration of a *broader suite of industry initiatives*, which may or may not provide scope for farm forestry to play a substantive role.

Several stakeholders noted this arrangement in the consultation process, most particularly in respect to mechanisms to expand the softwood plantation estate, but also recognising consideration in relation to an industry fund that is substantially beyond the focus of farm forestry. An industry fund may wish to access private land to plant trees; however, such a structure results in the risks and returns to the plantation investment residing with the industry fund, which is therefore outside farm forestry where the landowner bears the risks and return for a tree crop similar to other land owner pursuits such as cropping or grazing.

In this context, the WA plantation industry may consider the establishment of an industry fund, incorporating substantive financial contributions from processor participants and potentially matching financial or in-kind contributions from other parties, to allocate capital to securing land for re-establishment of existing plantations or establishment of new plantations.

This proposition draws on a key feature of some State agreements for long term pine log supply to major processing facilities, which incorporate a requirement for an annual spend commitment to facilitate establishment of softwood plantations to support supply in subsequent (future) terms of the agreements. The annual or regular funding contribution by the major processors could be used to leverage other funding from Government or potentially other sources (e.g. resource development projects) to increase the capacity of this fund to make substantive investments in strategic locations (*'private plantation development in the right locations'*²⁵).

An industry fund would require a governance structure that supports implementation capacity. Indufor envisages a governance and management structure illustrated in Figure 5-1. This structure incorporates an entity that is directly responsible for governance of the fund, e.g. a Funds Trustees Board, comprising nominated representatives of the funding organisations. It also incorporates a separate management entity, responsible for tactical planning to identify and secure suitable land with reasonable proximity of other holdings (across public and private land) and manage the re-establishment of existing plantations and establishment of new plantations.

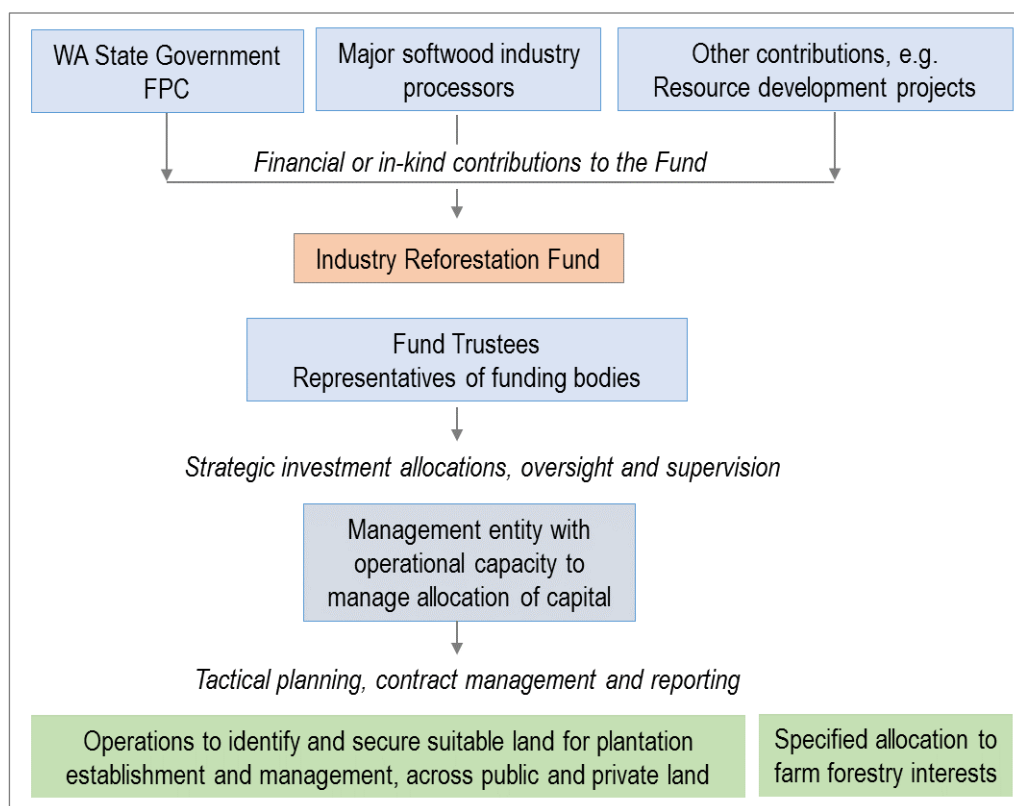
Within this construct, there could potentially be a separate committed allocation to support for farm forestry, to provide encouragement and support for a grower-based organisation to mobilise resources and contribute to the objective of plantation expansion within target areas.

Some of the funds could be allocated to managing the process of identifying suitable land and engaging with landowners to secure suitable land. It is envisaged that a more substantive proportion of funding would be directed to purchasing or leasing land (allocating capital) and potentially establishing and managing softwood plantations for the fund.

²⁴ *Wood Processing (WESFI) Agreement Act 2000; Wood Processing (Wesbeam) Agreement Act 2002*

²⁵ FIFWA 2016, *ibid*.

Figure 5-1 Indicative management structure for an industry afforestation fund



Source: Indufor

This mechanism represents a relatively high level of complexity to implement, in aspects such as working with funding organisations to address potentially varying levels of expectations for returns from the fund investments – which may comprise plantation area targets or expectations for commitment to minimum levels of log supply to individual processing facilities.

This mechanism is also considered to have the highest potential to expand the commercially viable softwood plantation estate in WA. This may be achieved through initiatives managed directly by corporate interests and government agencies, within a model significantly different to farm forestry. However, there is scope for farm forestry to contribute to plantation expansion with support from this industry fund; either through individual landowner contributions or a grower organisation conducting management services.

<i>Proposed primary funding source:</i>	<ul style="list-style-type: none"> • Industry and/or Government
<i>Proposed implementing organisation:</i>	<ul style="list-style-type: none"> • Industry companies (related entities), private sector management entity or Grower organisation
<i>Complexity to implement:</i>	<ul style="list-style-type: none"> • Medium to High
<i>Potential to expand commercially viable softwood plantation estate:</i>	<ul style="list-style-type: none"> • High (including that outside farm forestry model)

Table 5-1 Summary of mechanisms available to assist farm forestry in contributing to expansion of the plantation estate

Public policy objective	Mechanisms	Primary funding source	Party best placed to lead implementation	Potential to expand commercially viable estate	Complexity to implement (in relative terms)
Create enabling environment	1. Develop a clear forest policy incorporating a whole-of-Government position in respect to supporting private and public plantations, farm forestry and industry policy in relation to downstream processing	State government	State government	Low	Low
	2. Increase resourcing to extension services designed to promote and support farmers with establishing and managing plantations <ul style="list-style-type: none"> a. Includes specific focus and material on integration of plantations into farming enterprises, to optimise use of farming land b. May include more detailed mapping of areas most suitable for softwood and hardwood plantations within the hub 	State government, Industry	FPC or an external extension service (with reporting obligations to Government or Industry funding parties)	Low	Low
	3. Provide ongoing support for or contributions to Master TreeGrower courses and peer mentoring program to support farm forestry development	Commonwealth/State/Local government, user pays	External extension service (with reporting obligations to Government)	Low	Low
	4. Provide access to regular market information on plantation log prices (on a stumpage or delivered basis), including domestic and export market log prices, e.g. APLPI equivalent for domestic logs and export logs reported by AgriHQ in New Zealand	Industry or State government	Industry or FPC (as arm of government)	Low-Medium	Low
	5. Set up a separate organisation with the specific purpose of promoting plantation development on private land and securing and managing farm land suitable for growing softwood plantations	Government	Government unit (outside FPC), or Not for Profit Grower organisation	Low	Medium

Public policy objective	Mechanisms	Primary funding source	Party best placed to lead implementation	Potential to expand commercially viable estate	Complexity to implement (in relative terms)
Direct interventions for farm forestry	6. Facilitate sale and supply of high quality seedlings (selected/improved genetic stock) to third parties	User pays principles, i.e. farmers pays	Industry, FPC	Low	Low
	7. Introduce an afforestation grant for new plantations within target areas, e.g. the Wellington catchment, based on specified conditions (as proposed by FIFWA and based on New Zealand afforestation grant models)	State, and possibly Commonwealth government funding	Individual land owners, or private sector management entity	Medium	Medium
	8. Establish a realisable market for carbon credits (CO ₂ sequestration) in new plantations, or re-establishing softwood plantations on private land, in accordance with the ERF methodologies and functioning to date <ul style="list-style-type: none"> a. May require State government funding to catalyse investment if ERF funding is not extended beyond current budget allocation i.e. beyond 2017, or if the complexity of applications provides minimal incentive b. Should maintain scope for State government or industry investment in carbon credits to be 'on-sold' to the Commonwealth or other interests, based on compliance with ERF methodologies and industry standards 	State government in the first instance, providing funding or facilitating offsets for major resource development projects	State government, providing access to an additional revenue stream for individual land owners, or private sector management entity	Medium	High
	9. Encourage processors to offer off-take agreements for farm forestry log production, based on reasonable requirements for log supply arrangements (e.g. minimum supply volume or through an agent) agreed log specifications, and prices linked to State Agreements or export parity prices	Industry	Industry and private landowners	Low-Medium	Medium

Public policy objective	Mechanisms	Primary funding source	Party best placed to lead implementation	Potential to expand commercially viable estate	Complexity to implement (in relative terms)
Direct interventions that extend beyond the scope of farm forestry	<p>10. Establish an industry fund with substantive contributions (annual or otherwise) to facilitate related parties, or third-party organisation to secure land, or to support plantation development more broadly, while encompassing farm forestry, to secure the re-establishment of existing plantations or establishment of new plantations</p> <ul style="list-style-type: none"> a. May include funds for setting up a separate organisation to manage process of identifying suitable land and engaging with landowners to secure suitable land b. May include purchase of land as direct contribution to the funding model, e.g. Government secures land and industry provides funding for plantation establishment and management c. Appropriate to consider funding mechanisms within this fund that directly support farm forestry and its contributions 	Industry and/or government	Industry companies (related entities), private sector management entity or Grower organisation	High (including that outside farm forestry)	Medium-High

6. RECOMMENDATIONS

This report has identified and compared a range of mechanisms to enable farm forestry to contribute to an expansion of the softwood plantation estate in WA.

The recommendations arising and presented below reflect several important considerations.

Firstly, this report is focused on options for farm forestry, which represents only a part of a broader forestry sector in WA. More broadly, the State government (including FPC), industry (including processors) and private growers can all contribute to softwood industry targets for plantation expansion over the next 5-10 years. Most of the mechanisms considered in this report are principally focussed on the farm forestry sector; while some others relate to mechanisms that do not constitute farm forestry per se, but could support a farm forestry contribution to larger plantation forestry initiatives.

It is important to recognise the relatively small-scale contribution of farm forestry to plantation harvest levels in WA, and elsewhere across other regions in Australia. Farm forestry generally has had limited capacity to provide a major supply of harvested products, for reasons that include limited financial capital, limited scale efficiencies, limited selling and negotiation power, overall expected returns, and competing demands on management resources, such as other farming enterprises operating concurrently. Within the current operating context, these factors are unlikely to change significantly for most farm forestry enterprises in WA and elsewhere.

This report has addressed these challenges and the influences that have collectively constrained the establishment of new softwood plantations under a farm forestry model in WA. In addition, the report recognises that significant proportions of smallholder private plantations are owned by individuals who are approaching a latter part of their working life, and may not wish to invest in a following tree crop, which means parts of the existing estate are at risk of shifting out of plantation land uses.

However, farm forestry provides an alternative land use that has the potential to complement a farming enterprise. This complementarity includes the potential to reduce the annual labour load needed for annual crops or seasonal stock production, diversification of market risks and balancing of farm revenues, and the creation of an asset able to be realised by subsequent generations of landowners. In some jurisdictions, this suite of complimentary attributes has resulted in farm forestry increasing its supply significance over time.

A further consideration is that the current farm forestry context in the southwest arises through the contributions of SWAN and its predecessor entities. SWAN has sustained a farm forestry network, drawing on various insights and expertise from the broader forest sector, both within WA for technical perspectives and from interstate for assisting in developing tree growers.

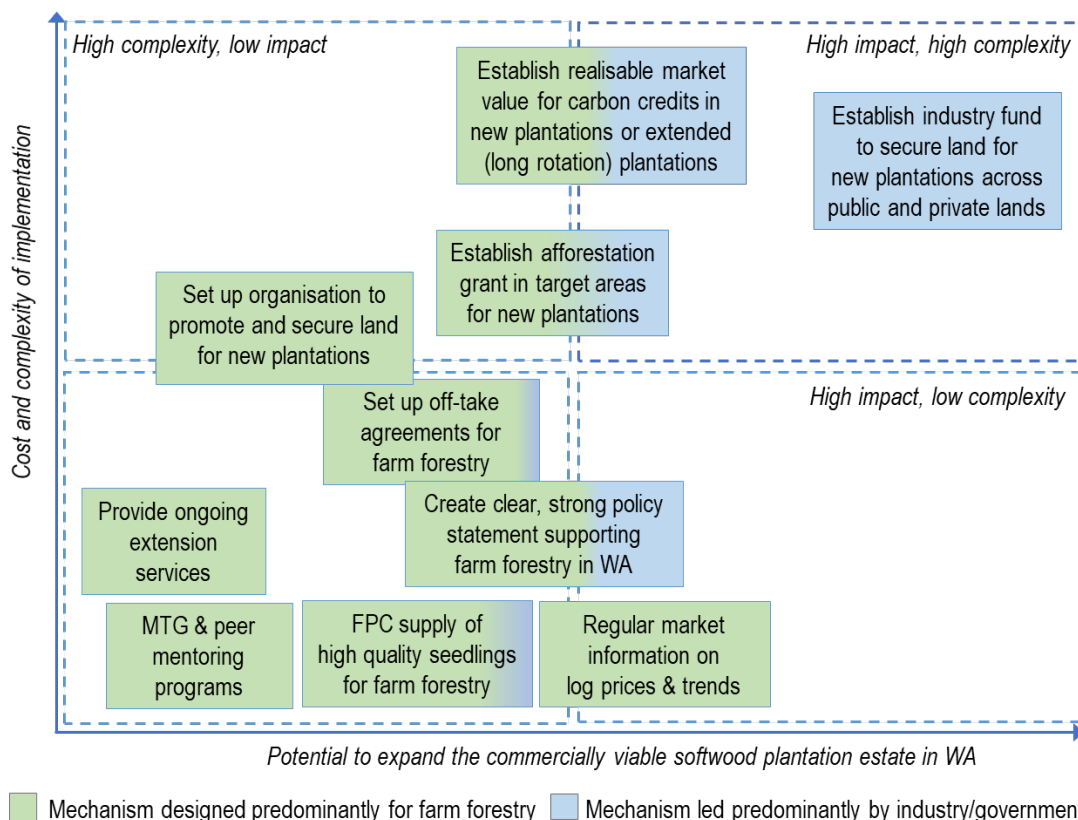
The recommendations also note the suite of services and data currently accessible to farm forestry from both private sector service providers and government agencies, most notably FPC in respect to extension support.

In this context, a schematic summary of a range of mechanisms, and how they compare in relation to these two important considerations, is presented in Figure 6-1. These mechanisms are framed in terms of two important considerations – firstly, the extent to which they have potential to expand the commercially viable estate (i.e. new plantations on suitable land in consolidated blocks within target areas), and secondly, the complexity and cost of their implementation.

For the reasons outlined above, these mechanisms include activities that are beyond the specific scope of farm forestry, but are incorporated as they represent an opportunity to encapsulate farm forestry as part of a broader state-wide program.

Therefore, the potential changes presented by this suite of recommendations are predominantly incremental in respect to their impact on new planting. While an incremental change is not necessarily significant, a base case scenario is that farm forestry in the southwest would decline further as a potential supplier to the industry, and the benefits of farm forestry are foregone as an option to southwest land owners.

Figure 6-1 Relative impact of potential mechanisms supporting farm forestry and softwood plantation expansion in WA



In the *lower left side quadrant*, this summary shows a set of mechanisms that would have a relatively low cost and low complexity to implement, but on their own are unlikely to make a substantial contribution to expanding the commercially viable softwood plantation estate in WA. This does not mean these mechanisms are not worthwhile; on the contrary, they represent mechanisms that can be readily introduced to strengthen the capacity of farm forestry in WA.

Critically, the development of a forest policy that includes plantations and the role of farm forestry would provide significant confidence and guidance to the sector, and assist in decision making and priority setting for both the private sector stakeholders and government agencies.

Furthermore, the enhanced capacity within the farm forestry sector should provide a platform to contribute to more challenging mechanisms that have the potential to substantially expand the commercially viable softwood plantation estate, through collaboration or partnerships with industry and government. The mechanisms shown in the *upper right-side quadrant* are more complex and would likely involve considerably higher cost to implement. However, if the plantation forest industry in WA (encompassing the FPC, private growers, domestic processors and export operations) is collectively committed to significantly increasing the plantation estate, these more complex mechanisms are required. Farm forestry can play a role in supporting this broader industry initiative.

In this context it is clear a coordinated approach is required to effectively introduce mechanisms enabling farm forestry to contribute to an increase in the softwood plantation estate. Mechanisms involving government, industry (including major processors) and private growers will require the most coordination, and should be addressed and considered further at the earliest opportunity. Some other mechanisms can be introduced with a relatively lower level of coordination across stakeholders, and can be set up either concurrently or at a later stage.

On this basis a set of recommendations is presented in Table 6-1. These recommendations are based on the level and sequencing of industry consultation required.

Table 6-1 Summary of recommendations

Recommendations	Coordination
1. State Government to consider the development and preparation of a clear State-wide forest policy that includes the whole-of-Government position in respect to supporting private and public plantations, farm forestry and industry policy in relation to downstream processing (<i>mechanism 1</i>)	<ul style="list-style-type: none"> State Government Engage sector participants (including SWAN) and other key interest groups
2. As part of the consultation for the Timber Industry Development Plan, FPC could consult with State government representatives to discuss strengthening farm forestry capacity by providing ongoing support for: <ol style="list-style-type: none"> Increased resourcing to extension services, directly or via an external extension service (<i>mechanism 2</i> and <i>mechanism 5</i>) Matching contributions by private growers or grower organisation to Master TreeGrower courses and peer mentoring (<i>mechanism 3</i>) <p><i>Note: Funding support should be structured as matching contributions to reflect sharing of risk and incentives for private/philanthropic inputs.</i></p>	<ul style="list-style-type: none"> FPC SWAN Private growers
3. Industry (via FIFWA and FPC) to facilitate access for farm forestry interests to high quality seedlings , from the next planting season and subsequent seasons, subject to orders being placed with sufficient lead times for the nursery to plan and manage accordingly (<i>mechanism 6</i>)	<ul style="list-style-type: none"> FIFWA FPC
4. FPC, growers and industry stakeholders to discuss related mechanisms to support farm forestry including: <ol style="list-style-type: none"> Scope for industry or FPC to compile and provide access to regular market information on plantation log prices, including prices in domestic and export markets (<i>mechanism 4</i>) Scope for processors to offer off-take agreements for farm forestry log production, based on reasonable requirements for log supply, agreed log specifications, and price parity arrangements (<i>mechanism 9</i>) 	<ul style="list-style-type: none"> FIFWA Representatives of major processors SWAN
5. As part of the consultation for the Timber Industry Development Plan, FPC to consult with State government representatives on the scope to support farm forestry directly by setting up either : <ol style="list-style-type: none"> an afforestation grant for new plantations within target areas, for example, the Wellington catchment, to establish a financial incentive for farm forestry and link this to specific environmental services and natural resource management (<i>mechanism 7</i>) or a realisable market for carbon credit sales for plantation forestry in WA – noting the limitations of the Commonwealth ERF, and the need for the government and industry to provide more incentive or share risks in relation to maintaining existing holdings of plantations and establishing new plantations (<i>mechanism 8</i>) 	<ul style="list-style-type: none"> State government FPC

These recommendations relate principally to mechanisms that can strengthen the farm forestry sector, which in turn could contribute to expansion of the softwood plantation estate in WA.

In addition, this report has identified mechanisms that are more focussed on expansion of the softwood plantation estate; recognising that farm forestry could potentially contribute to this initiative, but industry processors and the State government (through FPC) will need to take the lead and drive this initiative to achieve substantial scale in plantation expansion.

In this context, we note the opportunity for discussions regarding the scope for establishing an industry fund focussed on plantation expansion within south west WA. This consultation could be conducted as part of the Timber Industry Development Plan. However, these further discussions and the wider considerations of the Timber Industry Development Plan are beyond the scope of this report and its recommendations.

APPENDIX 1 - CONSULTATION PAPER



Indufor ...forest intelligence

Consultation Paper:
Farm forestry and plantation expansion in Western Australia



A paper to inform consultation and stakeholder feedback on mechanisms required for farm forestry to contribute to an expansion of the plantation estate in Western Australia

Prepared for the Forest Products Commission of Western Australia
August 2017

Indufor Asia Pacific (Australia) Pty Ltd
PO Box 425
Flinders Lane VIC 8009
AUSTRALIA

Tel. +61 03 9639 1472
ABN # 78 601 082 464
www.indufor-ap.com
admin@indufor-ap.com



Indufor ...forest intelligence

Indufor Oy
Esterinportti 2
FI-00240 Helsinki
FINLAND
Tel. +358 50 331 8217
www.indufor.fi

Indufor North America LLC
1875 Connecticut Avenue Northwest
PO Box 28085
Washington, DC 20038
USA
www.indufor-na.com

Indufor Asia Pacific
7th Floor, 55 Shortland St, PO Box 105 039
Auckland City 1143
NEW ZEALAND
Tel. +64 9 281 4750
www.indufor-ap.com

Indufor Asia Pacific (Australia) Pty Ltd
Level 8, 276 Flinders Street
PO Box 425
Flinders Lane VIC 8009
Melbourne
AUSTRALIA

