

Tree plantation investment and partnerships in Australia: an analysis of past experiences

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REPORT 1



This summary report is an output from the Next Generation Forest Plantation Investment research project undertaken by the University of Melbourne.

The project aim is to bring a combination of people together to design and test new models of investment in planted forests. We are learning from past experience to inform the design of more sustainable and attractive models for planted forest investment that meet the requirements of industry, landowners, capital investors and other stakeholders.

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Key points

- Past policies and incentives for forest plantations in Australia have generally been on a 'wood+' basis, with projects designed to provide co-benefits beyond wood supply and financial returns from producing wood.
- Proposed co-benefits have included conservation of natural forest resources, socio-economic objectives (employment, regional or industry development), erosion protection, water quality and benefits to farming enterprises.
- Public policies and incentives for private investment in forest plantations have included loan schemes and grants and tax deductibility; and enabling incentives like infrastructure, research, extension and advice.
- The Australian timber industry has purchased land for plantations and engaged in land leases and joint ventures with rural landowners. Joint ventures have included crop-share and market access arrangements.
- The decision to plant trees on farms is a social, as well as a financial one. Information doesn't plant trees, people do, hence trust between parties and motivation to act is fundamental.
- Key elements of successful private investment in plantations include:
 - full disclosure and transparent legal agreements that clearly assign obligations, risks and returns between all parties
 - a clear market for the target products, with trees in the right location for the market
 - a motivated party to drive the investments (e.g. a resource consumer)
 - adequate finance to support a long-term and ongoing investment to the right scale
 - a proven, evidence-based technical package with targeted sites, marketable tree species, genetics, management and silviculture, which is communicated to and implemented by all parties
 - enabling policies and incentive packages that evolve with the project
 - equipment, infrastructure and trained staff to make it happen
 - community support and trust between motivated and empowered growers, investors and the timber industry.
- Investment in planted timber resources and related processing facilities needs to occur in a coordinated way. An incentive portfolio approach can address impediments and provide enabling incentives matching the stage of development of a plantation project.

Introduction

Investment in forest plantations, particularly to produce logs for sawn timber, requires significant capital, over long timeframes, and involves multiple risks. Supporting government policies can include direct government investment and the support of other parties. Incentives provided by government, such as low interests loans and grants in support of specific and targeted plantation development projects, can help reduce these risks. Tax incentives have also been used for broader (un-targeted) encouragement of plantation development. Other enabling policies such as the provision of infrastructure or research and development are important.

Arrangements between private landowners and government or industry have included land leases and joint venture arrangements. Joint ventures may include crop-share and marketing commitments. The aim of this report is to provide a summary of these past experiences with plantation development and investment in Australia.



The estate development and policy framework

The Australian plantation estate was established in a series of six stages (see Appendix 1), driven predominantly by government policies to promote that expansion. National policies aimed to remove impediments to investment and provide greater certainty to long-term forestry projects. Major national policies since 1987 supporting plantations and farm forestry include:

- National Afforestation Program (1987 to 1992)
- National Forest Policy Statement (1992)
- Wood and Paper Industry Strategy (1995 to 1999)
- National Farm Forestry Programme (1996 to 2001)
- Plantations for Australia: The 2020 Vision (1997; 2002)
- Action Agenda for Forest and Wood Products (2000)
- Farm Forestry National Action Statement (2005).

The plantation estate now consists of about one million hectares of softwoods established mainly through public investment on state forest lands between 1960 and 1990 and one million hectares of hardwoods established primarily through Managed Investment Scheme (MISs) on agricultural land between 1990 and 2010. These plantations have achieved the scale necessary to supply related processing industries, which is a key factor for successful plantations. Since the late 1990s state governments have sold much of their softwood estate to institutional investors via timber investment management organisations (TIMOs).

Plantation investment

Direct government investment

From the 1880s to the 1960s, state governments invested public funds in forest plantations to address concerns with the future supply of timber from natural forests. Beginning in the 1960s, the Australian Government supported these developments on public land based on a policy rationale of softwood self-sufficiency (timber import replacement), resource security and regional industry development. Concerns over natural forest conversion to softwood plantations led to a focus of establishment on cleared land. Changing priorities for public funds, and attitudes to government ownership of assets, led to the sale of most the public plantation estate.

Private investment

The use of indirect forms of private investments in Australia has a long history, including forest bonds in the 1920s to 1940s, the MISs post-1962 and more direct investment plantation syndicates. Both early schemes and MISs had a chequered history with poor project design, location and plantation management, as well as questionable promoters, and this resulted in many disappointed investors. Direct investment by small-and large-scale private investors has resulted in some significant plantation areas that are contributing to wood supply.

Joint ventures

Joint venture investment models between governments and industry as investors and landowners showed promise and were successful due to a focussed approach (e.g. proven species with commercial demand, and a committed investor).



Policies and incentives for private-sector investment

A broad range of incentives are available to encourage plantation investments (Table 1). Recent government policies have aimed to support investment in private plantations. The goal is to create a conducive investment environment by removing impediments to investment and provide enabling, rather than direct, incentives.

Direct incentives

Direct incentives include financial and physical support of plantation development (see Table 1) and include infrastructure, grants, tax concessions or subsidised loans.

For example, state governments supported farm forestry loan schemes (aimed at private landowners or farmers) such as the Victorian Government's scheme, which ran from 1966 to 1983 and resulted in the establishment of 8,270 hectares of plantations. These were effective in that they resulted in the planting of a commercial species. The longer-term funding was especially

important in generating a critical level of timber supply when plantations had not previously been established in a region. While the provision of government short-term grants has led to plantings, they have also resulted in 'stranded resources' that lack scale and/or markets, or were based on unproven species or silviculture. The approach to the administration of the grants are critical in ensuring that the right trees are planted in the right place.

Provision for individuals to make tax deductions for investments in intermediary financial products resulted in a significant new plantation area. From the 1980s to 2010, MISs attracted over \$5 billion in investment and resulted in nearly one million hectares of new plantations, which were mainly hardwood grown for pulpwood. Some MIS projects had negative environmental and social impacts, while others had water quality and catchment benefits and increased habitat for wildlife, for example for koalas. The global financial crisis and other external factors resulted in the collapse of most MIS companies, financial hardship to many individual investors and damage to the perception of plantation forests as investments. The plantation assets of many MISs were later purchased by institutional investors through TIMOs.

Some MIS projects have performed poorly and are being converted back to agriculture. Most former MIS estates are sustainably managed and provide healthy financial returns, local employment and regional economic benefits.

Enabling incentives

Enabling incentives 'clear the way' for plantation development. Government-provided enabling incentives include infrastructure, market development, research and extension services. Incentives have also been used to support private-sector investment in research, including tax offsets and co-investment in Forest and Wood Products Australia.

Government took the initial risk to support plantation development in selection and development of species, and through direct investment in plantations supported by research on genetic improvement, establishment and nutrition, silviculture, harvesting and forest products, markets and management of environmental impacts. With the privatisation or commercialisation of the plantation estate, there has recently been a significant decline in Australia's forest plantation research capacity.

Table 1: The availability of direct, variable and enabling incentives encourages plantation investment (after Enters and Durst 2004).

DIRECT INCENTIVES	VARIABLE INCENTIVES	ENABLING INCENTIVES
<ul style="list-style-type: none"> – Goods and materials – Provision of local infrastructure – Grants – Tax relief or concessions – Differential fees and access to resources – Subsidised loans – Cost-sharing arrangements and price guarantees 	<ul style="list-style-type: none"> – Price support for inputs and for outputs – Specific taxes, e.g. diesel fuel rebates – Trade restrictions (e.g. tariffs on imports, illegal timber import legislation) 	<ul style="list-style-type: none"> – Land tenure and resource security – Accessibility and availability of basic requirements such as infrastructure (ports, roads, electricity) – Producer support services – Market development – Credit facilities – Political and macro-economic stability – National security – Research and development – Extension

Programs across Australia have used a variety of methods, including extension and advice, to support trees on farms, or 'farm forestry', for wood production and other benefits. Some of these programs have been successful in raising awareness of the value of trees on farms and supporting farmers to plant trees for shade, shelter and water quality benefits. However, farm forestry programs have had a limited effect on wood production for industry and have generally not resulted in an increase in direct income for farmers. Often the advice provided resulted in planting commercially unproven species, or planting small areas on difficult to access sites, or in locations that lacked a market. Some farmers have been left with stranded assets and 'farm forestry' generally has a poor reputation within the farming community.

Incentives summary

The motivation to plant trees, particularly for growers, is complex. The Australian history of plantation development has often been on a 'wood+' basis, with past government direct investment intended to provide multiple benefits beyond the financial return from timber. These 'plus' benefits have included employment, land improvement benefits (such as reduced soil erosion, improved water quality), natural forest conservation, utilisation of perceived 'wastelands' and regional economic development through support for a processing sector. The plus benefits justify the use of public incentives for plantations; therefore, there is a need for these benefits to be clearly identified and accounted for as outcomes when designing an incentive package.

Incentives need to be appropriate to the stage of project development, with requirements changing as a plantation project develops. At the commencement of a project direct incentives can include provision of seedlings. An enabling incentive would be certainty of title, separately, to land, forestry rights and ecosystem services such as carbon sequestration. At a later stage, a direct incentive could be project-specific infrastructure for log transport, and an enabling incentive would be investment in regional port facilities servicing all industries. Direct incentives are generally applied at the start of a project, while supporting and enabling incentives can ensure a project's continuing viability at later stages.

Development of an incentives regime should include a long-term commitment, so that investors have confidence the incentives will remain in place for the life of the investment. Development should also include consideration of technical, social and environmental aspects of a plantation project.

To avoid 'stranded assets', incentives need to support a commercially viable scale (area) of productive plantations that can make an appropriate return on investment, and located near a processing or log export market. If the plantation is in a new area, potentially with new (unproven) species, scale is critical. An incentive regime must result in a critical mass of resources to attract a processor or, preferably, multiple processors using different qualities or types of wood. For plantation development in an area with an existing market, scale is less critical provided that the species and log quality produced are similar to those used in the market.

Incentives for larger-scale plantations need to be designed to support investment in productive plantations that can make an appropriate return on investment, and that are near a processing or log export market, with low delivered costs.



Co-investment models

There are two main assets involved in a forest plantation: the land and the trees. Large-scale, owner-managed plantations of commercial species (exotic pines for sawlogs or pulpwood, or eucalypts for pulpwood) close to timber markets have been the preferred model for industrial investors, but ownership of these two assets can be separated. There are two types of joint-ownership of plantations:

1. split ownership of land and trees, with a landowner leasing land to a tree grower and the landowner having no interest in the trees (they are a landlord)
2. joint venture where landowners and tree growers provide varying inputs and therefore shares in the venture.

Each model has associated benefits and disadvantages. Land leases or joint ventures between industry investors and landowners have had varying outcomes. A lease provides guaranteed passive income for the landowner and a high level of control for the investor/manager, with landowner satisfaction depending on the level of lease payment in comparison with agricultural net returns or the use of the landowner's time.

In joint venture arrangements, the parties share the risk and returns in proportion to their inputs, which depends on the inputs of the parties (land, labour and/or capital) and how these are allocated. There are estimated to be about 71,000 hectares of joint venture plantations across Australia, mostly in Western Australia and Tasmania. The minimum area of these agreements has been as small as 5 hectares. Based on the harvest experience, 15 hectares was considered a minimum viable unit in the Western Australian bluegum industry.

There are two broad types of joint venture arrangements for trees: a crop-share arrangement and a market joint venture. Under a crop-share arrangement, the parties share the crop (in very few cases on a physical basis) net returns at harvest. Under a market joint venture, a processor provides a market, often on a first right-of-refusal. In some cases, this left landholders disappointed when companies did not purchase the wood (for thinning or final harvest) and landowners were left with a resource but no market. It is possible to increase market certainty through take-or-pay clauses, off-take agreements or forward contracts. Overall, there are a range of benefits to the parties in a joint venture (Table 2).

Table 2: A summary of the benefits realised under joint ventures.

TYPICAL SMALL-SCALE GROWER BENEFITS	TYPICAL BENEFITS TO INDUSTRY
<ul style="list-style-type: none"> – Financial support with full/part establishment costs – 'Guaranteed' financial returns – Reduced market risk with an assured sale – Silvicultural advice – Physical support with tree establishment and management 	<ul style="list-style-type: none"> – Increased supply of future resource – Resource security without the need to purchase land – Access to productive farmland for tree growing close to mills – Diversified sources of supply – Shared participation with local communities in timber production (i.e. good public relations)

Design principles for industry–landowner partnerships:

- Learn from experience (e.g. Western Australia learned valuable lessons from the Tasmanian Private Forestry Division).
- Provide a robust and proven regime (species and silviculture) with a maximum chance of success.
- For a new development, ensure that mechanisms are in place to ensure the development is at a commercial scale in order to attract a processor.
- For a development in an existing wood supply zone, ensure that the right species are planted with the correct silviculture.
- Focus on landowner needs – industry works with the landowner to determine how trees fit with their current land use and to specify the area to be planted.
- Determine the most appropriate input-sharing arrangement: for example, industry may contribute seedlings, site preparation, fencing and planting costs, and the landowner may input land and labour to maintain the trees.
- Determine the resulting share of the tree crop, for example, annuities payments to the landowner (returns prior to harvest) and/or a share of the net harvest proceeds. In some cases, a landowner may seek to take a physical share of the products for their own use or to market independently.

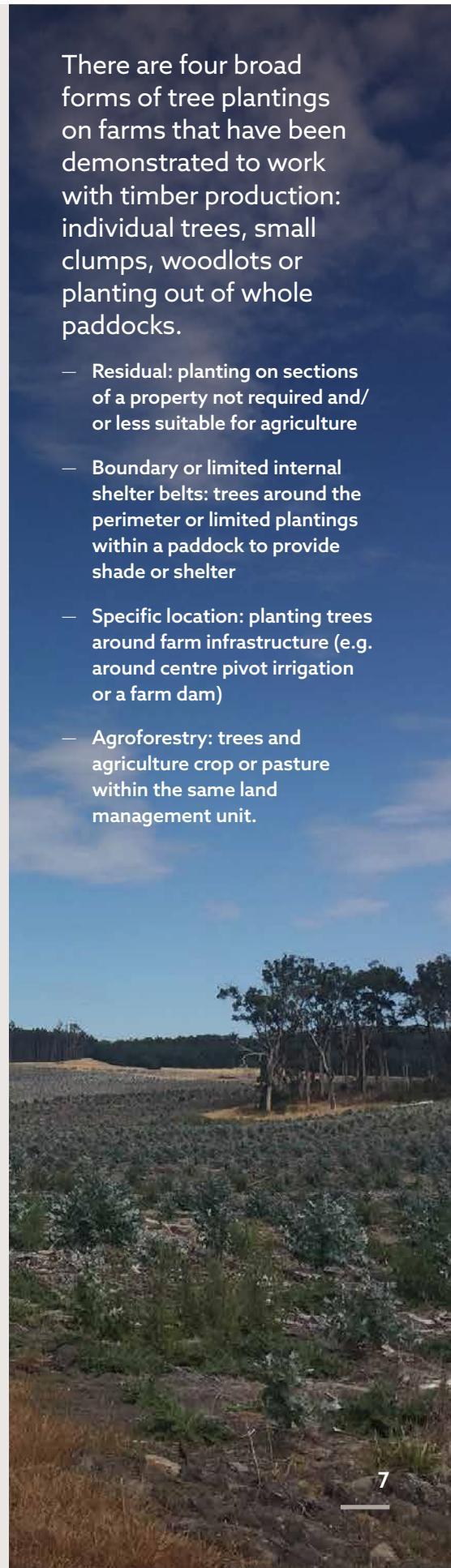
A range of different planting designs have been used in industry-landowner partnerships. Success of the design depends on the size of the area planted, the location within the farm, the spatial arrangement (shape) of the plantings, identified on-farm benefits, the effect of the arrangement on wood quality, access for harvest, and the harvesting equipment used. In general, some planting arrangements and specific within-farm locations have been found to be better options for timber supply to industry because they have lower harvest costs and generate more consistent wood quality.

The decision by private landowners to become involved with tree planting for timber either as a grower or landlord is often a social process involving trust between the parties. When there is trust between growers and buyers all parties can be empowered and motivated. Trust is earned and built over time, by regular two-way communication at all levels, demonstrated competence and achievement of stated outcomes. A fully understood detailed, factual (with full disclosure and transparency), fully-costed plan is a key element in initiating the development of support and trust between project participants. Involvement of advisors who are already trusted by the landowners can expedite the development of trust between parties.



There are four broad forms of tree plantings on farms that have been demonstrated to work with timber production: individual trees, small clumps, woodlots or planting out of whole paddocks.

- **Residual:** planting on sections of a property not required and/or less suitable for agriculture
- **Boundary or limited internal shelter belts:** trees around the perimeter or limited plantings within a paddock to provide shade or shelter
- **Specific location:** planting trees around farm infrastructure (e.g. around centre pivot irrigation or a farm dam)
- **Agroforestry:** trees and agriculture crop or pasture within the same land management unit.



Conclusions

Policies and incentives for successful plantation development in Australia have generally been on a 'wood+' basis, with the goal to provide multiple benefits beyond the financial return from timber. Benefits can include social objectives (such as employment, regional or industry development), environmental, or local farm benefits such as shade or shelter for livestock or crops, erosion protection or water quality benefits.

Successful plantations rely on the motivation and empowerment of people, a proven technical package, long-term finance, direct and enabling incentives and policies, and a clear market for timber at harvest. Successful farm forestry needs to be framed from the landholders' perspectives to complement and fit within their agricultural enterprises, while addressing the commercial realities of trees for harvest. Commercial partnerships between industry and farmers or other rural landowners need to be presented on the same basis as other forms of agriculture, using appropriate business models and reliable technical advice: an already trusted and familiar advisor to farmers can expedite the development of trust between parties.

Transparent and regularly updated information on legal and technical matters is critical. This includes the proposed ongoing management and the likelihood of returns (based on market information for the proposed outputs). Legal instruments should be clear and complete (full disclosure) and clearly define the responsibilities of the parties (for example, consideration of post-harvest stumps and site remediation).

Investment in the development of planted timber resources and related processing facilities needs to occur in a complementary way. Incentives and policies that promote plantation expansion should be done in a way that develops critical mass, so that there is enough resource at an appropriate scale to support a market, a key factor for successful plantations. A policy portfolio approach can address impediments and provide enabling incentives that match the stage of development of plantation projects.



Further reading

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Appendix 1:

Plantation development in Australia – a brief history

Investment in Australia's plantation estate occurred in six distinct phases (Figure 1).

Forest plantation establishment driven by individual governments began in Australia in the late 1800s (prior to Federation) to address a fear of declining supply of timber from natural forests and a need for softwood timbers. Plantation development programs also sought to address specific social and environmental issues; there was a desire to reforest areas cleared for mining, to integrated wood production with agriculture, and to provide environmental benefits such as soil stabilisation. Initial establishment was slow because of access to land and, in some cases, limited finance. Establishment of softwood plantations accelerated in the 1960s driven by a Commonwealth Government target of softwood self-sufficiency and underpinned by the Commonwealth Softwood Loan Scheme, which provided loans to the state governments.

Between 1967 to 1982, loans of \$78.1 million supported 730,000 hectares of new plantations planted at a rate of 45,625 ha/year. During the same period there was modest private-sector investment in plantations.

With the termination of the Commonwealth Softwood Loans Scheme, from the 1980s to the late 1990s investment shifted from public softwood to private hardwood plantations, which included expansion of hardwood plantations on private land by private companies funded by MIS projects. During this period institutional investors (such as superannuation or private wealth funds) purchased public softwood plantations via TIMOs, with the TIMOs managing funds on behalf of major institutional investors.

From the early 2000s to 2007 there was ongoing significant expansion of the bluegum estate but competition for land in southern Australia resulted in high land prices and led to expansion of investment in non-traditional species (such as Acacia mangium, sandalwood and teak) and new regions (e.g. northern Australia). Some of this diversification occurred with limited actual experience in the target areas, a lack of scientific evidence for the species in the areas of interest and a lack of clear markets for future products. Where a critical mass has resulted, such plantations have attracted markets (e.g. Acacia mangium in the Northern Territory).

In the current 'reconciliation' phase there has been little investment in new plantations, and those on sites with poor growth rates or where agricultural uses provide higher returns are being harvested and not replanted. Most of the MISs-developed plantation estates have now been purchased by institutional investors. Because of this history, ownership of the current Australian plantation estate is a diverse mix of government, industry, retail investors (e.g. via MISs projects), TIMOs and small-scale private landowners (Figure 2). The actual true farm forestry estate is a small proportion of the farm forestry / other private plantation estate.

Figure 2: Ownership of Australian plantations over time by farm forestry / other private, superannuation funds, MISs, timber industry companies and government. Source: NPI/ABARES data.

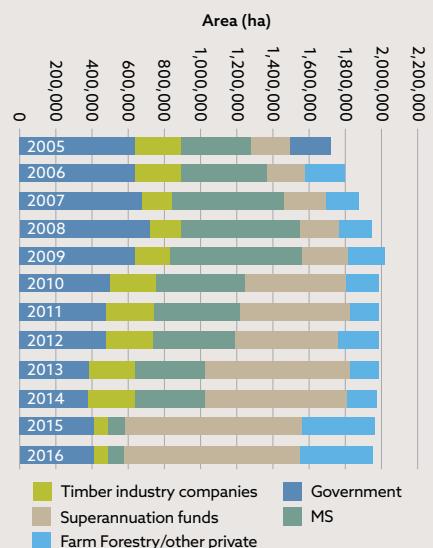


Figure 1: Phases of investment in Australia's plantation estate.





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