

Report

Forestry Integration Tool

Prepared for: Gippsland Forestry Hub and Green Triangle Forest Industries Hub
10 August 2026





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Executive Summary

Gippsland Forestry Hub (GFHub) and Green Triangle Forest Industries Hub (GTFIHub) engaged SMEC to develop the Forestry Integration Tool (FIT) to provide farmers and landowners with a practical early decision-making support tool to assess plantation expansion and farm-forestry integration opportunities across the Gippsland and Green Triangle forestry regions.

FIT integrates key data, drivers and challenges into a Macros-enabled Excel-based model to identify preliminary costs and revenues over the life of a small-scale plantation, while providing guidance on statutory considerations and recommended next steps. The vision of GFHub and GTFIHub is to expand FIT into a web-based platform in the near future.

This report provides a transparent overview of FIT's development, methodology, key inputs and outputs, while outlining its limitations.

FIT was developed through desktop research, targeted stakeholder engagement, review of comparable tools, and key data benchmarking. FIT was developed with a philosophy in mind that extends beyond just a cashflow model. FIT is not intended to be the only source of information for potential foresters, but provides an accessible first touchpoint to assess various variables and compare trade-offs in their decision-making process. Key considerations in the development of FIT included statutory and planning constraints, plantation forestry operations and system modelling, government incentives, carbon credit impact, water pricing, GIS mapping, next steps guidance, transparent documentation, and user-centred design. This report focuses on the technical development and functionality of FIT, with complementary guidance materials and a stakeholder engagement strategy developed to support implementation and uptake.

One of the key challenges in FIT development has been translating a complex system and decision-making process into a tool that could be used in a meaningful way by non-specialists in early decision-making. Regulatory requirements differ between Victoria and South Australia. Commercial outcomes depend on a number of factors; combination of spatial, biological and market variables. Many of the necessary inputs vary case-by-case and are location-specific or not easily available to first-time users.

A key strength of FIT is that it balances usability with transparency, especially for users with both basic and advanced knowledge of forestry. FIT relies on a mix of user-entered information and default values sourced from the most recent literature, market engagement and subject matter expert input. This means the model can generate results without overwhelming the user, while still making assumptions visible and allowing future update and refinement. The Excel-based structure also provides a practical foundation for future development into a more automated web-based platform, preserving the underlying logic while improving user experience over time.

FIT provides benefits across multiple stakeholder groups. For landholders, it lowers the barrier to exploring forestry as a viable land use option. For GFHub and GTFIHub, it provides a regionally relevant mechanism to build awareness, improve confidence, and support early-stage decision-making. The tool can also support policymakers by enabling the testing of different policy settings, incentives and assumptions, helping to assess sensitivities, impacts and trade-offs for small-scale forestry. More broadly, it contributes to a larger strategic goal of enabling more informed participation in plantation forestry at a time when timber supply, carbon sequestration, and regional economic resilience are all increasingly important.

1. Introduction and Background

GFHub and GTFIHub engaged SMEC Australia Pty Ltd (SMEC) to develop a tool that assists farmers and private landholders to understand the regulatory and commercial viability of plantation forestry.

GFHub and GTFIHub were established as part of the Australian Government's National Forests Industry Plan which was released in 2018.¹ The purpose of the Plan was to support the forestry industry to meet the Nation's future timber and wood fibre needs. GFHub and GTFIHub recognised that the opportunity of private, small-scale forestry often underutilised due to a range of barriers, particularly during the early stages of decision-making. They recognised that a web-based, accessible tool could assist in spreading awareness of the opportunity and support landholders in exploring tree-growing as a viable land-use option.

The Forestry Integration Tool (FIT) project was developed in response to this challenge. The current FIT prototype has been developed in Excel as a proof of concept and is intended to be expanded into a web-based platform in the next phase of development.

1.1 Purpose

This report summarises key inputs, methodology, limitations and outputs of FIT. It aims to provide transparency for both how FIT was developed and how it works.

1.2 Background

Australia's domestic timber supply is subject to increasing pressures from catastrophic climate events, market pressures, and competing land use priorities.^{2,3,4,5} At the same time, new plantation establishment has slowed dramatically (see Figure 1). In parallel, Federal and State & Territory governments have set ambitious greenhouse gas (GHG) emissions reduction targets. While energy transition and efficiency improvements are contributing to reducing emissions, there still remains a requirement to remove atmospheric GHGs in order to achieve these targets (see Figure 2).

Small-scale forestry presents a win-win-win opportunity (the forester, the community, and the environment). The landholder can earn money in both the timber market and carbon credit market while supplying primary resources to the community and helping mitigate climate change.⁶

Several tools exist for modelling cash flows from both timber production and carbon markets; however, none are specifically tailored to the Gippsland or Green Triangle regions.⁷ Existing tools typically rely on generic assumptions and broad-scale datasets, with limited consideration of regional factors such as plantation productivity (e.g. MAI), local cost and revenue benchmarks, timber and carbon market conditions, government incentives, water pricing, and planning or regulatory requirements. As a result, they may not adequately reflect local conditions or provide the level of transparency required to support informed land-use decision-making. Furthermore, many of these tools have been developed for specific purposes, such as carbon assessment, and are not primarily designed for farmers and landholders evaluating forestry as a commercial land-use option. Selected tools reviewed as part of this project are summarised in Table 1.

¹ "National Forest Industries Plan", DAFF, last updated November 2, 2021, <https://www.agriculture.gov.au/agriculture-land/forestry/national-forest-industries-plan>.

² Linden Whittle, "Effects of bushfires and COVID-19 on the forestry and wood processing sectors." *ABARES Insights*, no. 6 (2020): https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030501/0.

³ "Australian plantation area and log availability – National plantation inventory regions and Regional forestry hubs", Plantation and log supply, last updated 31 March 2022, <https://www.agriculture.gov.au/abares/research-topics/forests/forest-economics/plantation-and-log-supply>.

⁴ Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), *Australian Wood Volumes Analysis*, 6.

⁵ Fifth Estate, *Australia's Timber Fibre Strategy* (Strategic Forest and Renewable Materials Partnership, 2025), <https://www.agriculture.gov.au/sites/default/files/documents/33964.pdf>.

⁶ Department of Agriculture, Water, and the Environment, *Farm Forestry: Growing together* (Cth, 2022), 5, <https://www.agriculture.gov.au/sites/default/files/documents/farm-forestry-growing-together.pdf>.

⁷ The Green Triangle region is a high-productivity forestry area extending across the South Australia and Victoria border between Lorne and Boatswain Point and extending as far north as Telopea Downs.

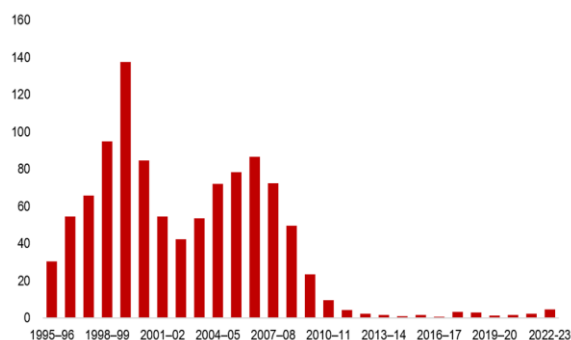


Figure 1: Greenfield timber plantation establishment in Australia ('000 hectares).⁸

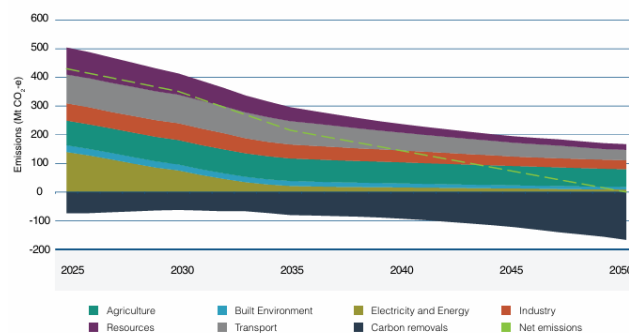


Figure 2: Carbon removals is a key component of the Federal Net Zero plan.⁹

Table 1: Existing decision-making forestry tools.

Tool	Commentary
Decision Tree WA ¹⁰	This tool was developed for the South West Timber Hub. It has an online interface allowing users to enter spatial data (draw polygons). It calculates a net present value, plus total revenue and total costs for both timber and carbon markets. Users can modify detailed variables or accept default values.
Plantation Suitability Web Application ¹¹	This tool was developed for the Green Triangle Forest Industries Hub. It also has an online interface, but users do not enter data. The Tool is an interactive map with plantation harvest yield and carbon credit yield as overlays. Users can select their location of interest and then read the yield values. The tool also gives users a travel distance by road to consider haulage requirements.
Nature Layer ¹²	This tool is an independent commercial pursuit by the same team who developed Rela, a government-endorsed tool to assess the feasibility of renewable energy for private landholders. It is a web application where users can enter spatial data (draw polygons). The tool will then analyse the property for carbon market potential. It specifically compares land potential for agricultural value versus carbon value. It has an artificial intelligence assistant allowing users to conversationally interpret results.
Landowner Plantation Assessment Tool ¹³	This tool was developed for the Central West NSW Forestry Hub. It is an Excel based tool where users enter property-specific values. The tool then generates short and long-rotation cashflow models considering both timber and carbon markets. Results are very detailed and complete with sensitivity testing, plus probability distributions for financial indicators (IRR).

⁸ Fifth Estate, *Greenfield timber plantation establishment in Australia ('000 hectares)*. In *Australia's Timber Fibre Strategy* (Strategic Forest and Renewable Materials Partnership, 2025), <https://www.agriculture.gov.au/sites/default/files/documents/33964.pdf>.

⁹ Department of Climate Change, Energy, the Environment and Water, *Projected emissions under Treasury Baseline Scenario, by sector*. In Department of Climate Change, Energy, the Environment and Water, *Australia's Net Zero Plan* (Cth, 2025), Section 5.3, <https://www.dcceew.gov.au/sites/default/files/documents/net-zero-report.pdf>.

¹⁰ Decision Tree WA. (n.d.). Decision Tree WA. Available at: <https://www.decisiontreewa.com.au/>

¹¹ Green Triangle Forest Industries Hub (GTFIH). (n.d.). Plantation Suitability Web Application. Available at: <https://gtfih.com.au/gtfih-plantation-%20suitability-web-app/>

¹² Nature Layer. (n.d.). Nature Layer – Make Every Hectare Count. Available at: <https://naturelayer.com.au/>

¹³ Central West Forestry Hub (CWFH). (2026). Landowner Plantation Assessment Tool (LPET). Available at: <https://cwfh.com.au/pdf-documents/landowner-plantation-assessment-tool/>

2. Approach and Methodology

The vision for FIT is to provide users with an easy to use, easy to understand tool that approximates the opportunity of small-scale forestry. FIT developed in this engagement achieves that vision and prepares the project for future stages (web-based platform).

2.1 System Definition

FIT considers the forestry stages and activities in Figure 3. Costs are shown in red and revenues in green.

System Boundary - FIT Costs and Revenues

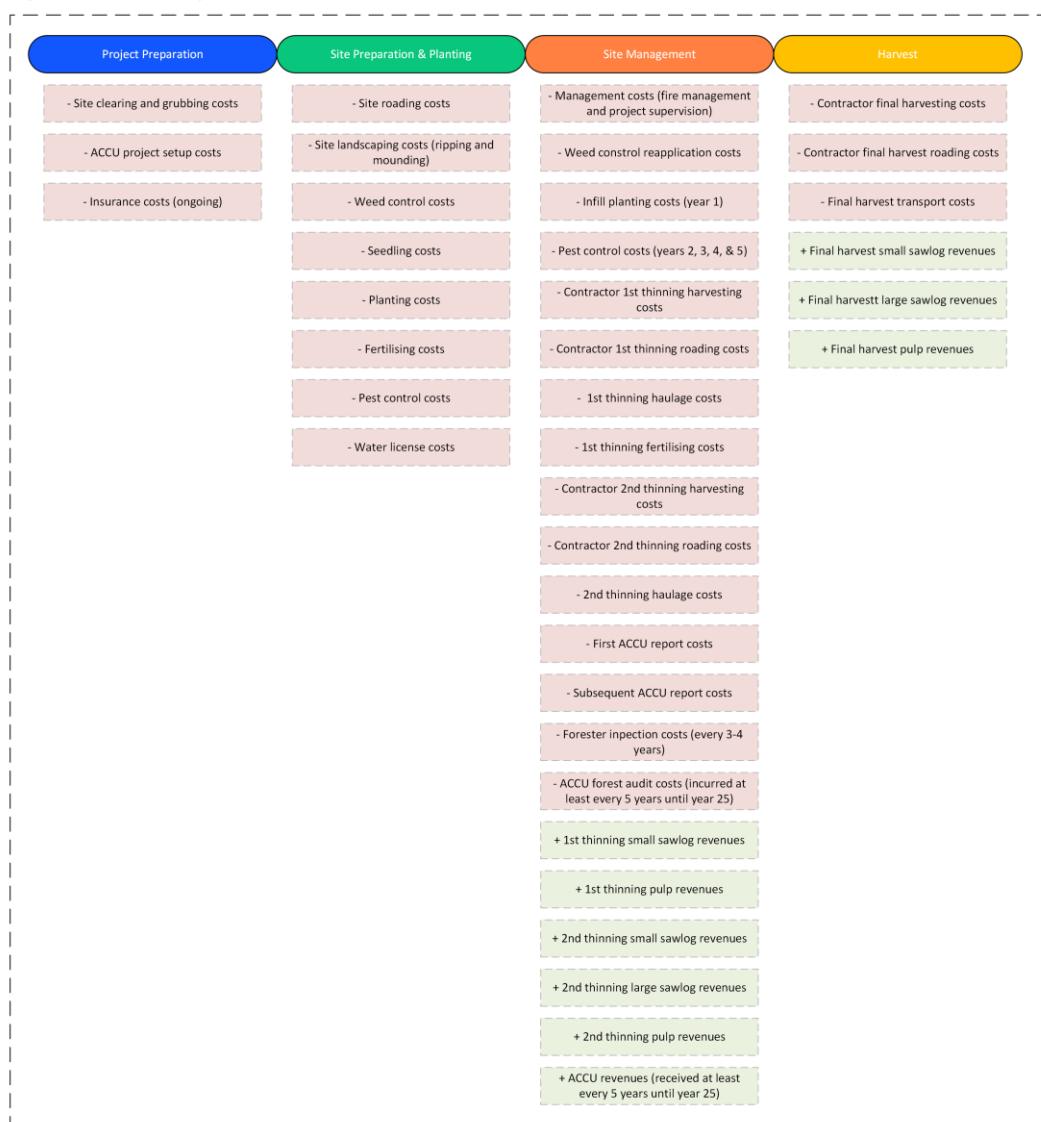


Figure 3: System boundary – FIT costs and revenues where costs are shown in red and revenues in green.

2.2 User guide

FIT is structured as a step-by-step workflow that guides users from project setup and preliminary screening through to the assessment and recommended next steps. The interface has been designed to support users

with varying levels of forestry knowledge while maintaining transparency of assumptions and results. Figure 4 shows FIT landing page and user guide.

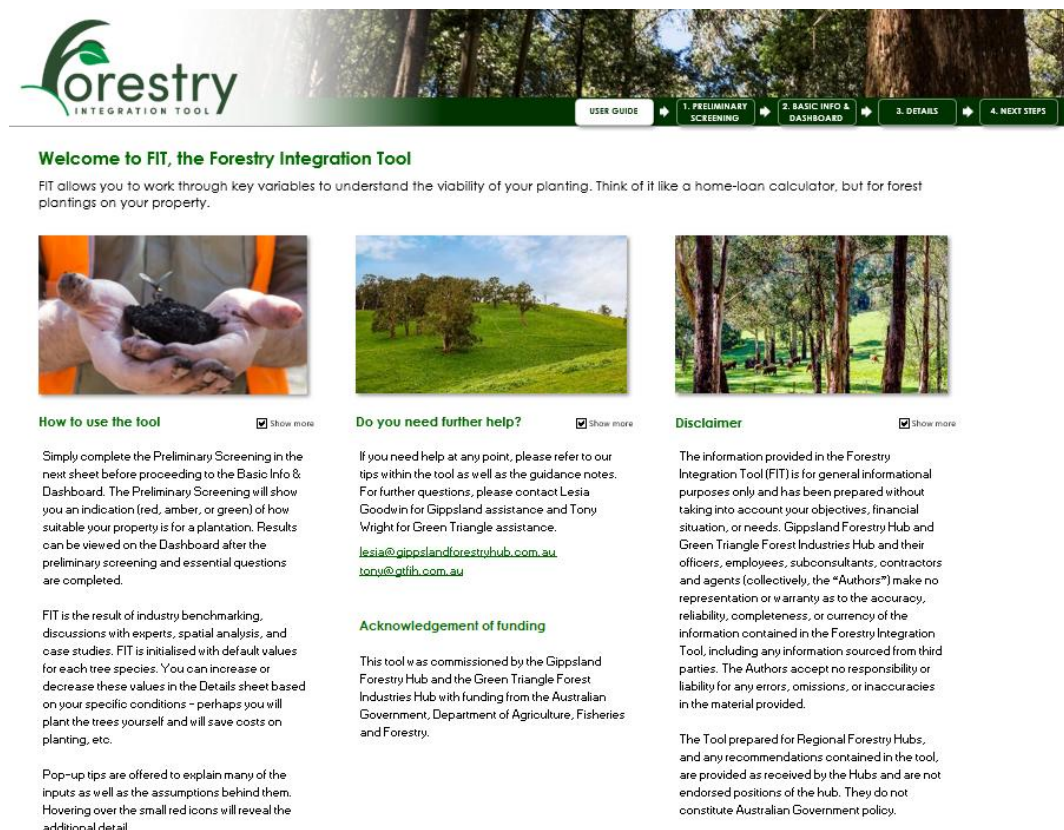


Figure 4: FIT landing page and user guide, providing an overview of the tool, how it should be used, and important disclaimers.

2.3 Inputs

FIT combines user-entered information with regional datasets and benchmark values derived from literature review, stakeholder engagement, GIS analysis, market research and subject matter expert input. This approach enables users to undertake a preliminary assessment without requiring detailed forestry knowledge or specialist data.

FIT relies on a mix of user entered data and default values. User entered data includes:

- Property coordinates
- Preliminary screening answers (x2)
- The species they wish to plant
- The project size (ha)
- Distance to processor
- And the title area of the property (ha).

Due to additional water regulation in the Green Triangle, South Australian users are asked to provide:

- Yes/no response to whether their property has a shallow water table
- Average annual rainfall.

Following the initial screening step Figure 5, FIT offers two assessment pathways tailored to the user's level of knowledge and available information: a **basic input pathway** (Figure 6) and a detailed input pathway (Figure 7).

Forestry
INTEGRATION TOOL

USER GUIDE | 1. PRELIMINARY SCREENING | 2. BASIC INFO & DASHBOARD | 3. DETAILS | 4. NEXT STEPS

1. Preliminary Screening Questions

Answer the below questions to determine whether the property is suitable for a forestry plantation.

Q1. Are you intending to register the project as a Carbon Project under the Plantation Forestry ACCU Scheme?
☐ Yes
☒ No

Q2. Has the project area had forest cover removed (planted, remnant, or otherwise) within the previous 7 years?
☐ Yes
☒ No

Q3. Is the project area intended to be traded, inherited, or subdivided, or is the land use intended to be changed in the next 25 years?
☐ Yes
☒ No

2. Location

You can work out if your property's location has any restrictions using either a Manual Search or an Automated Search.

AUTOMATED SEARCH (VIC ONLY):
 Open Google Maps, right-click on the property, copy the coordinates and paste them here. Then click Automated Search.

Coordinates: -38.03473499803729, 142.24236661774006

MANUAL SEARCH:
 Select the state:

 Choose the Hundred (SA only):

3. Traffic Light Assessment

The Traffic Light Assessment has returned an AMBER light. See the Next Steps tab for relevant contacts.

Amber There are planning constraints on the property that may impact forestry plantation. ☐ Show details

Green Previous land clearing is not a constraint.

Green Forest perpetuity is not a constraint.

Zones, Overlays and Other Details (automated search only): ☐ Show details

Figure 5: Preliminary screening tab, where users enter location details and complete an initial planning and land suitability assessment

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Basic information

You **must** provide an answer for species, planting size, distance to mill and title area to get an estimate for your project.

Tree Species:

Planting Size: ha

Distance to mill: km

The estimate for your project will be more accurate if you can also provide the below information.

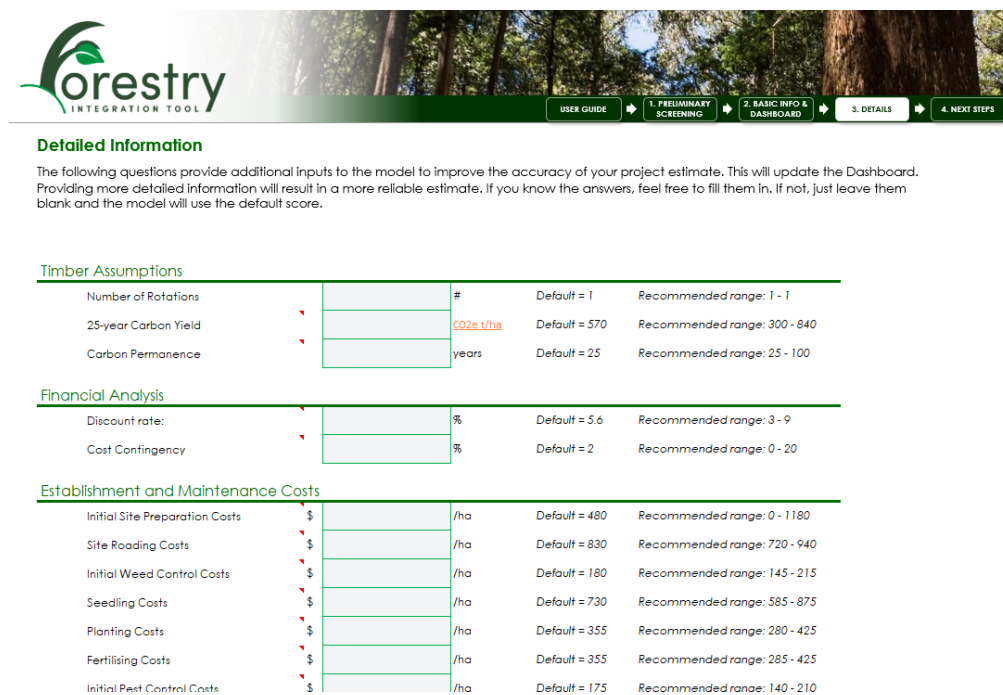
Title Area (SA only): ha

Depth to Groundwater >6m? (SA, only): map

Average annual rainfall (SA only): mm

Mean Annual Growth Increment:

Figure 6: Basic information dashboard showing key project inputs



Forestry
INTEGRATION TOOL

USER GUIDE → 1. PRELIMINARY SCREENING → 2. BASIC INFO & DASHBOARD → 3. DETAILS → 4. NEXT STEPS

Detailed Information

The following questions provide additional inputs to the model to improve the accuracy of your project estimate. This will update the Dashboard. Providing more detailed information will result in a more reliable estimate. If you know the answers, feel free to fill them in. If not, just leave them blank and the model will use the default score.

Timber Assumptions

Variable	Unit	Default	Recommended range
Number of Rotations	#	Default = 1	Recommended range: 1 - 1
25-year Carbon Yield	CO ₂ e t/ha	Default = 570	Recommended range: 300 - 840
Carbon Permanence	years	Default = 25	Recommended range: 25 - 100

Financial Analysis

Variable	Unit	Default	Recommended range
Discount rate:	%	Default = 5.6	Recommended range: 3 - 9
Cost Contingency	%	Default = 2	Recommended range: 0 - 20

Establishment and Maintenance Costs

Variable	Unit	Default	Recommended range
Initial Site Preparation Costs	\$/ha	Default = 480	Recommended range: 0 - 1180
Site Roading Costs	\$/ha	Default = 830	Recommended range: 720 - 940
Initial Weed Control Costs	\$/ha	Default = 180	Recommended range: 145 - 215
Seedling Costs	\$/ha	Default = 730	Recommended range: 585 - 875
Planting Costs	\$/ha	Default = 355	Recommended range: 280 - 425
Fertilising Costs	\$/ha	Default = 355	Recommended range: 285 - 425
Initial Pest Control Costs	\$/ha	Default = 175	Recommended range: 140 - 210

Figure 7: Detailed assumptions tab allowing users to review and adjust key forestry, cost and financial variables

FIT can then perform the estimations based on default values. Sources for the default variables range from published literature to subject matter expert interviews and direct market engagement. A full list of variables with default, recommended minimum, and recommended maximum values and their sources/assumptions, plus alternative values, is provided in Appendix A.

Table 2: Remaining variables.

Variable	Description	Unit
Number of rotations	Number of rotations the user wishes to model.	#
Mean annual growth increment, MAI	The average volume of harvestable timber that the forest will grow in a year.	m ³ /ha/yr
25-year carbon yield	The average tonnes of CO ₂ sequestered per hectare, approximated with FullCAM.	t CO ₂ e/ha
Carbon permanence period	The length of time that the plantation will be kept (permanence) – either 25 years or 100 years.	Years
Discount rate	Discount rate is applied to determine the present value of the plantation's future stream of benefits and costs. It represents inflation, risk, and the opportunity costs.	%
Cost contingency	Cost contingency is offered to model the impact of cost increases.	%
Initial site preparation costs	Initial site preparation costs inclusive of site clearing (including coppice management), post-harvest debris management, and land preparation including ripping and mounding.	\$/ha
Site roading costs	Costs for internal civil works.	\$/ha
Initial weed control costs	Costs for herbicide and application.	\$/ha
Seedling costs	Cost for nursery-raised seedlings @1,400/ha, delivered.	\$/ha

Variable	Description	Unit
Planting costs	Labour costs for planting.	\$/ha
Fertilising costs	Cost of fertiliser and application.	\$/ha
Initial pest control costs	Cost for vertebrate and invertebrate pest control.	\$/ha
Water costs	Costs for irrigation water (\$/ML) on the open market.	\$/ML
Water levy rate	Water Levy Rate (derived from Water Allocation Plan).	\$/ML/yr
Management costs	Management cost including fire management and project supervision.	\$/ha/yr
Weed control reapplication costs	Costs for subsequent herbicide application.	\$/ha
Infill planting costs (year 1)	Costs to replant stems where stems have not established in Year 1.	\$/ha
Pest control costs (years 2-5)	Costs for subsequent vertebrate and invertebrate pest control.	\$/ha/yr
Insurance costs	Ongoing annual costs to insure the plantation in case of loss event (damage from natural disaster, etc.).	\$/ha/yr
Site preparation costs (2 nd rotation)	Site Preparation Costs for the second rotation following the harvesting of the initial planting including site clearing (including post-harvest debris management) and site preparation (including ripping and mounding).	\$/ha
1 st thinning costs: contractor	Costs paid for machine-based thinning.	\$/m ³
1 st thinning costs: roading	Cost for roading activities prior to 1st thinning.	\$/m ³
1 st thinning costs: fertiliser application	Cost for later age fertiliser after 1st thinning.	\$/m ³
2 nd thinning costs: contractor	Costs paid for machine-based thinning.	\$/m ³
2 nd thinning costs: roading maintenance	Cost for roading activities prior to 2nd thinning.	\$/m ³
Harvest costs: contractor	Costs paid for machine-based final harvest.	\$/m ³
Harvest costs: roading maintenance	Cost for roading activities prior to final harvest.	\$/m ³
Haulage costs	Costs for transport of harvested material.	¢/m ³ /km
Haulage flagfall	Base charge/minimum call-out fee for haulage.	\$/m ³
Carbon setup fees	This includes project registration, design & planning, on-site inspection, FullCAM modelling, and project coordination costs all required for setup.	\$
Carbon accreditation cycles	The number of offset reports submitted over the project lifetime.	#
First offset report fee	Fee for submitting the first offset report to the Clean Energy Regulator.	\$
Subsequent offset report fee	Fee for submitting subsequent reports to the Clean Energy Regulator.	\$/each

Variable	Description	Unit
Forester inspections	The number of forester inspections over the project lifetime.	#
Forester site inspection fee	Fee for a forester to visit your trees post-planting to assess the health of your project and provide advice.	\$/each
Carbon audits	The number of third-party audits over the project lifetime.	#
Carbon audit fee	Fee for an independent third-party audit.	\$/each
Small sawlog price	Gross landed price of small sawlogs (minimum small end diameter of 130-160mm and a minimum length of 3.9m).	\$/m ³
Large sawlog price	Gross landed price of large sawlogs (minimum small end diameter of 300mm and a minimum length of 3.9m).	\$/m ³
Pole price	Gross landed price for roundwood poles (various diameters and lengths).	\$/m ³
Woodchip price	Gross landed price for softwood logs for chipping (minimum small end diameter of 80mm and a minimum length of 5.0m).	\$/m ³
Carbon price	The spot price of carbon credit units (ACCUs).	\$/t CO ₂ e
Age at 1 st thinning	Age of the forest at which 1 st thinning occurs.	Years
1 st thinning: % small sawlog	The proportion of small sawlogs harvested from the 1 st thinning event.	%
1 st thinning: % sawlogs	The proportion of sawlogs harvested from the 1 st thinning event.	%
1 st thinning: % poles	The proportion of poles harvested from the 1 st thinning event.	%
1 st thinning: % woodchips	The proportion of lengths for chipping harvested from the 1 st thinning event.	%
Age at 2 nd thinning	Age of the forest at which 2 nd thinning occurs.	Years
2 nd thinning: % small sawlogs	The proportion of small sawlogs harvested from the 2 nd thinning event.	%
2 nd thinning: % large sawlogs	The proportion of large sawlogs harvested from the 2 nd thinning event.	%
2 nd thinning: % poles	The proportion of poles harvested from the 2 nd thinning event.	%
2 nd thinning: % woodchips	The proportion of lengths for chipping harvested from the 2 nd thinning event.	%
Age at harvest	Age of the forest at which clearfell harvest occurs.	Years
Harvest: % small sawlogs	The proportion of small sawlogs harvested from the clearfell harvest event.	%
Harvest: % large sawlogs	The proportion of large sawlogs harvested from the clearfell harvest event.	%

Variable	Description	Unit
Harvest: % poles	The proportion of poles harvested from the clearfell harvest event.	%
Harvest: % woodchips	The proportion of lengths for chipping harvested from the clearfell harvest event.	%

2.3.1 Limitations

FIT is intended as a strategic screening and scenario-testing tool to support early-stage decision-making and should not be relied upon as a substitute for detailed feasibility, commercial or technical assessments. Simplifying the complex interactions between forestry, agriculture, environmental constraints, regulations and market forces into an accessible tool for non-specialists requires simplification, assumptions, and generalisations.

Results are influenced by numerous site-specific factors, including location, soil qualities, climate characteristics, species selection, management practices, market access, and landholder objectives, many of which are not readily available to first-time users. Regulatory requirements also vary between jurisdictions and may change over time.

FIT relies on the best available data and assumptions at the time of development; however, key inputs such as establishment and harvesting costs, fuel prices, labour rates, timber values, carbon prices and market demand are subject to change. These can be influenced by inflation, supply chain disruptions, geopolitical events, policy changes and broader economic conditions. Forestry productivity and returns are also inherently uncertain due to seasonal and annual variability, including rainfall, drought, bushfire, pests, disease and the impacts of climate change. As such, outputs should be considered indicative only and periodically reviewed against updated data and market conditions.

2.4 Process/Tool

FIT has two linked functions: a regulatory search function and a cashflow model function. It is coded to operate across both regions (calling the same functions) which enables future expansion into other regions.

The first is a regulatory screening process that uses property coordinates and planning data to indicate whether plantation development is likely to be permitted as-of-right, require approval, or be unsuitable under current controls. This screens for the most significant early-plantation risk – is this property going to have to overcome cost-prohibitive regulatory processes? The second is a discounted cashflow model that estimates costs, revenues and summary financial indicators across the life of a forestry project, considering both timber and carbon pathways. Together, these functions allow FIT to move from broad interest to practical insight: from policy and planning constraints, through to indicative commercial performance. It then links users to services and industry professionals who can guide them through from planning to harvest.

2.4.1 Regulatory Search

The regulatory search requires the user to enter their project or property coordinates and then uses VBA macros to look up the property in public Zone and Overlays lists. A flag has been assigned to each zone and overlay in both Victoria and South Australia. The applicable zone and overlays are reported to the user with corresponding flags. The regulatory search process is shown below in Figure 8.



FIT indicates whether a property is located within an area where plantation development is permitted as-of-right without planning approval, requires planning approval, or is prohibited. All zones within the Green Triangle and Gippsland Forestry Hub were reviewed and categorised using a traffic light system (green, amber and red) based on the applicable planning controls. Table 3 below summarises the outcomes of this review.

¹⁶ State Planning Commission, *Planning and Design Code* (Department of Housing and Urban Development, 2026), Version 2026.10, Part 7, 2694-2698. https://code.plan.sa.gov.au/data/assets/pdf_file/0008/1405817/Full-Code-28052026.pdf.

Table 3: Traffic Light Categorisation for Timber Production (VIC) and Commercial Forestry (SA).

Green

Properties zoned to allow Timber Production or Commercial Forestry as-of-right, without requiring planning approval.

In South Australia, Commercial Forestry is not an as-of-right use in any of the identified zones and is therefore subject to planning assessment and approval requirements.

In Victoria, land within a Farming Zone does not require planning approval, provided the following conditions are met:

Must meet the requirements of Clause 53.11.

The plantation area must not exceed any area specified in a schedule to this zone. Any area specified must be at least 40 hectares.

The total plantation area (existing and proposed) on contiguous land which was in the same ownership on or after 28 October 1993 must not exceed any scheduled area.

The plantation must not be within 100 metres of:

Any dwelling in separate ownership.

Any land zoned for residential, commercial or industrial use.

Any site specified on a permit which is in force which permits a dwelling to be constructed.

The plantation must not be within 20 metres of a powerline whether on private or public land, except with the consent of the relevant electricity supply or distribution authority.

In Victoria, land within a Rural Activity Zone does not require planning approval provided the following conditions are met:

Must meet the requirements of Clause 53.11.

The plantation area must not exceed any area specified in a schedule to this zone. Any area specified must be at least 40 hectares.

The total plantation area (existing and proposed) on contiguous land which was in the same ownership on or after 28 October 1993 must not exceed any scheduled area.

The plantation must not be within 100 metres of:

Any dwelling in separate ownership.

Amber

Properties within zones where Timber Production or Commercial Forestry requires a planning permit.

All other zones and overlays across Victoria and South Australia that are not classified as either green or red require further assessment.

Where a property is identified as green but is affected by one or more overlays, it will be classified as amber due to the potential for additional planning considerations and approval requirements.

Red

Properties within zones where Timber Production or Commercial Forestry is prohibited.

In South Australia, Commercial Forestry is not explicitly prohibited in any of the zones within the Green Triangle.

In Victoria, timber production is prohibited in the following zones:

Activity Centre Zone

Commonwealth Land

Public Conservation and Resource Zone

Public Park and Recreation Zone

Urban Growth Zone

2.4.1.1 GIS

Some of the user input required is spatial data. FIT includes maps that the user can visually extract required information from and enter the data into the required fields.

Maps and their data (some of which have been built upon in this project) include:

- **Global sources:**
 - Regional Forestry Hub Boundaries¹⁷
 - Local Government Area^{18,19}
 - Roads^{20,21}
 - Watercourses^{22, 23}
- **Map 1: Suitable Forestry Areas – Gippsland**
 - Victorian Planning Zone²⁴
 - Victorian Planning Overlays²⁵
 - Parks and Conservation Reserves²⁶
 - Slope (>30deg)²⁷
- **Map 2: Suitable Forestry Areas – Green Triangle**
 - Planning Zones^{24,28}
 - Victorian Planning Overlays²⁵
 - Parks and Conservation Reserves^{26,29}
 - Slope (>30deg)^{27,30}
 - Setbacks buffer 2km (lakes and lagoons)³¹

¹⁷ Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES), *Regional Forestry Hubs boundaries*, (Department of Agriculture, Water and the Environment, 2022), <https://www.agriculture.gov.au/abares/forestsaustralia/forest-data-maps-and-tools/spatial-data/regional-forestry-hubs-boundaries-2022>.

¹⁸ DataShare, *Vicmap Admin - Local Government Area (LGA) Polygon Aligned to Property*, (Department of Transport and Planning, 2025), published 05/12/2025, <https://datashare.maps.vic.gov.au/search?q=uuid%3Dc3f349f9-3ef3-51bd-b5a9-ae650f6d6c24>.

¹⁹ DataSA, *Local Government Areas*, (Government of South Australia, 2024), updated 16/7/2024, <https://data.sa.gov.au/data/dataset/local-government-areas>.

²⁰ DataShare, *Vicmap Transport – Road Line*, (Department of Transport and Planning, 2026), published 12/06/2026, <https://datashare.maps.vic.gov.au/search?q=uuid%3D61f633ae-c18c-5967-a546-84ceb44273f6>.

²¹ DataSA, *Roads (shp)*, (Government of South Australia, 2023), last updated 15/07/2023, <https://data.sa.gov.au/data/dataset/roads/resource/dbd6cc0f-317e-4fc7-b734-b81a518a3f00>.

²² DataShare, *Vicmap Hydro - Watercourse Line*, (Department of Transport and Planning, 2026), published 05/05/2026, <https://datashare.maps.vic.gov.au/search?q=uuid%3Dcc373943-7848-5c21-9be4-7a92632e624c>.

²³ DataSA, *Watercourses in South Australia (ShapeFile)*, (Government of South Australia, 2025), last updated 21/7/2025, <https://data.sa.gov.au/data/dataset/watercourses-in-south-australia/resource/6a439b33-ca43-46dd-8ff7-988e24ef8c77>.

²⁴ DataShare, *Planning scheme zone codelist - Vicmap Planning*, (Department of Transport and Planning, 2026), published 10/06/2026, <https://datashare.maps.vic.gov.au/search?q=uuid%3D2f744af8-9d9d-5fab-85bf-ee36272d0e29>.

²⁵ DataShare, *Vicmap Planning - Planning Scheme Overlay Polygon*, (Department of Transport and Planning, 2026), published 10/06/2026, <https://datashare.maps.vic.gov.au/search?q=uuid%3D47847f20-b7ab-5cb9-8baf-c88ed6500988>.

²⁶ DataShare, *Parks and Conservation Reserves (PARKRES)*, (Department of Transport and Planning, 2026), published 2026, <https://datashare.maps.vic.gov.au/search?q=uuid%3D51d86fdf-8a29-5e09-904f-855319faf2d8>.

²⁷ DataShare, *Vicmap Elevation DEM 10m*, (Department of Transport and Planning, 2016), <https://datashare.maps.vic.gov.au/search?q=uuid%3D2fd9d712-5407-51df-bc75-bb13d37499af>.

²⁸ DataSA, *Planning and Design Code Zones*, (Government of South Australia, 2024), updated 16/07/2-24, <https://data.sa.gov.au/data/dataset/planning-and-design-code-zones>.

²⁹ DataSA, *Conservation Reserve Boundaries*, (Government of South Australia, 2020), updated 16/01/2020, <https://data.sa.gov.au/data/dataset/conservation-reserve-boundaries>.

³⁰ Geoscience Australia, *Digital Elevation Model (DEM) of Australia derived from LiDAR 5 Metre Grid*, (Australian Government, 2019), revised 09/04/2019, <https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search#/metadata/89644>.

³¹ Bioregional Assessment Program, *National Groundwater Dependent Ecosystems (GDE) Atlas*, (Australian Government, 2016), <https://data.gov.au/data/dataset/e358e0c8-7b83-4179-b321-3b4b70df857d>.

- **Map 3: *Eucalyptus globulus* and *Pinus radiata* MAI and ACCUs – Gippsland**
 - *E. globulus* and *P. radiata* MAI and carbon productivity mapping³²
- **Map 4: *Pinus radiata* MAI and ACCUs – Green Triangle**
 - *E. globulus* and *P. radiata* MAI and carbon productivity mapping³³
- **Map 5: *Eucalyptus globulus* MAI and ACCUs – Green Triangle**
 - *E. globulus* and *P. radiata* MAI and carbon productivity mapping³³
- **Map 6: Rainfall – Gippsland and Map 7: Rainfall – Green Triangle**
 - Average annual rainfall³⁴
- **Map 8: Depth of Groundwater**
 - Depth to groundwater mapping³⁵
- **Map 9: Processor Locations – Gippsland**
 - Processor location mapping³⁶
- **Map 10: Processor Locations – Green Triangle**
 - Processor location mapping³³

2.4.2 Cashflow Model

The discounted cashflow model includes costs and revenues entered in the years that they occur. Both costs and revenues are discounted to “today’s dollars” using the discount rate. The balance of discounted costs to discounted revenues for each year is then determined.

Yield (m^3) is an important variable when calculating many of the costs and revenues. Some of the costs are area rates, but some are relative to yield (1st thinning contractor costs, for example, is in $\$/\text{m}^3$). Total yield for each harvesting event is calculated by multiplying the planting size (ha) with the mean annual growth increment ($\text{m}^3/\text{ha}/\text{yr}$) and a skewing offset of the age (yr). This offset is used to approximate a typical growth curve from linear MAI as trees grow faster in their middle years. At first thinning, the age is reduced by seven years to account for slow growth in the early years. At second thinning, the age is increased by six months to account for faster growth between first thinning and second. At harvest, no offset is used.

For calculating yield-dependent costs, the rate ($\$/\text{m}^3$) is multiplied by the yield. For calculating yield-dependent revenues, the yield of each product is determined by multiplying the total yield (above) (m^3) with the proportion assigned to each product at each of the events (%). Revenues are then determined by multiplying the product-specific yield (m^3) by the corresponding price for each product ($\$/\text{m}^3$).

Appendix B shows the cashflow model process.

2.4.2.1 Government Incentives

FIT incorporates government incentives in the cashflow model for projects which meet the basic eligibility criteria. An incentivised case and a non-incentivised case are shown on the dashboard for comparison (see Section 2.5). The incentives included in FIT are:

- Victorian Trees on Farms Program
- Victorian Trees on Farms Utilisation Program.

³² PF Olsen, *Eucalyptus globulus & Pinus radiata* (Gippsland Forestry Hub, 2023).

³³ ESK Spatial, *Plantation Suitability Values (Feature Server)*, (Green Triangle Forest Industries Hub, 2023), <https://experience.arcgis.com/experience/0b96204ba435438080e26ce4ced6ee21>.

³⁴ Bureau of Meteorology, *Average annual, seasonal and monthly rainfall maps*, (Cth 2024), issued 29/05/2024, <https://www.bom.gov.au/climate/maps/averages/rainfall/>.

³⁵ Department of Environment, Water and Natural Resources, *Depth to Groundwater June 2004* in Department of Environment, Water and Natural Resources, *Lower Limestone Coast Water Allocation Plan*, (Government of South Australia, 2012), <https://lc.landscape.sa.gov.au/files/documents/WAA-and-WAP/LLC-WAP-Appendix-Nov-2015.pdf>.

³⁶ PF Olsen, *Processor Locations*, (Gippsland Forestry Hub, 2023).

2.4.2.2 Water Licensing Costs

A key feature of the tool is the estimation of water licensing costs for South Australian projects. A forest water license is required for projects in South Australia that are greater than 20ha or greater than 10% of the title area. This is required under the Lower Limestone Coast Water Allocation Plan (LLC WAP) and is implemented to manage water availability in the region.^{37,38} Victorian projects do not yet need to secure a forest water license; however, introduction of licensing in Victoria is currently being considered.

The LLC WAP licensing requirements capture water reserve impacts from both groundwater use (root draw) and rainfall interception (canopy closure and root interruption). FIT requires users to determine whether their project uses groundwater based on depth to groundwater mapping. Then it determines their deemed water use based on the species (hardwood or softwood), management area (hundred) that the project is in, and interception/groundwater use rates provided in the LLC WAP. A detailed logic flow diagram of water licensing cost is included in Appendix B.

2.5 Outputs

Once established, the discounted cashflow model is automatically interrogated for summary information (shown in Figure 9) including:

- Net present value (\$)
- Net present value, per hectare, per year (\$/ha/yr)
- Upfront capital requirement (\$)
- Breakeven period or payback time (year)
- Potential incentives available (\$).

It also provides a breakdown of project costs, timber revenues and carbon revenues, allowing users to understand the key drivers of financial performance.

³⁷ South East Natural Resources Management Board, *Water Allocation Plan for the Lower Limestone Coast Prescribed Wells Area* (Government of South Australia, 2019), https://lc.landscape.sa.gov.au/files/documents/WAA-and-WAP/lc_wap_amended_29_june_2019_no_appendices.pdf.

³⁸ South East Natural Resources Management Board, *Appendix of Figures and Tables* (Government of South Australia, 2019), <https://lc.landscape.sa.gov.au/files/documents/WAA-and-WAP/LLC-WAP-Appendix-Nov-2015.pdf>.



Figure 9: Dashboard outputs example.

2.6 Next Steps

The Next Steps tab (Figure 10) translates the assessment results into practical actions by directing users to relevant incentives, industry contacts and project planning resources.

Next Steps

Below is some additional information to help you decide on your next steps. For general assistance, reach out to **Lesia Goodwin** at Gippsland Forestry Hub (lesia@gippslandforestryhub.com.au) or **Tony Wright** at Green Triangle Forest Industries Hub (tony@gfih.com.au).

1. Incentives

Your FIT results may have indicated that your project might be eligible for government incentives. These are:

- Victorian Trees on Farms (ToF) Program** - a \$4,000/ha (up to \$80,000) + \$5,000 rebate for registered service provider. Must have an ABN, relevant insurance, and be legally entitled to grow trees on the property.
- Trees on Farms Utilisation (ToFU) Program** - 1 x free forestry inspection. Must have a minimum plot of 3ha and 500mm annual rainfall.

More information can be found on the **Agriculture Victoria website** and in each of the program guidelines:

[AgVic](#)
[VtoF Guidelines](#)
[VtoFU Guidelines](#)

2. Contact a Specialist

The forestry community is abundant with subject matter experts. Expertise ranges from broadly experienced to highly specialised. Detailed site investigations can give accurate approximations of expected yield, and specific forest regime advice. Market experts can link your product to processors and markets. Carbon specialists can estimate your returns and provide advice for navigating ACCU requirements and eligibility. Specialists will be able to give you site-specific next steps.

For **Victoria**, consider the ToFU Professional Service Provider (PSP) list and the Forestry Australia list of registered forestry professionals available here:

[AgVic Professionals](#)
[Forestry Aus Vic](#)

For **South Australia**, consider the Forestry Australia list of registered forestry professionals and PIRSA Forestry Website for general information:

[PIRSA](#)
[Forestry Aus SA](#)

3. Project Management Plan

The **VtoF Project Plan Template** was designed for VtoF funding submissions but can also be used as useful tool for planning your project further. The template is available here:

[Template](#)

Figure 10: Next Steps tab providing links to incentives, forestry support services and project planning resources

Appendix A

Variables and Source

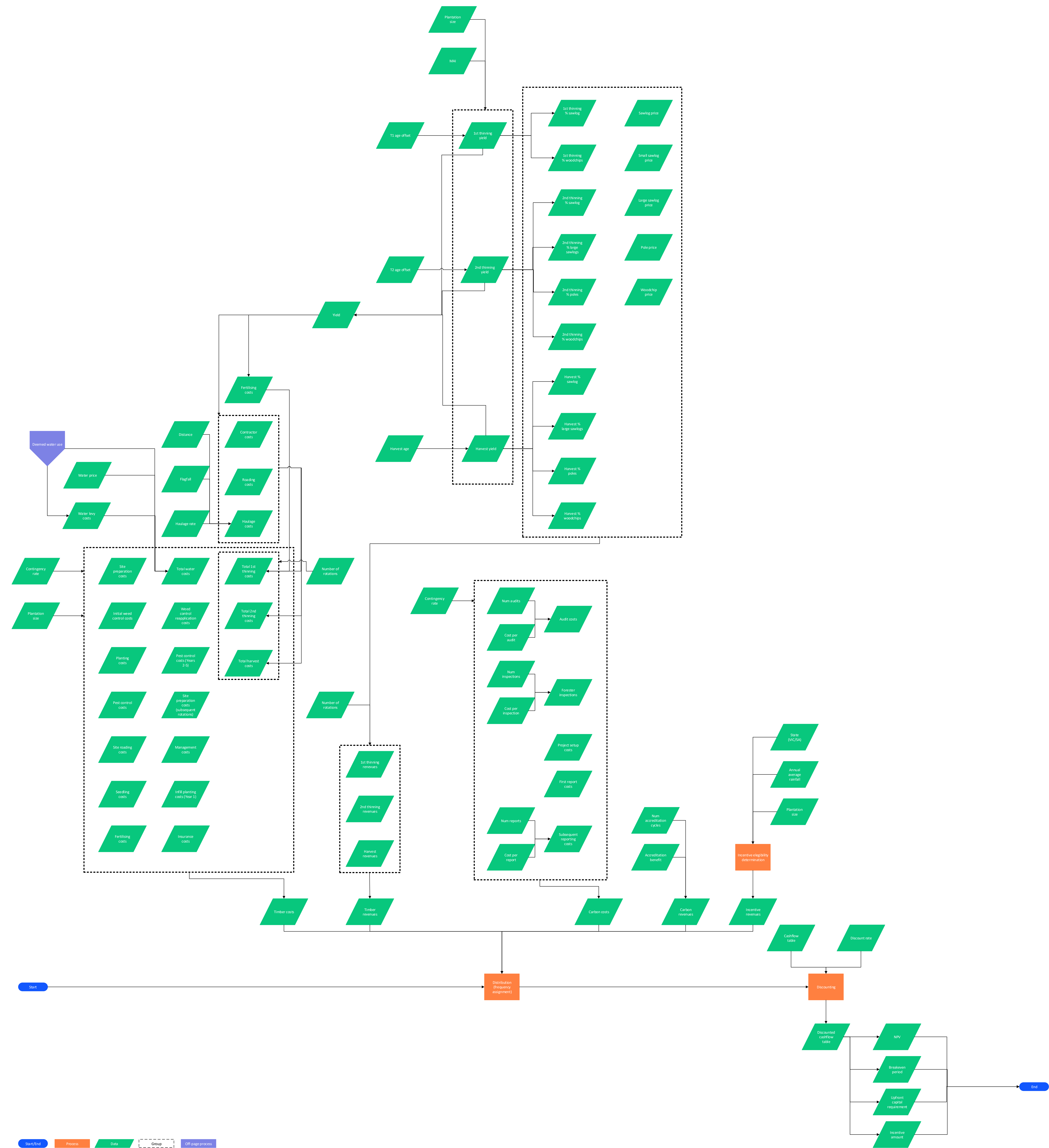
Variables List

Variable	Description	Units	Default	Min	Max	Source	Comments	Default	Min	Max	Source	Comments	
Site Characteristics & Regime													
Planting size	Planting area for the plot	ha	100	0.2	1000	Commonwealth, Carbon Credit Rule 2015, https://www.npcc.gov.au/2020/03/03/contract	Project-specific user data entry - upper bound has been added for tool coding only	100	0.2	1000	Commonwealth, Carbon Credit Rule 2015, https://www.npcc.gov.au/2020/03/03/contract	Project-specific user data entry - upper bound has been added for tool coding only	
MAI	Mean Annual Growth Increment - rate of tree growth	m3/ha/a	25	11	32	Gippsland Forestry Hub Green Triangle Forest Industries Hub, MAI maps (Plantation Suitability Tool)	FWPA, Information Sheet 18 alternatively suggests a default of 20. https://www.gippslandforestry.org.au/wp-content/uploads/2024/04/FWPA_Information_Sheet_18_MAI_maps.pdf Tree Breeding Australia, Breeding Values 2019 alternatively suggests a default of 25.41. https://treebreeding.com.au/breeding-values/2019/breeding-values	25	11	38	Gippsland Forestry Hub Green Triangle Forest Industries Hub, MAI maps (Plantation Suitability Tool)	FWPA, Information Sheet 19 alternatively suggests a default of 20. https://www.gippslandforestry.org.au/wp-content/uploads/2024/04/FWPA_Information_Sheet_19_Trees-for-the-gum.pdf	
Number of rotations	The number of rotations	#	1	1	1	Gippsland Forestry Hub		2	1	2	Gippsland Forestry Hub		
Carbon yield	CO2e sequestered in 25 (or 100) years (depending on settings), per hectare	CO2e t/ha	570	300	840	Gippsland Forestry Hub	Gippsland Forestry Hub suggests alternative maximum of 1000. Maximum set at 840 to maintain the default (570) as the midpoint. Average from National Carbon Accounting System Technical Report No. 41, Australian Greenhouse Office, 2020 suggests an alternative default of 464 (mass balanced)	210	100	400	Gippsland Forestry Hub	Average from National Carbon Accounting System Technical Report No. 41, Australian Greenhouse Office, 2020 suggests an alternative default of 112 (mass balanced)	
Carbon permanence	The length of time that the plantation will be kept (permanence) influences how much sequestered carbon can be claimed. Note: 100 year permanence should only be applied if you are intending to plant multiple rotations spanning a 100-year timeline.	25 yrs.	0.75	0.75	0.95	Clean Energy Regulator, Plantation Forestry Method, https://www.ner.gov.au/sites/default/files/2024/01/carbon-credits-with-schemes/scheme-methods/plantation-forestry-method		0.75	0.75	0.95	Clean Energy Regulator, Plantation Forestry Method, https://www.ner.gov.au/sites/default/files/2024/01/carbon-credits-with-schemes/scheme-methods/plantation-forestry-method		
Financial Rates													
Discount Rate	Discount rate is applied to determine the present value of the plantation's future stream of benefits and costs	%	5.6	3	9	Forestry Australia, Forest Valuation Standards 2025, https://www.forestry.org.au/wp-content/uploads/2025/01/Chapter-4-8-forest-valuation-standards.pdf	Minimum and maximum adjusted to wider ranges to permit user flexibility (from 3.5 and 8, respectively). Gippsland Forestry Hub suggests an alternative default of 3, minimum of 0, and maximum of 15.	5.6	3	9	Forestry Australia, Forest Valuation Standards 2025, https://www.forestry.org.au/wp-content/uploads/2025/01/Chapter-4-8-forest-valuation-standards.pdf	Minimum and maximum adjusted to wider ranges to permit user flexibility (from 3.5 and 8, respectively). Gippsland Forestry Hub suggests an alternative default of 3, minimum of 0, and maximum of 15.	
Contingency	Cost contingency is offered to model unexpected cost incurrences	%	2	0	20	Gippsland Forestry Hub	Gippsland Forestry Hub suggests an alternative maximum of 15%. Increased to 20% to account for increased risk from natural disasters (feedback received from stakeholders).	2	0	20	Gippsland Forestry Hub	Gippsland Forestry Hub suggests an alternative maximum of 15%. Increased to 20% to account for increased risk from natural disasters (feedback received from stakeholders).	
Costs													
Initial Site Preparation Costs	Site Preparation Costs will vary considerably according to the previous land use. The following considerations are included: Site clearing, including coppice management, post-harvest debris management, Site preparation, including ripping and mounding	\$/ha	480	0	1180	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 400 and maximum of 1000 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum has only been included for tool coding	480	0	1180	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 400 and maximum of 1000 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum has only been included for tool coding	
Site Roading Costs	Costs for internal civil works	\$/ha	830	720	940	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 700 and maximum of 800 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum has been set by using the default as the midpoint.	830	720	940	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 700 and maximum of 800 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum has been set by using the default as the midpoint.	
Initial Weed Control Costs	Costs for herbicide and application	\$/ha	180	145	215	Adjusted up to account for inflation Assumed low and high range	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	180	145	215	Adjusted up to account for inflation Assumed low and high range	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Seedling Costs	Cost for nursery-raised seedlings @1,400/ha, delivered	\$/ha	730	585	875	Stakeholder input - One Forty One	Minimum and maximum values assumed as 20% higher and lower than default.	1180	945	1415	Stakeholder input - ArborGen	Minimum and maximum values assumed as 20% higher and lower than default.	
Planting Costs	Labour costs for planting	\$/ha	355	280	425	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	355	280	425	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Fertilising Costs	Cost of fertiliser and application	\$/ha	355	285	425	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	355	285	425	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Initial Pest Control Costs	Cost for vertebrate and invertebrate pest control	\$/ha	175	140	210	Adjusted up to account for inflation Assumed low and high range	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	175	140	210	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Water Costs	Costs for irrigation water (\$/ML) on the open market	\$/ML	1350	900	2250	Waterfind, April 2026		1350	900	2250	Waterfind, April 2026		
Water Levy Rate	Water Levy Rate (derived from Water Allocation Plan)	\$/ML/yr	2.6			Lower Limestone Coast Water Allocation Plan, 2019		2.6			Lower Limestone Coast Water Allocation Plan, 2019		
Management Costs	Management cost including fire management and project supervision	\$/ha/yr	105	85	125	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 90 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	105	85	125	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 90 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Weed Control Reapplication Costs	Costs for subsequent herbicide application	\$/ha	175	140	210	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	175	140	210	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Infill Planting Costs (Year 1)	Costs to replant stems where stems have not established in Year 1	\$/ha	75	60	90	One Forty One	Assumed 10% failure rate, priced at 10% of seedling costs.	120	95	140	One Forty One	Assumed 10% failure rate, priced at 10% of seedling costs.	
Pest Control Costs (Years 2-5)	Costs for subsequent vertebrate and invertebrate pest control	\$/ha/yr	175	140	210	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	175	140	210	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 150 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum and maximum values assumed as 20% higher and lower than default.	
Insurance Costs	Ongoing annual costs to insure the plantation in case of loss event (damage from natural disaster, etc.)	\$/ha/yr	60	50	120	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 50 and a maximum of 100 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum values determined by assuming 20% lower than default.	60	50	120	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 50 and a maximum of 100 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum values determined by assuming 20% lower than default.	
Site Preparation Costs: 2nd Rotation	Site Preparation Costs for the second rotation following the harvesting of the initial planting. The following considerations are included: Site clearing, including post-harvest debris management - Site preparation, including ripping and mounding - Weed control, including herbicide and application	\$/ha	945	710	1180	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 800, a minimum of 600, and a maximum of 1000 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	945	710	1180	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 800, a minimum of 600, and a maximum of 1000 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
1st Thinning Costs: Contractor	Costs paid for contractor machine-based thinning.	\$/m3	27	22	32	FWPA, Private Forestry Guidance Materials 2023, https://www.gippslandforestry.org.au/wp-content/uploads/2023/01/1st-Thinning-Contractor.pdf	FWPA suggested a default of 25, a minimum of 20, and a maximum of 30 in 2023. Adjusted up by 8.3% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	27	22	32	FWPA, Private Forestry Guidance Materials 2023, https://www.gippslandforestry.org.au/wp-content/uploads/2023/01/1st-Thinning-Contractor.pdf	FWPA suggested a default of 25, a minimum of 20, and a maximum of 30 in 2023. Adjusted up by 8.3% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
1st Thinning Costs: Roading Maintenance	Cost estimates for minor roading activities prior to 1st thinning, based on \$ per cubic metre	\$/m3	3	2.5	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	3	2.5	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
1st Thinning Costs: fertiliser application	Cost estimates for later age fertiliser after 1st thinning, based on \$ per hectare	\$/ha	355	295	470	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300, a minimum of 250, and a maximum of 400 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	355	295	470	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 300, a minimum of 250, and a maximum of 400 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
2nd thin cost: Contractor	Costs paid for contractor machine-based thinning.	\$/m3	25	10	35	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 21, a minimum of 10, and a maximum of 30 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	25	10	35	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 21, a minimum of 10, and a maximum of 30 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
2nd Thinning Costs: Roading maintenance	Cost estimates for roading activities prior to 2nd thinning, based on \$ per cubic metre	\$/m3	3	2	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	3	2	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
Harvest Costs: Contractor	Costs paid for contractor machine-based final harvest.	\$/m3	18	12	47	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 15, a minimum of 10, and a maximum of 40 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	18	12	47	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 15, a minimum of 10, and a maximum of 40 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
Harvest Costs: Roading maintenance	Cost estimates for roading activities prior to final harvest, based on \$ per cubic metre	\$/m3	3	2	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	3	2	6	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 2.5, a minimum of 2, and a maximum of 5 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html .	
Haulage cost	Cost of transporting material to processor	cents/m3/km	15	12	35	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 12 and a maximum of 30 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum assumed as 20% below default.	15	12	35	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 12 and a maximum of 30 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum assumed as 20% below default.	
Haulage flagfall	Upfront base booking fee	\$/m3	9.5	7.5	12	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 8 and a maximum of 10 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum assumed as 20% below default.	9.5	7.5	12	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 8 and a maximum of 10 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/inflation-calculator.html . Minimum assumed as 20% below default.	
Carbon Fees													
Setup Fees	This includes Project registration, design & planning, on-site inspections and project coordination costs all required for setup.	\$	20000	0	40000	Gippsland Forestry Hub		20000	0	40000	Gippsland Forestry Hub		
Accreditation Cycles	The number of offset reports submitted over the project lifetime.	#	5	5	25	Gippsland Forestry Hub		5	5	25	Gippsland Forestry Hub		
First Offset Report Fee	Fee												

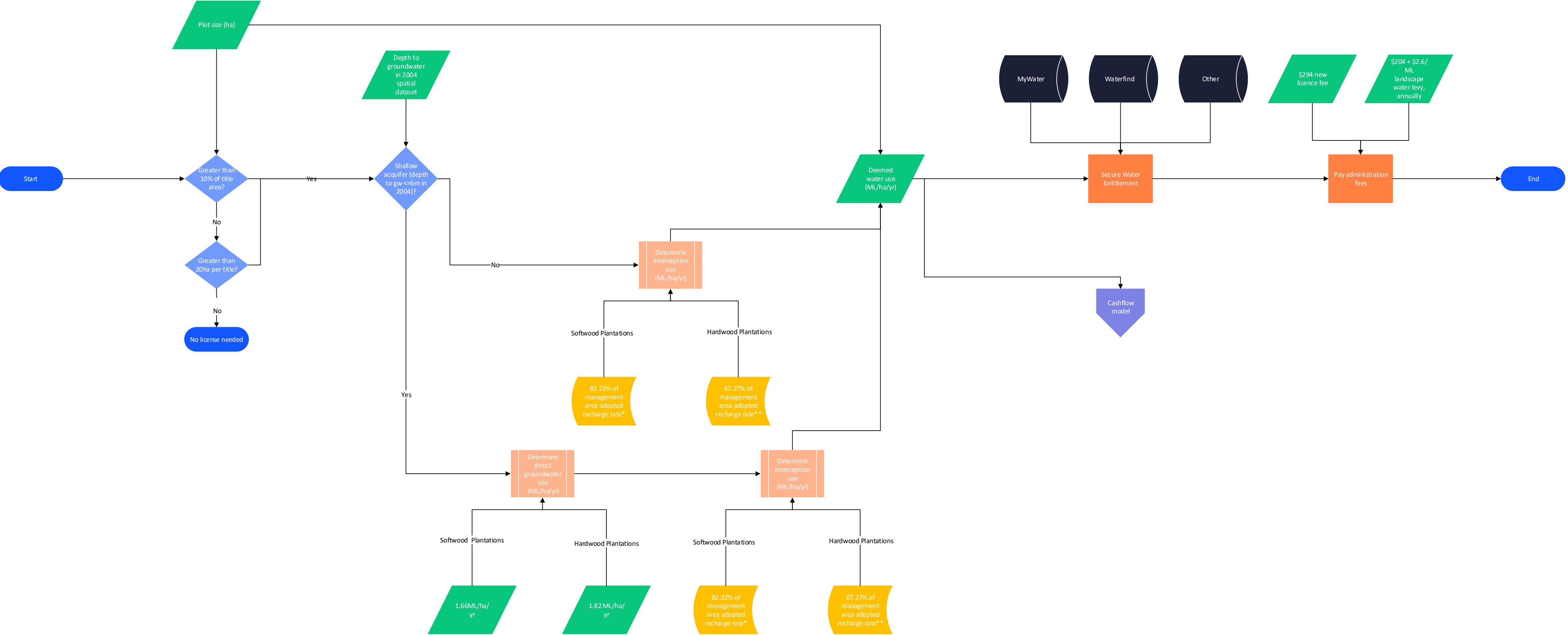
Woodchip	Softwood logs for chipping (SWD) are specified as those with a Minimum Small End Diameter of 80mm and a minimum length of 5.0m. Hardwood logs for chipping (HWD) are specified as those with a Minimum Small End Diameter of 50mm and a minimum length of 4.0m. Prices are indicated as the gross landed price.	\$/m3	90	60	120	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 75, a minimum of 50, and a maximum of 100 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/quarterly.html .	90	60	120	Gippsland Forestry Hub	Gippsland Forestry Hub suggested a default of 75, a minimum of 50, and a maximum of 100 in 2022. Adjusted up by 18% to account for inflation as per Reserve Bank of Australia, Inflation Calculator, https://www.rba.gov.au/calculator/quarterly.html .
Carbon Price	The \$AUD value of Australian carbon credit units (ACCUs), being per tonne of CO2 sequestered per hectare	\$/t CO2e	37	29.6	44.4	Clean Energy Regulator, Quarterly Carbon Market Report June Quarter 2025, https://net-gov.au/markets/reports-and-data/quarterly-carbon-market-reports/quarterly-carbon-market-report-june-quarter-2025/quarterly-carbon-market-reports	Minimum and maximum values assumed as 20% higher and lower than default.	37	29.6	44.4	Clean Energy Regulator, Quarterly Carbon Market Report June Quarter 2025, https://net-gov.au/markets/reports-and-data/quarterly-carbon-market-reports/quarterly-carbon-market-report-june-quarter-2025/quarterly-carbon-market-reports	Minimum and maximum values assumed as 20% higher and lower than default.
Regime Yield												
Age at 1st thinning		Years	15	13	17	Gippsland Forestry Hub						N/A
1st Thinning: % Small sawlogs	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	0	0	40	Gippsland Forestry Hub						N/A
1st Thinning: % Woodchips	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	100	0	100	Gippsland Forestry Hub						N/A
Age of planting at 2nd thinning		Years	22	20	24	Gippsland Forestry Hub						N/A
2nd Thinning: % Small sawlogs	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	53	0	60	Gippsland Forestry Hub						N/A
2nd Thinning: % Large Sawlogs	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	0	0	70	Gippsland Forestry Hub						N/A
2nd Thinning: % Poles		%	0	0	70	Gippsland Forestry Hub						N/A
2nd Thinning: % Woodchips	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	47	0	100	Gippsland Forestry Hub						N/A
Age of planting at harvest	Clearfell age	Years	30	27	40	Gippsland Forestry Hub		12	1	20	Gippsland Forestry Hub	N/A
Clearfell Harvest: % Small sawlogs	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	40	0	50	Gippsland Forestry Hub						N/A
Clearfell Harvest: % Large Sawlogs	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	20	0	65	Gippsland Forestry Hub						N/A
Clearfell Harvest: % Poles		%	23	0	65	Gippsland Forestry Hub						N/A
Clearfell Harvest: % Woodchips	The split of products from each thinning and harvest event can be customised if desired. For each event, the splits must total 100%.	%	17	0	90	Gippsland Forestry Hub		100	100	100	Gippsland Forestry Hub	

Appendix B

Cashflow Model Logic



Logic flow diagram - Water licensing cost



* Assuming 1 year of fallow

** Assuming 1 year of fallow and 2 forest thinning events

