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TITLE: 10-year Production Forecast Modelling – Acacia and Eucalyptus plantations, Vietnam

DATE: January 2026

INTRODUCTION: Vietnam is the largest exporter of wood chips globally, averaging 16.3 million BDMT over the last 3 years (2023-2025).

The current scale of production, dominance of the total market, and the low-cost of supply, raise several important questions regarding the future of wood fibre supplies from Vietnam, specifically relating to these 3 topics:

Quantity: Can current levels of wood chip, biomass and small log production from Vietnam be maintained over the next 10 years? How will this be impacted by management decisions and market dynamics?

Location: Where are the main hubs of plantation fibre production for both pulpwood and small logs? Which provinces and regions are most abundant in potential supply, and where are the choke points and challenges? Which export locations are likely to have a fibre surplus or shortage?

Quality: What would be the impact on supply levels of an increase or decrease in average growth rate, changes in management practice or product assortment? What is the impact on supply of changes in market dynamics for pulpwood (e.g. increased or decreased demand) and solid wood product markets (e.g. fluctuations in furniture or plywood demand)?

DESCRIPTION: This report models a total of 9 scenarios using input data reflecting current best available analysis and assumptions. The model includes 3 base-level scenarios, which are:

Scenario 1: examine the impact of maintaining wood chip exports at current levels.

Scenario 2: examine the impact of maintaining small log production at current levels.

Scenario 3: produce a balance of both pulpwood and log production at maximum levels to optimise annual value and sustainable supply.

These 3 base-level scenarios are then remodelled for higher and lower growth rates and alternative product assortment, as follows:

Scenarios 4, 5, 6: scenarios 1 to 3 are run again with a 15% reduction in growth rate and an increase in the pulp proportion at harvest.

Scenarios 7, 8, 9: scenarios 1 to 3 are run again with a 15% increase in growth rate and an increase in the log proportion at harvest.

METHODOLOGY: The model is based on the official National Forest Inventory (NFI) data provided by the Ministry of Agriculture and Rural Development (MARD) in Vietnam. This data shows the variation in plantation area and age class distribution of the acacia and eucalyptus plantation over a 4-year period (2021-2024). NFI data also includes ownership data for each plantation type and province which helps to inform the management practice and production assumptions.

The NFI data has been supplemented by a desktop review of academic research papers and reports to inform and validate the modelling assumptions. The modelling assumptions are also based on extensive field work in the major plantation growing provinces of Vietnam. This work has been used to develop 6 typical forest management regimes that are commonly used by each ownership category and for specific markets. This work also helped to develop realistic assumptions around growth rate and product assortment. The model runs from 2025 to 2035 (inclusive) with the output in 2025 compared to real production data to assist with the calibration of assumptions.

Additional bespoke analysis and modelling can be completed upon request.

PDF in PowerPoint format (80 slides reporting modelling results)

PDF report = USD 5,500

This report is prepared by Andy Dugan (MPhil, MICFor), an independent forestry consultant based in Da Nang Vietnam, together with assistance from local experts.

Experience includes: 10 years working for UPM in the UK, Asia and South America; 10 years in the biomass supply sector in Europe and North America; 6 years in international forestry consulting (3 years with AFRY, 3 years independent); 4 years in forest management, harvesting and marketing.

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Scenario 1 – Base-Level Scenarios 1 to 3

Scenario 1 - Harvested Area by Management Regime

Comparison of Scenarios 1, 4 & 7 – Maintain Pulp Production

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In scenario IX, due to the higher proportion of young forests and the annual area of new forest, a much higher proportion of young forests are required to be harvested in order to produce sufficient pulp throughout the forecast period. This leads to a much higher total forest area and a lower cumulative harvested area of 52%. To maintain the pulp production level when the mature plantations are producing a lower proportion of pulp at harvest, requires an increase in the harvesting intensity within retired area for pulp production. Over the forecast period this requires to cut 10 million ha harvested from the 3-year age class, compared to just 10 million ha in scenario IX.

Production Regime	Low	Medium	High
Scenario 1	1.0	1.0	1.0
Scenario 4	1.0	1.0	1.0
Scenario 7	1.0	1.0	1.0

Scenario 3 – Pulp Production by Region

Scenario 3 – Log Production by Region

Wood Chip Export Regions – Scenario 3

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Scenario 3 shows a significant increase in wood chip production, particularly in the North and Central regions. The map highlights the regions and their respective production levels, with the North region showing the highest production.

Management Regimes – Growth Rate Assumptions (2)

In selecting the base level (MM) to use for each management regime in the model the available academic research has been used - alongside field observations and reports. For the chosen rotation lengths of 1 to 4-year harvesting, it must be considered that these stands have not yet reached the peak growth phase and management inputs are typically limited as these ownership groups have limited resources and require quick response - the baseline model assumes an MM of XX for 5-year-old stands and XX for 4-year-old stands. Harvesting at 5 years old will typically produce a higher yield, as the crop has had more time in the young growth phase, ownership groups in this management regime typically have the resources for better management therefore an average MM of XX is assumed. For this log production management regimes, harvesting at 5, 12 and 15 years, average MM can be considered to be higher, due to a more complete utilization of the rapid growth phase in the stands before reducing high yield at more mature age. However, existing stands at this age were planted some 30 years ago, before improvements in planting stock and management. Some are also on less favorable soils and therefore not capable of reaching peak growth of around 100. For these management regimes a base level MM of 50 is assumed as an average. This is also consistent with reported harvesting volumes from the field.

Top 15 Provinces - Scenario 3 (Balanced Production and Value)

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The 15 Provinces for Total Volume Production - Vietnam, 2025-2035

The 15 Provinces for Total Value Production - Vietnam, 2025-2035

The current province provide the target quantity of pulpwood with 50% of the total pulpwood production in the target year, followed by the timberwood province with 30%. These values are 50% and 30% for log production.

Scenario Comparison – Value

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The scenario with the highest cumulative value over the forecast period is scenario IX which is the higher growth rate and product assumption favoring log production, with a target of maintaining pulpwood production at 10 million m³ p.a. The consequence of this scenario is that sufficient pulpwood volume is available, due to the lower production quantity per hectare, therefore a large area of young forests are required to be harvested. This results in a very large volume of young forests being harvested in the early years of cycle, giving a high value for the scenario. In reality, log production is much higher than market demand, therefore the scenario is unlikely to be viable without a change in market dynamics. The next highest cumulative value is scenario VII, with high growth and high log production. This scenario, log production is also very high at 30 million m³ p.a. and markets may not be available. In the 3 different management regimes and growth rate assumptions, a different target produces the highest cumulative value. In the base-level scenario, maintaining log production produces the highest return over the forecast period, although the balanced target is only slightly lower.