

Second quarter 2024

# Timberland's expanding investable universe



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## INTRODUCTION

*Timberland earns a position in many institutional investors' portfolios because of its portfolio-level benefits – a lack of correlation with capital markets, ability to hedge inflation, and steady income return. For some investors, portfolio decarbonization is an increasingly important portfolio benefit that also comes from an allocation to timberland. In all cases, the benefits that timberland can bring to a portfolio depend critically on the scale of the allocation and investment selection – and these are decisions that can only be made with a clear understanding of the investable universe. The expanse of the investable universe determines both the set of possible investment strategies and investment scale.*

This is not a new question, so why revisit the investable universe now? According to the 2024 Nuveen EQUilibrium Institutional Investor Survey, almost half (44%) of global institutional investors invest or plan to invest in timberland while 73% of global institutional investors consider or plan to consider environmental impact when making investment decisions. Evolving, investor-specific investment objectives will change what is included or excluded from the investable universe. In particular, management for non-timber values (e.g., carbon and biodiversity values) is expanding, driven by both investor demands and environmental market growth. These dynamics are affecting all parts of the investable universe, from core strategies in developed market geographies to non-traditional strategies in emerging markets alike.

Timberland investment decisions and portfolio design are a function of many factors but perhaps most fundamental is an understanding of the investable universe. We begin by describing the institutional investment universe for timberland and estimate its current size. Next, we characterize the major investment geographies that make up the universe and discuss changes observed over the past decade. We then examine market drivers creating opportunities for expansion of the investable universe. Finally, we conclude with key takeaways for both new and existing timberland investors.

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## THE INVESTMENT UNIVERSE

### How much institutional capital is currently invested in timberland?

Estimates of the investable timberland universe vary widely and the standards of what comprises “institutional” and “investable” are generally unstated or unclear. Those estimates range from US \$200 billion up to US\$400 billion depending on the assumptions and boundaries of the analysis. We narrow our scope to include geographies where there is known investment by large-scale financial institutions such as public and private pension funds or insurance companies. Our study of the investable universe begins with an estimation of current timberland investment and characterization of the major investment geographies.

Institutional sources of capital include both private and public equity.<sup>1</sup> Private equity investments are typically made via timberland investment managers and direct institutional investment. In contrast, public equity investments are made via exchange traded securities in forestry companies that own and manage timberland as part of their business. Altogether, we estimate private

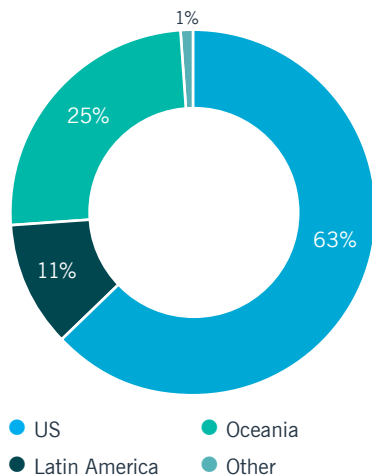
and public institutional capital currently invested in timberland totals at least US **\$132 billion** globally.

To arrive at this total, we start with private equity investment in the asset class. A long-standing industry survey of the 20+ largest timberland investment managers globally reported about US \$57 billion of market value in 2023 (TimberLink, as of 31 Dec 2023). These reported market values show approximately 63% of worldwide holdings were in the U.S., with the majority of assets in the South and Pacific Northwest (PNW). Oceania and Latin America made up 25% and 11% of global timberland market value, respectively, with the remaining 1% allocated to other geographies. On a per acre basis, Oceania had the highest average per acre value followed by the U.S. PNW, U.S. South, and Latin America.

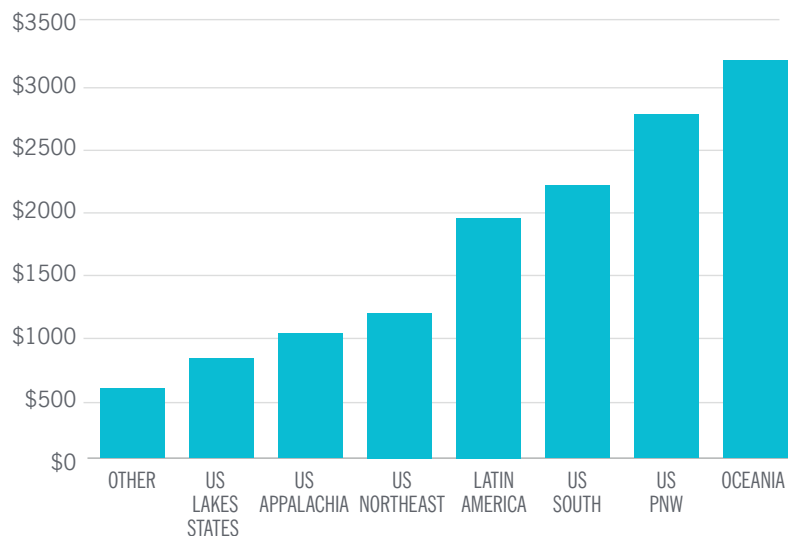
There are several reasons to believe this survey data describing private equity timberland investment likely underestimates institutional holdings and overestimates the proportion of U.S. assets. First, the sample group does not include many smaller and non-U.S. managers, mostly European. In addition, some institutional investors have direct exposure to the asset class and their investments

**Figure 1: Private equity timberland investment, by geography**

*Global distribution of timberland market value*



*Average USD value per acre*



Source: TimberLink as of 12/31/23. Note: “Other” category includes Canada, Europe, Africa, and Asia.

would not be captured in the manager-targeted survey. Adjusting for these factors, the investable universe could increase from about US \$57 billion to US \$84 billion.

We also believe that the industry survey results may overestimate the proportion of U.S. timberland relative to other investment geographies. First, the largest timberland investment managers are U.S.-based and have large allocations to the U.S., likely resulting in an overrepresentation of U.S. timberland in the sample. In addition, the percentage of timberland assets under management (and transactions) by institutions or investment managers is much higher in the U.S. This is due to the asset class being more mature compared to Latin America and "Other" regions where integrated forest products companies maintain large timberland ownerships. For example, in Latin America, Suzano and CMPC own and manage millions of hectares across the continent to support their industrial pulp and paper operations. Similarly, Nordic giants SCA and Stora Enso, leading forest products and pulp and paper companies, are among the largest private forestland owners in all of Europe.

Institutional timberland investment in public equity markets is possible via U.S. timber REITs. The enterprise value of the three major publicly traded, U.S. timber REITs — Weyerhaeuser, Rayonier, and PotlatchDeltic — amounted to about US\$40 billion (as of 31 Dec 23). Because timberland REITs do not generally exist outside the U.S., it is not possible to invest in timberlands owned and managed by large, public integrated forest products companies in Europe or Latin America. However, exposure to these industrial timberlands is accessible via public equity markets. Accounting for timberland owned by publicly traded integrated forest products companies in Latin America and Europe could add another US\$8 billion of institutional timberland to the investment universe, bringing the total for private and public institutional capital up to \$132 billion.

### What does the institutional investment landscape look like today?

Figure 2 shows primary investment geographies for institutional timberland investors.

We include countries with existing institutional investment and where expansion opportunities are likely. Notably excluded from the mapped universe are large parts of Latin America and Europe as well as all of Asia and Africa.<sup>2</sup> Investment geographies shown include both developed and emerging market countries with forest sectors characterized as either established or developing. Based on these characteristics, investable countries fall into one of three groups:

- **Established forest sectors in developed market countries**

These are core timberland investment geographies with a primary focus on management of mature forest plantations to maximize timber production. Annual harvest volumes are relatively smooth and robust domestic and/or export markets are easily accessible. Countries and regions that fall within this group include the U.S., Australia, New Zealand, and parts of Europe. Among institutional investors, these core geographies account for the largest share of current investment and come with the highest per acre values (Figure 1).

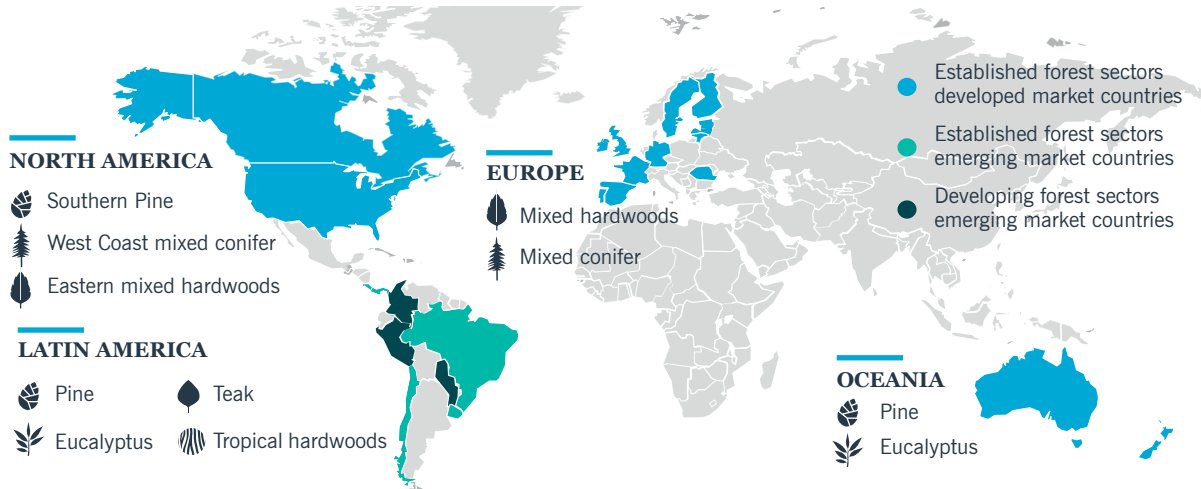
- **Established forest sectors in emerging market countries**

These geographies are attractive for timberland investment because of their well-developed forest sectors and supporting infrastructure with access to strong domestic and/or export markets. At the same time, a range of political and macroeconomic emerging market country risks may impact the operations and/or asset valuations. For commodity eucalyptus and pine production, countries in this group include Brazil, Uruguay and Chile. For high-value tropical hardwood teak production, countries include Panama and Costa Rica.

- **Developing forest sectors in emerging market countries**

Geographies where timber markets are developing may include new or relatively unknown commercial species with underlying investments that often have a significant greenfield component. In some cases, market development or investment in manufacturing may be necessary to fully realize timber values. Depending on the investment, commercial

**Figure 2: Mapping the institutionally investable universe for timberland**



Note: Brazil is shown in teal above -- classified as an emerging market country with an established forest sector. However, the forest sector is still developing in parts of the country and the investment opportunity set is distinct.

timber production may even be a small part of the investment strategy and revenue driver relative to environmental or social impact objectives. This group of countries includes parts of Brazil, Colombia, Peru, and Paraguay.

### Changes in the institutional investment universe

Over the past decade, there is evidence that the investment universe has expanded. A comparison of industry survey results from December 2014 to December 2023, shows a nearly 20% increase in market value worldwide (TimberLink). This increase has been supported by a rise in investors domiciled outside the U.S., which now make up more than half of total market value. As expected from geographies with established forest sectors, where management tends to be centered on certified sustainable timber production, growth of the investment universe in Oceania, Latin America and the U.S. was closely linked to conditions in local timber markets.

While total market value globally was up, a comparison of 2014 and 2023 industry survey results shows that over the past decade, total reported investment area fell by 13% in the U.S. and was down by 8% in Oceania. At the same time, average per acre timberland values in the U.S. and Oceania increased by 24% and 84%, respectively. An increasing amount of capital pushed up against

a fixed land base will lift land prices and put downward pressure on investment return unless revenue per acre increases. To maintain returns in a rising-land value environment, increases in revenue could come from improvements in productivity, increasing timber prices, or the development of additional sources of revenue (e.g., carbon credit sales).

In contrast to the U.S. and Oceania, the industry survey shows that between 2014 and 2023, total reported area in Latin America increased by 8% (Timberlink). However, we believe this observed change vastly underestimates the growth of the plantation base over the ten-year period due to significant timberland investment by integrated pulp producers, like Suzano in Brazil and UPM in Uruguay, for example. Despite the increased area, average per acre values in Latin America were up by 41% over the same period (Timberlink). As the global low-cost producers of hardwood pulp, we see opportunities for continued expansion of the eucalyptus plantation base areas, especially in marginal and degraded pasture in the region.

Geographies characterized by developing forest sectors in emerging market countries are not currently a material part of the timberland investment universe but offer opportunities for expansion. In the absence of well-developed forest sectors, the strategy set in these countries typically includes a non-timber component of return.

For example, in addition to commercial timber production, financial returns may also be supported by agricultural crops (i.e., agroforestry systems)<sup>3</sup> or payments for ecosystem services like carbon sequestration and storage. In the next section, we explore how the development of environmental markets and prices for non-timber values is expanding the scope and scale of opportunities in these geographies.

### Traditional wood product and environmental market growth will drive expansion of the investable universe

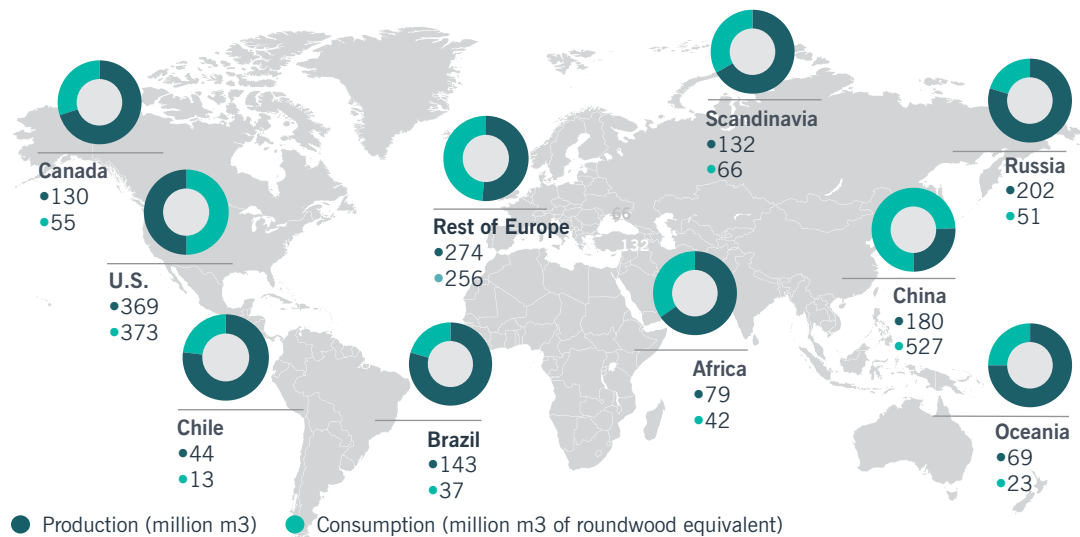
Several market drivers are creating opportunities for expansion of the investable universe. These opportunities represent the difference between current timberland investment and the total investable universe. We expect markets for both traditional wood products and environmental markets will drive future expansion of the investable universe.

As populations grow and economies develop, demand for wood products – lumber, wood-based panels, mass timber and wood pulp – is expected to increase. FAO estimates up to a 45% increase in primary processed wood products consumption between 2020 and 2050, requiring 2.5-2.9 billion

m3 of additional industrial roundwood production (FAO 2022). Others estimate as much as a 200% increase in demand for wood products. Even with the more conservative estimate of 45%, at least 33 million hectares of additional forest – area roughly the size of Germany – would be required by 2050, assuming naturally regenerated forest production remains stable, and the productivity of new plantations improves (FAO 2022; Korhonen et al., 2021).

To meet growing demand for traditional wood products, near-term opportunities for expansion of the investable universe exist in major timber producing countries and regions. Figure 3 shows timber production and consumption for select countries and regions, highlighting both major sources of timber supply and net suppliers to global markets. Timber supply and demand imbalances by country have historically led to major trade flows in primary wood products and this trend is expected to continue. For example, because of China's significant timber deficit, meaningful volumes of wood products flow to the country from globally competitive producers. The U.S. and Europe stand out as two of the largest producing and consuming regions. In addition to growing demand for wood

**Figure 3: Timber supply and demand in select countries and regions**



Source: FAO 2022 using 2020 data. Notes: Wood production is million m3 of industrial roundwood. Wood consumption is calculated as the sum of sawnwood, wood-based panels, and wood pulp all converted to m3 of industrial roundwood equivalent.

products, demand for natural climate solutions (NCS) — mitigating climate change through actions that protect better manage and restore forests to reduce GHG emissions and store carbon — is another driver expanding the investable universe. Markets for carbon credits put a price on activities that increase forest carbon stock, creating incentives for timberland investments that mitigate climate change. For improved forest management, agroforestry, reforestation and forest restoration projects, there is both high confidence in the scientific foundations of, and large potential for climate benefits (Buma et al., 2024). Where there are opportunities to generate high-quality, durable carbon credits from these types of projects, the investable universe will expand. Expansion will be greatest in areas where additional carbon value exceeds any foregone timber value.

Growing markets for nature restoration and biodiversity are driving the expansion of the investable timberland universe in places where there are opportunities to manage for both commercial timber and non-timber values. Most notable are mitigation bank credit markets in the U.S. These markets were designed nearly three decades ago to incentivize the restoration of wetlands, streams, and species habitat to balance unavoidable impacts of development. In 2021, the size of the ecological restoration market totaled about US \$10 billion. A range of other markets for biodiversity are developing and may further expand the investable universe (e.g., see [Investing in Biodiversity](#), Nuveen Natural Capital.)

### **What does this mean for investors?**

Growing demand for wood products and the broad set of environmental benefits, like carbon sequestration and biodiversity conservation from forests, require the expansion of the investable universe. Collectively, we cannot meet the needs of a growing population and address climate change and biodiversity loss without institutional investment in timberland. This means that opportunities for expansion exist across the investable universe however, the scope and scale will depend on the site-specific investment environment and forest sector development.

Additional timber production will be required from intensively-managed plantations to meet

demand for certified sustainable wood products. This means that core timberland will continue to be an important and growing part of institutional portfolios. In mature timber markets — developed market countries where the forest sector is well established — area expansion may be limited. However, in these geographies, we expect steady growth in market size to come from improvements in productivity, efficiency and, in some cases, the addition of revenue from environmental markets for carbon, ecological restoration and biodiversity conservation. Still, the relative impact of management for non-timber values on market value may be limited in core markets where timber values dominate.

In emerging market countries with developing forest sectors, growing environmental markets for carbon, ecological restoration, and biodiversity conservation will significantly expand the investable universe. Positive social impact may also be a focus of investments in these geographies. The added value created by these forces will unlock previously un-investable assets and contribute to additional timber supply to feed growing wood product markets. It is in these areas where we expect to see the greatest opportunity for expansion of the investable universe. In Latin America, positive impact potential is tremendous given the available area for forest restoration and the need to halt deforestation and degradation of natural areas. Recognizing the challenges related to owning and operating timberland in emerging market countries with developing forest sectors, experience of the manager and operating team will be critical to the success and scaling of these types of investments.

The evolution of the asset from commodity-focused production, to certified sustainable forestry, to a more holistic natural capital management reflects underlying changes in the investable universe. The institutionally investable timberland universe is changing to meet present day challenges and an increasingly diverse set of demands from investors. With an understanding of both the investment universe and opportunities for expansion, investors are well positioned to evaluate the set of possible investment strategies and investment to meet their objectives.

**For more information, please visit our website, [nuveen.com/naturalcapital](https://nuveen.com/naturalcapital).**

## Endnotes

### Sources

- 1 Institutional capital may also be invested via debt. We know of no estimates of the quantity of debt financing for timberland but observe that most institutional equity timberland carries low levels of debt. However, there are exceptions among investment managers as well as known financial institutions with dedicated timberland lending platforms.
- 2 We exclude countries and geographies where risks preclude widespread investment by institutions at present, however conditions change over time. For example, although there are institutions that have invested in e.g., China and Argentina, the macroeconomic and political situation there has deteriorated significantly since those investments were made and we no longer consider them to be institutional investable. Similarly, while we generally consider Africa and SE Asia as institutionally un-investable geographies at this time, there are timberland investment managers with modest allocations there. Our current view however, is that the institutional investors may gain exposure to timber markets in those regions through investment in other geographies that export to those regions.
- 3 FAO defines agroforestry as land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) and agricultural crops and/or animals are jointly managed in some form of spatial arrangement or temporal sequence.

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Timberland investments are illiquid and their value is dependent on many conditions beyond the control of portfolio managers. Estimates of timber yields associated with timber properties may be inaccurate, and unique varieties of plant materials are integral to the success of timber operations; such material may not always be available in sufficient quantity or quality. Governmental laws, rules and regulations may impact the ability of the timber investments to develop plantations in a profitable manner. Investments will be subject to risks generally associated with the ownership of real estate-related assets and foreign investing, including changes in economic conditions, currency values, environmental risks, the cost of and ability to obtain insurance and risks related to leasing of properties.

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