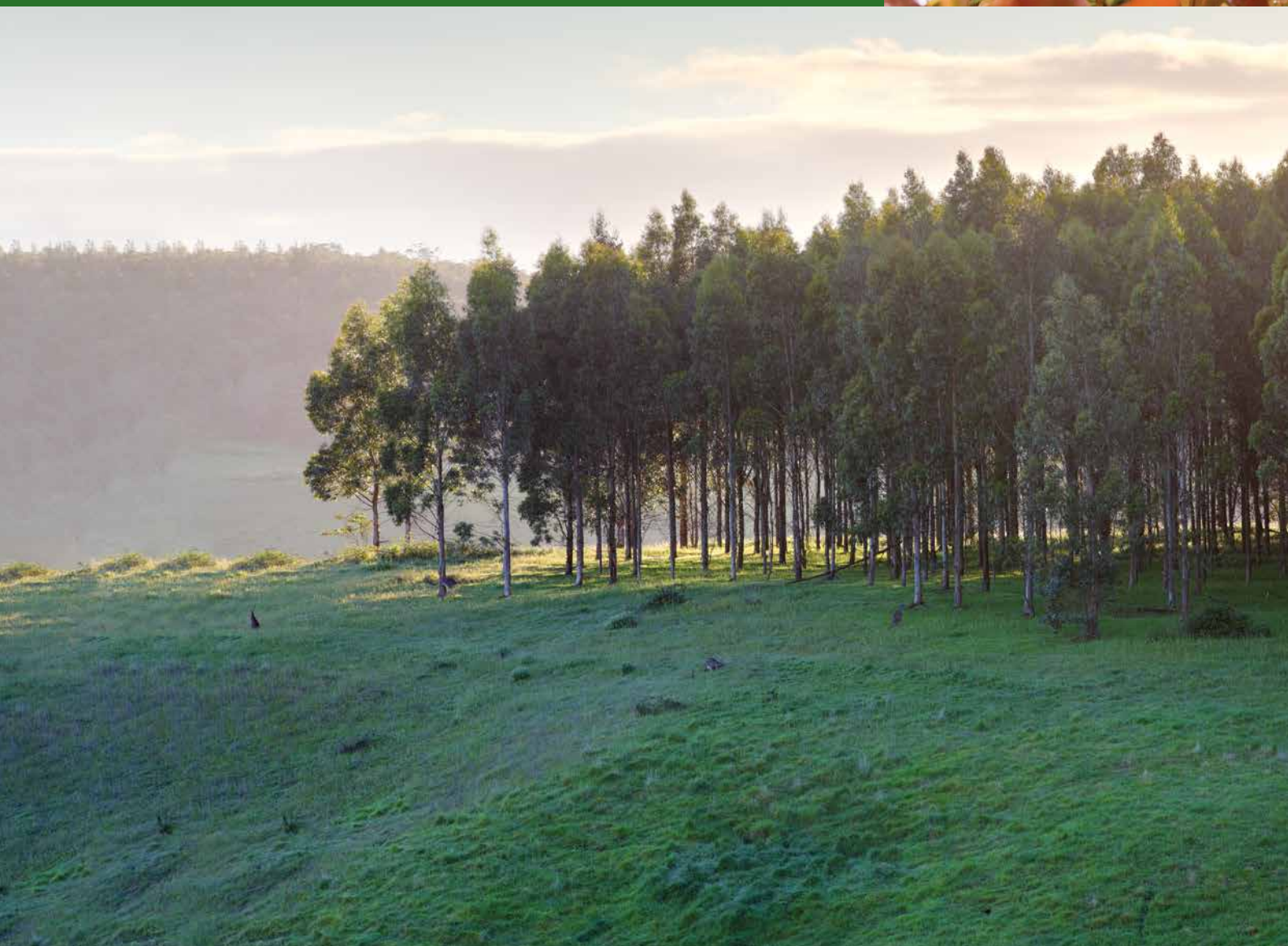
New Forests

Paper

The Rise of Interest in Forestry Investments

Introduction

Forestry investment has grown steadily over the past 35 years to become a core part of many institutional investment portfolios. Traditionally seen as part of an allocation to private real assets, or alternative assets, forestry provides exposure to a wide range of underlying markets for construction timber, pulp and paper, furniture and energy, as well as rural property values.



While most institutional forestry investment to date has been in the United States, the forestry sector operates in all regions of the world, and investors have been steadily expanding into Australia, New Zealand, Europe, South America, Asia and Africa. The conventional forestry asset class has a substantial track record of providing low volatility returns and portfolio diversification benefits as well as, more recently, exposure to emerging commercial opportunities in climate change solutions, conservation finance and the circular bio-economy transition. For these reasons we expect to see rising investor interest in forestry, and an expansion in the scale of investment opportunities.

This paper provides a history of forestry investment, an explanation of the current investible universe of assets available to investors, the role of forestry assets in a diversified portfolio, the investment and asset management process, and the emerging opportunities for the asset class.

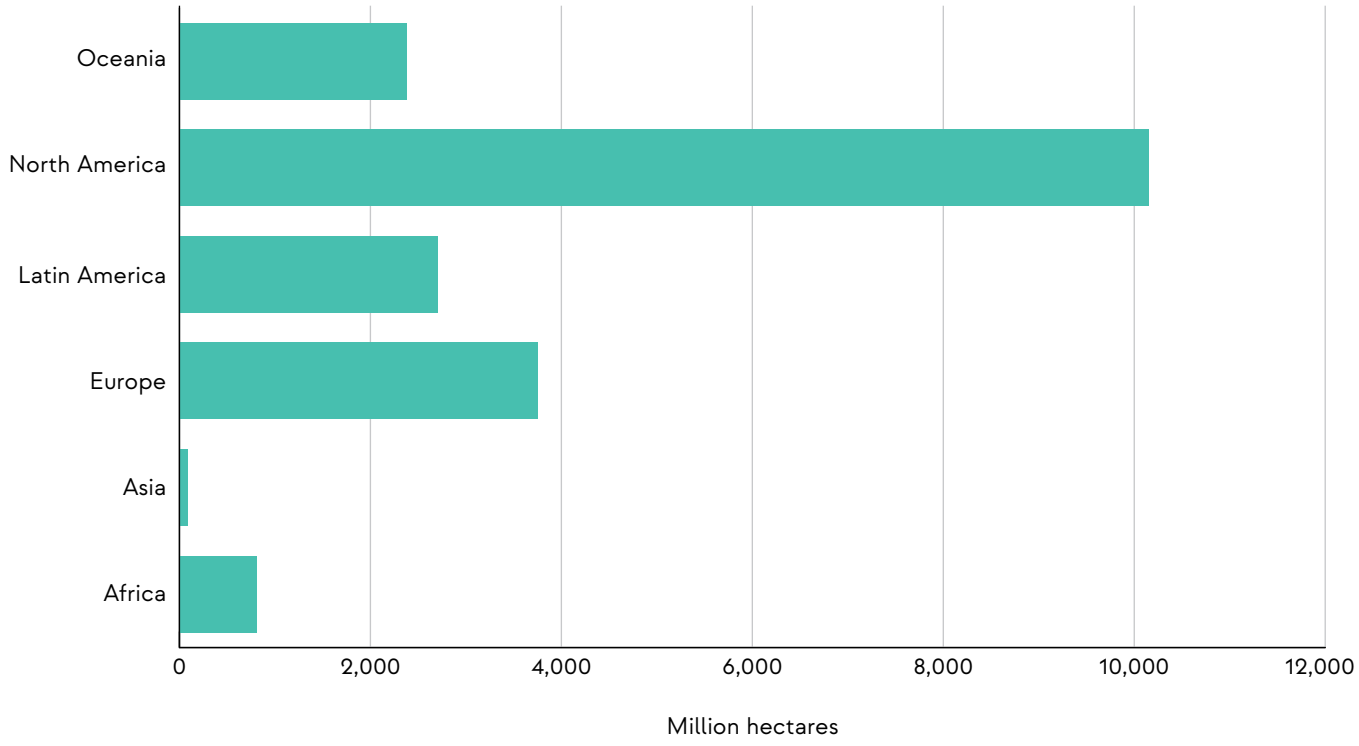
About the Forestry Asset Class

Forestry investment began in the United States in the 1980's[1]. Over the following 25 years, assets were steadily sold from corporate owners to institutional investors. In many cases the corporate owners were facing tax on the capital appreciation of their forestry assets while the institutional investors were able to acquire the assets and receive tax free income and capital gains. There was also a mismatch between the risk-return profile of the forestry assets and the manufacturing assets of listed forestry companies. Market valuations often undervalued the forestry assets leading to pressure from investors to divest the forestry holdings. Most corporate owners either sold their forestry assets or in some cases converted themselves into publicly traded Timberland Real Estate Investment Trusts (T-REITs). While there were a handful of international transactions in Australia, New Zealand and South America, by 2005 over 90% of institutionally owned forestry assets were located in the United States, principally in the extensive commercial forestry regions of the Southeast and the Pacific Northwest.

Over the past 20 years, forestry investment has continued to grow and expand internationally, and while comprehensive data is not available, it appears that the US share of total institutionally-owned forestry asset value is now closer to 60% (see Figure 1). Most of these assets are intensively managed forests for timber production—either timber plantations or managed semi-natural forests. Investor needs vary, but in general, the most prized assets are those with strong fundamentals of good productivity, well-established supply chains and markets, and reasonably stable cash yield. Most assets acquired by institutional investors in the primary market over the past 40 years were well managed corporate forestry plantations and, in some cases, such as in Australia, government-owned forestry plantations.

By the early 2000's, the track record of US forestry returns was attracting interest. Privately held forestry asset returns tracked quarterly by the National Council of Real Estate Investment Fiduciaries (NCREIF) timberland index showed relatively low volatility relative to returns, low or even negative correlation with other asset classes, but positive correlation with inflation. From the perspective of creating a diversified portfolio with sound risk adjusted returns, these are attractive characteristics.

Figure 1: Global forest ownership by financial investors, 2021



Source: RISI Global Timberland Overview Figures, as at 2021

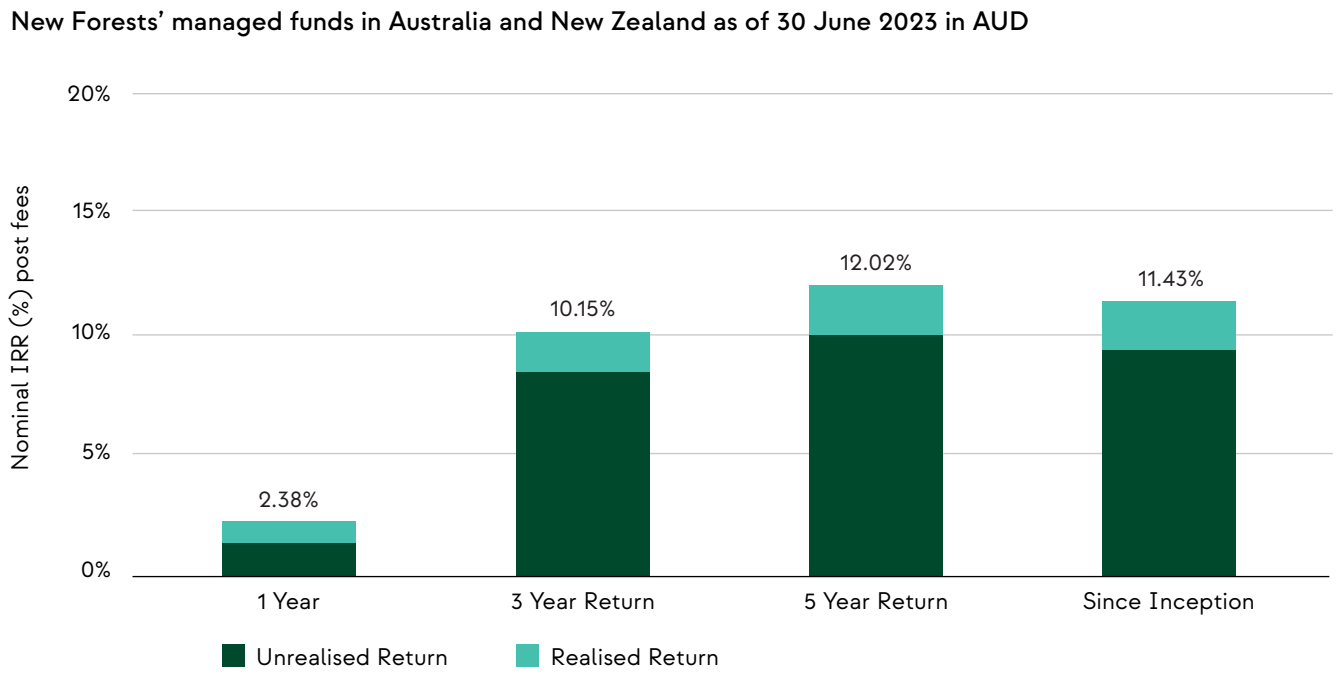
1 For a comprehensive history of forestry investment see Zhang, Daowei. 2021. For Backwoods to Boardrooms. The Rise of Institutional Investment in Timberland. Oregon State University Press, Corvallis.

Drivers of Returns

Forestry returns are driven by the process of biological growth. Trees become more valuable as they become larger. In addition, trees don't have a defined maturity point and harvesting of timber can be brought forward or delayed based on market conditions. The source of returns being from biological growth leads to the low correlation with other financial assets and the lack of a defined maturity point leads to the underlying asset value being less volatile than the markets the forest is exposed to.

While forestry markets outside the United States have not developed an index of asset values and income, anecdotally, the same patterns of low correlation with other asset classes and low volatility relative to returns have been observed. New Forests' forestry investments in Australia and New Zealand, for example, have outperformed the comparable Australian equities and bond indices, with a Sharpe ratio of 1.237. This suggests that the portfolio diversification benefits of forestry in non-US forestry investments are largely consistent with the characteristics seen in the NCREIF data.

Figure 2: New Forests' Returns – Australia and New Zealand



The graph above shows the weighted average total returns (realised and unrealised) for New Forests' managed funds in Australia and New Zealand since inception.[2]

Table 1: Returns and Volatility of Australian Forestry vs Australian Bonds and Equities

	AUS Equity	AUS Bond	AUS Timberland	Risk-free rate
Average Return	7.66%	3.07%	13.00%	2.47%
Excess Return	5.19%	0.60%	10.53%	–
Standard Deviation	14.30%	3.34%	8.51%	–
Sharpe	0.363	0.179	1.237	–

Calculation period runs from 31 January 2014 to 30 September 2023, calculated on a pre-fee, time-weighted basis, gross of fees.

2 New Forests managed funds in Australia and New Zealand are: the New Forests Australia New Zealand Forest Fund (inception 2010), Forestry Investment Trust (inception 2011), Green Triangle Forest Trust (inception 2012) , New Forests Australia New Zealand Forest Fund 2 (inception 2013), Tasmanian Forest Trust(inception 2014, New Forests Australia New Zealand Forest Fund 3 (inception 2017), Eastland Estate Limited (inception 2019), Taieri Forest Limited (inception 2021) and Tasmanian Carbon Afforestation Trust (inception 2022). Returns to 30 June 2023 are net of management fees, performance fees, and fund expenses (including holding company and asset level tax, if any) and are pre-investor tax. 30 June 2023 is the date of the latest audited financial statements and independent asset valuations for the above listed funds. Past performance is not an indicator of future performance.

North America

Forestry markets are global, but there are large pools of existing assets and areas where new forestry plantations can be established on marginal agricultural land. North America represents over a quarter of the world's timber production, with major producing regions in the US South and Southeast (from Texas through to the Carolinas), the US Northwest (Washington, Oregon and Northern California), as well as across Canada. In terms of timber production, about one-quarter of North American timber is harvested from extensive natural forests in Canada and about three-quarters comes from managed forests and timber plantations in the United States. There are also some niche assets such as the hardwood forestry of the US Northeast and Lake States which serve different markets (eg furniture, flooring and cabinetry) from the conventional construction timber and pulp and paper markets.

Across North America there are estimated to be between $US100-150 billion of investible forestry assets. Much of that would be the 16 million hectares of US production forests held by direct institutional investors, forestry investment management firms and listed forestry real estate investment trusts worth about $80 billion in the present market. It should be noted as well that while investors hold less than half of the operating forestry assets in the United States, they would represent the most highly productive and intensively managed forests. While Canada has extensive forestry operations, about 90% of the forest land is held by governments and timber production occurs on a sub-set of that land base leased to the forestry industry. To date non-corporate investment in forestry in Canada has been limited to forestry estates on the private forest land base, which is relatively small compared to the US, likely representing $1-2 billion of asset value. There are, however, some indications that Canada may follow the US pattern of selling down leased forestry assets or entire forestry companies to private market investors given current market valuations.

Europe

Europe is the second major forestry region of the world, with about 20% of the world's timber harvest. This is largely softwood timber principally spruce and pine growing in Scandinavia and northern Europe. Europe has a sophisticated forest products industry across both construction timber and pulp and paper. The same rationalisation that occurred in the United States in forestry ownership has not yet occurred in Europe.

Some of the barriers that prevent a transition to institutional ownership include prohibition of foreign ownership of forests in some countries like Sweden and the fragmented nature of much of the forestry ownership. There are millions of private forest landowners in Europe. Additional barriers include tax rules especially the use of forestry assets by families to avoid estate taxes, and asset prices that seem to reflect very low discount rates compared with other geographies. While the market turnover is much smaller than in North America, several asset management firms have been successfully established to acquire and manage European forestry assets on behalf of investors. Investments have included forestry estates in Sweden, Finland, the Baltics, Eastern Europe (eg Romania and Poland), the UK, especially Scotland, Ireland, Germany, France and Portugal. Given that there is considerable capital available from Euro and GBP denominated investors, it seems likely that ways will be found to steadily expand the participation of private investors in the European forestry sector. While there hasn't been a formal assessment of the scale of the investible universe in Europe it would certainly be in the tens of billions of dollars.

Australia and New Zealand

Australia and New Zealand, often collectively called Oceania, are a smaller player in the global forestry sector with their industry based on approximately 2.7 million hectares of softwood plantation and about 1 million hectares of Eucalyptus plantation, the latter largely established in Australia. Australia is a country of 27 million people with a forestry sector that includes export of Eucalyptus wood fibre to Asia, and domestic softwood processing for the domestic construction market. About 90% of Australia's timber production comes from a plantation base of 1 million hectares of Eucalyptus and 1 million hectares of pine. New Zealand on the other hand is a country of around 5 million people with about 1.7 million hectares of timber plantation, dominated by softwoods, principally radiata pine. With its smaller population, New Zealand has excess timber supply and has become a major exporter to Asia, especially to China.

While Australia and New Zealand collectively represent only about 3% of the world's wood supply, these Eucalyptus and pine plantations are highly valuable and highly prized assets by investors. With Eucalyptus plantations trading for about $US7,000 per hectare and pine plantations trading for about $US14,000 per hectare the total pool of assets is valued at about $US30 to $US35 billion including both the land value and the tree crop value. Already about 60% of these assets are held by private investors, making it one of the most institutionalised pools of assets in the world.

South America

Latin America is a growing part of the global forestry sector, and Brazil, Uruguay and Chile have been of principal interest to private investors. There are approximately 10 million hectares of Eucalyptus and Pine plantation in the three countries, valued somewhere between $US50-$US70 billion. These assets are principally owned by major forestry industry players including Suzano, Arauco and CMTP, as well as some offshore corporate investors like Oji and Nippon from Japan and UPM and Stora Enso from Scandinavia. Latin American companies are the dominant suppliers of market pulp and have been vertically integrated from the forest to the wood processing facilities. Some forestry investors have established themselves in Latin America, but the proportion of assets held by private investors is still small and likely less than 10% of the pool of available assets. The large, listed corporates who dominate the Latin American forestry sector have not needed to sell down their forestry assets because of the availability of low-cost government debt, tax incentives for reforestation and depressed asset values because of difficult conditions for foreign investors. For example foreign investors cannot own freehold land in Brazil and in the past there were capital repatriation restrictions in Brazil. Despite these drawbacks, the opportunities for forestry in Latin America are significant—the highest forestry productivity in the world, substantial availability of land, a well-established forest industry—and this region will attract private investors if the investment conditions are right.

Southeast Asia and Africa

Southeast Asia and Africa have long histories of forestry, largely from the harvesting of natural tropical hardwoods. Much of the natural forest timber resources have been depleted, and there is a need for capital investment to establish sustainable timber plantations and associated wood processing industries. While these regions have higher investment risk characteristics including the leasing of land from governments, complex social issues, less well-developed infrastructure and less access to technical know-how, they also have rising demand for all types of wood products from growing populations, expanding economies and urbanisation. This nexus of risk and opportunity, linked with potential for positive social and environmental impacts has led to a different investor profile in these regions. It is also driving innovations in investment structure, like de-risking elements, blended finance and payments for sustainable development outcomes. Across the tropical forest regions of the world a different kind of forestry asset class is emerging based on a mixed model of timber production, conservation and community engagement.

This paper does not include commentary on Russia and China, which between them represent about 20% of world timber production, mainly from harvesting extensive natural forests in Russia and softwood and hardwood plantations in China. However, despite the significance of these natural resources, there are limited opportunities for private investors in these two countries.

Financial Characteristics of Forestry Investments

Forestry assets are not all the same. In some cases, investors acquire both the land and the forestry assets, in other cases the land is leased from government or indigenous or community ownership and the investors primarily own the forest. In some cases, the assets also include infrastructure like roads, port facilities, or processing facilities like sawmills. Forestry assets can be mature with existing harvesting and steady cash flow, or immature, with limited cash flow and most of the return coming from capital appreciation as the trees grow in size and value.

Forestry markets are also variable. Softwood timber (eg pine, spruce, and Douglas-fir) being used for construction materials[3] and wood pulp[4]. Highly productive Eucalyptus plantations used primarily for wood pulp, high value temperate hardwoods like oaks, maple, and beech and tropical hardwoods like mahogany, teak and meranti used for appearance grade uses like flooring, furniture and cabinetry.

Some forestry assets are principally used in domestic markets, while others, such as in New Zealand are largely exposed to export markets. Finally, forestry assets are increasingly exposed to a range of sources of option value, including carbon markets, conservation finance, water property rights, and potential for wind or solar farm developments. All of this creates potential additional value for investors and requires a manager who is able to oversee an increasingly complex valuation process.

3 Construction materials include lumber, plywood, composites like MDF and engineered wood products like cross laminated timber and glue laminated timber.

4 Wood pulp refers to processing of wood chemically into wood fibre which can then be further processed into paper, packaging, sanitary materials, and fabrics.

Valuing forestry

Valuation of forestry assets today is largely based on discounted cash flow modelling. Forestry assets are projected using growth and yield models linked to each stand of trees in the forest. Linear programming tools like Woodstock or Tigermoth are then used to establish the optimal management regime in terms of silviculture, timber harvesting and protection. Linking these operations with expected costs and revenues provides a future forecast cash flow for the forest which can be discounted to a net present value of the asset. Land is treated either as being embedded into the forestry asset value (meaning that there is no real alternative use of the land) or is treated as a separate asset which charges a lease to the forest based on the inherent land value in regional agricultural markets.

The discount rates applied to forest cash flows vary based on geography, quality of the cash flows, various risk factors like exposure to more volatile export markets, or sovereign risk in emerging markets. While discount rates may shift over time, the general range would be from about 500 basis points over the US risk free rate (eg return on a US 10-year Treasury bill), for conventional assets in the United States, 600 to 700 basis points for Australia and New Zealand, 800 basis points for Latin America and case by case in emerging markets like Southeast Asia and Africa. Europe is something of an outlier with apparent discount rates used in transactions appearing to be in the 300 to 400 basis points range. As noted above, there are other factors, such as tax, which may be creating strategic demand for forestry assets in Europe.

Risks

Forestry assets are exposed to a range of risks. Physical risks include wildfire, windstorms, ice storms, and insect and disease infestations. These risks can be managed by operational controls to some degree or can be transferred by insurance coverage in some cases. Physical risks are also managed by investment diversification across climatic and geographic regions to reduce single event exposures. Market risks relate to volatility in timber markets and resulting timber prices. Most investors accept market risk, but it is also important to understand that some assets are inherently exposed to more volatile market conditions, for example in export markets with complex supply chains.

Investors can also manage market volatility by diversification across geographies, market segments and tree species in their investment portfolios. Forestry assets, like any international investment, will be exposed to a range of financial risks such as currency risks, shifting interest rates, and taxation changes. Investors need to look through the currency of the underlying asset and also consider the currency of the markets—for example log exports and wood fibre trade are undertaken in US dollars, even when underlying assets are in Australia, New Zealand or Latin America. Most investors use limited leverage on forestry assets, recognising that excessive debt can force harvesting of timber in poor market conditions to meet debt payment requirements. Overall, good risk management is a function of selecting assets to create a diversified portfolio of forestry investments across markets and geographies.

Private forestry investments are illiquid, and investors should be considering relatively long investment periods. Buying and selling forestry assets often takes several months to transact and due diligence costs can be in the order of 1% of asset values. Forestry is also a relatively small asset class as noted above, reducing opportunities for investors to deploy capital rapidly. Investors who have acquired good quality assets can expect perpetual cash flows and therefore holding assets for decades in a balanced portfolio may be appropriate to avoid re-investment risks. While early forestry investments were established in fixed term close-end funds, there appears to be a trend towards club deals, direct investments and open-ended investment vehicles with liquidity points.

Investing in Forestry Assets

Generating strong risk-adjusted returns in the forestry asset class comes from a combination of buying well, managing well and exiting well. This section will consider the forestry investment management process and what investors should be looking for in terms of asset and portfolio performance.

Over the past 40 years much of the forestry asset class has been built through what could be considered a primary market—investors acquiring assets from corporates and governments. In many cases these assets came from management strategies not designed to maximise forest value. For example, corporate owners often focused on mill performance rather than forest performance and government owners often lacked a strong focus on financial fundamentals. This allowed investors to acquire good assets at good prices. While there are still opportunities in the so-called primary market, more of the asset turnover is now in a secondary market—financial investors exiting to other investors. Most investors seek to create a competitive market for their forestry assets on exit, often using investment banking intermediaries to attract multiple potential buyers.

Experience indicates that over multiple sales processes there can be substantially different levels of buyer interest. Some asset sales attract multiple bids and sell at premium prices, while others end up with only one or two bids. Good investors remain disciplined and price assets based on the fundamentals of discounted cash flow valuation. New Forests has found, for example, that participating in almost every sale process has led to a success rate of about one-third of assets sold over the past 10-15 years in Australia and New Zealand.

It is also notable that excess returns are also found in periods of economic or industry dislocation or disruption. The wholesale transition of much of the US forestry ownership from industry to investors in the 1990s and 2000s provided excellent opportunities for value creation. Similarly, the restructure of ownership of forestry assets across Australia and New Zealand from the 2000s to 2015 generated substantial returns from focused financial management of assets previously held by Managed Investment Schemes, governments, or financially struggling businesses. Looking to the future, it is worth asking where these opportunities for restructuring forestry assets may emerge next.

Finally, natural capital assets are always embedded in a competition between timber processors, supply chain operators and feedstock owners. In some markets timber supply is plentiful or exposed to limited market outlets and processors, with the upper hand, reap most of the profits. In other markets timber supply is constrained and heavily competed for, and when demand increases, the forest owner can reap substantial profits. In other cases, such as where there are monopoly port operators or shipping constraints, the profits are extracted by the supply chain. These three competing components often shift in their advantage over time and investors should consider the economic position of assets they are considering to acquire.

Management of forestry assets is also evolving rapidly. Fifteen or twenty years ago, forestry management was generally straightforward, with forestry modelling and optimisation tools driving forestry management programs. However, today there is much more opportunity for value creation related to three themes—circularity, optionality and granularity.

Circularity

Circularity is related to the rising recognition of the need to move away from linear processes of using natural resources once and then disposing of them as waste. There is now a worldwide effort to support the transition to a circular bio-economy which can re-use, recycle, or repurpose materials, reducing waste streams. This transition also emphasises moving away from petrochemicals and high embodied energy materials towards natural materials likely wood and wood fibre that ultimately decompose naturally. Forestry has a tremendous opportunity in the coming years to replace everything made from fossils fuels. This is leading to new feedstock partnerships, and new concepts of processing ecosystems where forestry feedstock supports multiple processing transactions for construction materials, fibre-based materials and biomass or biochemical processes.

Optionality

The second opportunity is option value, based on the rising number of new market opportunities for forests and forest land. Regulated and voluntary carbon markets have now been operating for more than a decade, in some cases adding substantially to investor returns. In California and New Zealand, for example, the carbon offset value of a tree often now rivals the stumpage value of the tree. This creates opportunities to redesign forestry management regimes to capture and best optimise these two revenue streams. Many forestry managers have now set up teams to explore opportunities in a range of these values such as water rights, wetland, biodiversity or endangered species credits, leasing of land for wind farms and solar farms, agroforestry projects and recreation or natural heritage values.

Granularity

This leads to the third emerging issue in forestry asset management—the need for more complex geospatial and temporal models to optimise land use at an ever finer, more granular scale. In some areas, for example in the United States and Canada, forestry is seen as a long-term land use, but in areas like Australia, New Zealand, Brazil, Uruguay, and Sub-Saharan Africa, land can be used for agriculture as well as forestry, or a mixture of both. Layering on conservation areas leads to multi-functional landscapes integrating conservation and production. These landscapes are dynamic and will respond to multiple price signals and government regulatory decisions. The past approach of seeing these individual land uses in silos is breaking down as more sophisticated analysis proves able to unlock value. For example, a dataset combining soil type, topography, climate and weather data, linked with forestry and agriculture production can indicate where land use changes to optimise between forestry and agriculture will create value, especially at a level below the whole property. Some properties, exposed to carbon and conservation finance opportunities may be allocated between ecosystem conservation and restoration, forestry plantations and agriculture. As price signals shift, land use may also shift. In much the same way that infrastructure investments like airports saw asset values increase to multiples of the initial asset values, new landscape investment models may add new sources of revenue and increase asset values.

Investors may also consider cases where integrating land use and forestry investments with infrastructure like ports or processing facilities is important to ensuring maximum value to the forestry assets or access to markets. These increasingly variegated investments have the potential to generate substantial increases in both cash flow and asset value, they also can generate substantial increases in both cash flow and asset value.

Investment Strategy and Emerging Opportunities

Investors seek to build diversified portfolios with a consolidated balance of risk and return that meets long term liabilities or investment objectives. This has meant allocating investment across a variety of asset classes which may collectively improve the expected portfolio level return relative to the risk of the overall investment portfolio.

Forestry has been seen as a part of the real assets allocation of most investors, alongside real estate, infrastructure and agriculture. More recently we are seeing institutional investors allocate capital as part of a climate investment, investing in forestry and agriculture for their positive impact on mitigating climate change, in addition to the other attributes around correlation and returns. Forestry and agriculture have also been seen as improving portfolio performance because of low correlation of return volatility with other asset classes and a positive correlation with inflation. However, forestry and agriculture assets have been relatively small components of investment portfolios and to date institutional investors only hold about $US100 to $150 billion of these assets. The participation of institutional investors in forestry and agriculture is increasing, with an example being Australia and New Zealand where over half of the commercial forestry plantations are now owned by investors. Furthermore, a 2023 survey by Schroders and LGPS showed that 59% of UK Local Government Scheme investors expect to allocate to natural capital which includes forestry and agriculture, over the next 12 months.

A typical institutional investor may allocate from 1% to 3% of their overall portfolio to forestry, which may range from hundreds of millions of dollars of assets to billions of dollars of assets. For most medium to large institutional investors, seeking disciplined acquisition of forestry assets, the deployment process may take several years. Investors may set particular objectives in terms of geography, market exposure, expectation of cash yield and potential integration with wider portfolio objectives like climate change mitigation, becoming nature positive or supporting development in rural or emerging market areas. Some of these allocation decisions may be affected by investor portfolio currency denomination, tax status in various jurisdictions and policy settings related to investment restrictions or broader investment objectives.

As forestry investment is a relatively long-term undertaking and given that the underlying assets are perpetual in nature, it is important to also consider the evolving context of existing and new markets in making investment strategy decisions.

One way to think of this is in the context of four questions—where future demand for all forms of timber, wood fibre and biomass will come from, where future wood supply come from, what are the market opportunities and how could global sustainability trends impact investments both positively and negatively. These four issues are considered individually below.

1. **Future Demand:** the current demand for wood is approximately 2 billion cubic metres for subsistence fuelwood and 2 billion cubic metres for what is called ‘industrial roundwood’. Expectations are the demand for industrial roundwood, which is the primary concern of investors, will at least double by 2050. Most of that demand will be driven by:
   - demographics eg where is population increasing
   - by economics eg where are the major areas of economic growth expected to be
   - technology (the potential for substitution) of wood-based materials for fossil fuel based materials and other higher embodied energy or difficult to recycle materials.

   Global demographics have seen the rise of China as the major source of incremental wood demand over the past 25 years, but with population now peaking and starting to decline, Chinese demand growth is expected to slow. Over the next 30–40 years, the rising populations first of India, and then of sub-Saharan Africa, are expected to provide most demand growth for the global forestry sector.

2. **Future Supply:** The evolution of wood supply has been from harvesting primary forests, to secondary managed forests to intensively managed timber plantations. That trend will continue, and it is expected that almost all incremental timber supply will come from intensively managed plantations, and most of those plantations will be in the Southern Hemisphere and tropics. This doesn’t mean that the high-quality forestry assets in Europe and North America will decline in value, but it does mean that the timber supply from these regions is unlikely to increase at the rate of demand growth. Latin America, Australia and New Zealand and the emerging regions of Southeast Asia and Africa are likely to have higher growth in plantation-based timber supply in the coming decades. For investors, it is worth considering both existing mature forestry regions in an investment portfolio but also exposure to intensively managed timber plantations serving the rising demand from the Indo-Pacific region.

3. **Market for Timber and Wood:** Over the past 20 years, there has been a substantial restructuring of the markets for wood fibre. The release of digital devices like the Kindle® and iPad® decimated global newsprint demand, and by the 2010s even printing and writing papers had seen peak demand. However, behind that has been a rising demand for wood fibre in sanitary materials like tissues, paper towels, and diaper filling, in fabrics like Tencel, and in packaging materials like paper bags, cardboard boxes and drink containers. The concept of a circular bio-economy transition is also driving innovation in areas like bio-energy, bio-fuels, bioplastics, biochemicals and even bio-pharmaceuticals.

   In the construction industry, a shift is starting to occur to more engineered materials and prefabrication where factories produce components that are assembled into buildings more quickly on-site. All these shifts again point to the intensification of production of standardised feedstocks from plantations. Tree species like pines, eucalyptus, and poplars have high potential growth rates and can produce standardised feedstocks for multiple purposes. This is also leading to a concept of bio-refineries and processing ecosystems that sequentially use trees for a primary breakdown product like lumber linked with secondary processing of engineered wood materials, wood fibre-based materials and finally biomass-based materials. Investors should explore where these forestry industries of the future are developing and seek to align with the opportunities being created.

4. **Sustainability as a Driver of the Forestry Asset Class:** Most institutional investors are universal owners, with diversified assets on a global scale. In essence this means they are holding a small slice of the global economy in their portfolio, and as such, are exposed to global systemic risks. While these risks include geopolitical issues, they also include global climate change impacts, the systematic loss of nature and instability caused by social injustice and inequality. Forestry has attracted increasing interest as a core part of an emerging 'natural capital' asset class which contributes sustainable, renewable materials to society, but also contributes climate solutions, conservation of nature, and rural and emerging economy development opportunities. While climate change in particular can have negative impacts on poorly constructed forestry investment portfolios, the concept of option value discussed earlier can provide interesting new opportunities for investors. It also starts to lead to a broader consideration of forestry, agriculture and nature conservation as converging into a single high sustainability asset class that breaks down the silos between these land uses and creates flexibility, optionality and positive impacts. For investors this expansion and emergence of a natural capital asset class could provide new opportunities to deploy capital and generate excellent risk adjusted returns.

How to invest in Forestry Assets with New Forests

New Forests' Strategies

New Forests has four unique sustainable forest investment strategies, within the common theme that institutional investors can drive both the productive use and long-term stewardship of global forests and land. These investment strategies offer focused investment opportunities in Australia, New Zealand, the United States, Southeast Asia and Africa.

The company was founded on the sustainable management of production plantation forests in Australia and New Zealand, and this remains the largest concentration of assets under management today. The company manages plantation pine and eucalyptus while optimising management for timber production, carbon sequestration and conservation of the unique ecosystems prevalent to the region. New Forests has three co-mingled fund structures operating in the Australia/New Zealand region; open-ended fund structures to invest in the United States and Africa, and several Separately Managed Accounts (SMA)s.

The investment strategies for our various regions are further described below.

Sustainable forestry in Australia and New Zealand

The Australia New Zealand Strategy continues to be a core forestry investment fund with a portion of of the strategy invested in agriculture and related infrastructure. The Australia New Zealand Strategy is focused on landscapes and land use transition through time. New Forests is looking to create option value by purchasing the land and being able to consider what the highest and best use of that land will be over the life of the fund.

The maturation of the carbon market and the rising carbon offset prices will likely continue to play a role in the strategy as will the emerging bio-economy. We anticipate a greater focus on natural capital solutions by institutional investors as part of a viable path to achieving their net zero commitment goals.

Carbon forestry in the United States

The US Climate Strategy is based on the investment thesis that there is considerable unrecognised value in the carbon stocks of selected US forestland assets, which can be monetised to improve investment returns while sequestering carbon to help mitigate climate change, and improve the sustainable management of US forests.

The US Strategy is based on New Forests' ability to identify and acquire forestland properties in the United States that support higher than average carbon volume at timberland investment discount rates, and to monetise part of that carbon through the creation and sale of carbon offsets within the California Air Resources Board (ARB) Cap-and-Trade carbon offset market.

The additional cash income derived from the monetisation of carbon stocks aims to increase both cash and overall investment returns, while sequestering carbon and improving the sustainable management of US forests.

Sustainable forestry in Southeast Asia

New Forests has established a presence in Southeast Asia since 2008 and managed the first dedicated institutional timberland fund in the region, since 2012.

In 2022, the second Tropical Asia Forest Strategy was launched to build on the climate, biodiversity and community development thesis of the first strategy. The second strategy is focusing on the development of voluntary carbon projects integrated within our investments, which look to optimise our mixed landscape approach, in addition to the production of certified sustainable forestry products.

While closed to new investors, New Forests is looking to continue to expand the platform of sustainable forestry investments in Southeast Asia through co-investment opportunities.

Sustainable forestry in Africa

In Africa we have developed a perpetual capital vehicle, which has a mandate to invest across the forest landscape in plantation forestry assets, sustainable natural forest management, and processing assets in Sub-Saharan Africa.

The African Strategy has been designed to support the growth of the plantation forest sector while also seeking to support forest conservation, restoration of degraded land and expansion of community-based forestry programs.

Drawing on New Forests' approach to sustainability, the African Strategy will focus on four key areas of impact: climate change mitigation, biodiversity conservation, gender and diversity, and community and livelihoods. This strategy has raised $200 million from three investors, with a target of $500 million over the next few years.

Summary and Conclusions

The forestry asset class has evolved over the past 35 years and has the potential to generate strong risk adjusted returns for investors, is uncorrelated to other asset classes, and acts as an inflation hedge.

We are increasingly seeing institutional investors allocate as part of a climate investment, investing in forestry and agriculture for their positive impact on mitigating climate change and contribution to net zero commitments.

These attributes combined with the opportunity for additional value creation related circularity, optionality and granularity, means we expect to see rising investor interest in forestry, and an expansion in the scale of investment opportunities.

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