

SCALING IMPACT INVESTMENT IN FORESTRY



ACKNOWLEDGMENTS

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ABOUT THE GLOBAL IMPACT INVESTING NETWORK

The Global Impact Investing Network (GIIN) is the leading global champion of impact investing, dedicated to increasing the scale and effectiveness of impact investing around the world. The GIIN builds critical infrastructure and supports activities, education, and research that help accelerate the development of a coherent impact investing industry.

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LETTER FROM THE AUTHORS

Dear reader,

The threat of climate change has never been more acute. No major industrialized nation is on track to meet the targets set forth in the Paris Agreement. As the reality of a 1.5+ degree temperature increase and its devastating environmental and societal effects begin to appear inevitable, the need for carbon sequestration, at a massive scale, is indisputable.

At the same time, impact investing—or investing with the intention to generate positive, measurable social or environmental impact—has begun to capture the attention of mainstream financial players and nontraditional, mission-oriented investors alike. Asset owners increasingly recognize that their investment strategies can contribute to a better, more sustainable world. While various investment strategies foster environmental stewardship, sustainable and impact forestry offer both the commercial viability and the scale necessary to stem the effects of climate change.

We are pleased to share this report, *Scaling Impact Investments in Forestry*, which describes the compelling opportunity that the forestry sector presents to impact investors. This report details the motivations of asset owners active in the impact forestry space, and importantly, articulates the constraints that inhibit them from allocating more capital to the market. It also illustrates five common revenue sources for impact investment vehicles active in the forestry space, including sales of timber, carbon offsets, and other forest products and leasing and sales of land.

Finally, this report also describes how forestry-focused impact investors distinguish themselves from conventional investors in the sector by embodying both the spirit and the actions described in the newly launched *Core Characteristics of Impact Investing*, a set of baseline expectations that define sound impact investing.

As we look ahead, we invite you to join us in this effort. Asset owners, what role can forestry investments play in your portfolio as you consider your contribution to our planet and our communities? Asset managers, how will you leverage partnerships and products to inspire action? True climate change mitigation is only possible if we work together, now, to channel capital toward durable, scalable, and highly impactful solutions.



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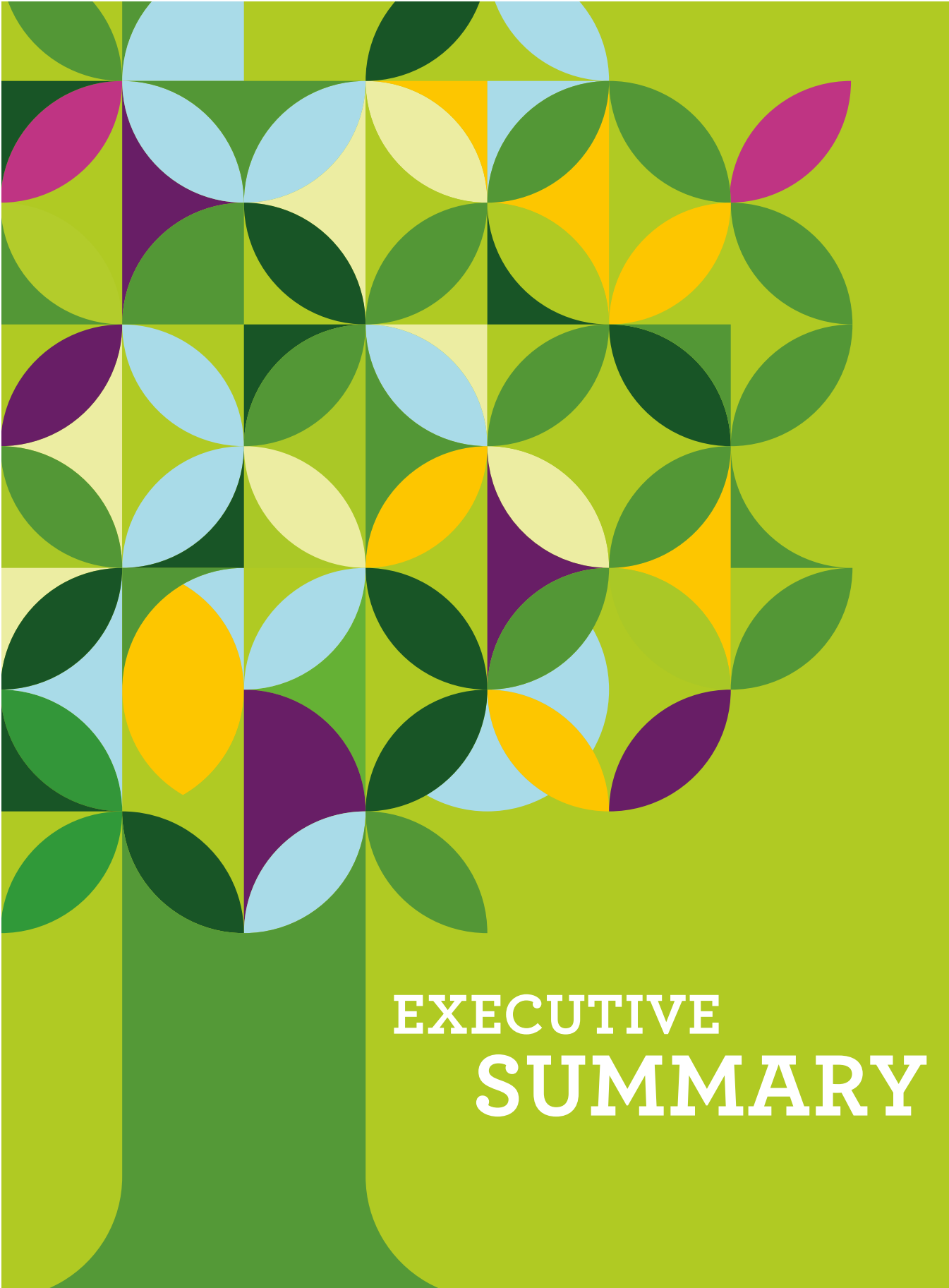
LIST OF ACRONYMS

| | |
|-----------------------|---|
| ASFF | Africa Sustainable Forestry Fund |
| CAP | Criterion Africa Partners |
| CO₂ | Carbon dioxide |
| CTC | Climate Trust Capital |
| DDQ | Due diligence questionnaire |
| ESG | Environmental, social, and governance |
| FSC | Forest Stewardship Council |
| HNWI | High-net-worth individual |
| IFC | International Finance Corporation |
| LAFco | Lyme Adirondack Forest Company |
| LFF | Lyme Forest Fund |
| LP | Limited Partner |
| SFI | Sustainable forestry initiative |
| TAFF | Tropical Asia Forest Fund |
| TIMO | Timber investment management organization |
| WFCE | Working forest conservation easement |
| WFF | Working Forest Fund |

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**EXECUTIVE
SUMMARY**

EXECUTIVE SUMMARY

Sustainable and impact forestry investing has grown steadily over the past two decades, with an increase in both the number of forestry-focused vehicles and the volume of capital being channeled to create environmental and social benefits through the forestry sector. Yet gaps remain between asset managers and asset owners that constrict the flow of capital into the space.

Specifically, asset managers expressed interest in better understanding asset owners' motivations for investment in the sector. Through interviews, asset owners indicated a variety of reasons to target forestry. These include timber's historical ability to hedge against inflation, the predictability of cash flows from forests' biological growth cycles, and – for certain investors with long-term horizons – a portfolio match with the long-term lock-up period associated with forest investments. Further, asset owners and managers both express deep conviction in the ability of forestry investments to generate environmental impacts, such as climate change mitigation and land restoration, as well as social impact, such as community development and quality job creation.

Asset owners, however, did want to better understand the various revenue sources and drivers of risk for forestry-focused asset managers. Five common revenue-generating strategies are described through in-depth fund profiles in this report, namely timber sales, sales of carbon offsets, sales of other forest products, sales of land rights for permanent conservation, and leasing of land and/or land rights. Further, data from a database of 37 forestry vehicles indicate that perceived risk consistently outweighs actual risk.

Building from interviews with asset owners, asset managers, and intermediaries, and from the database of forestry vehicles, this report identifies five opportunities to strengthen and grow the sustainable and impact forestry market that connect asset owners' motivations with asset managers' products and strategies:

- Improving and clarifying product-market fit;
- Using blended finance, particularly to drive investment in untested strategies or markets;
- Developing additional partnerships with conservation organizations for the sales of land rights;
- Integrating vertically for greater operational efficiencies; and
- Strengthening communications between asset owners and asset managers.

This report begins to address some of the communications gaps that restrict capital flows into the sustainable forestry market and seeks to uncover opportunities to unlock further investment. Investment in these vehicles is critical, both to the conservation of critical biodiversity and animal habitat and to the ability to deliver a low-carbon or negative-emission future.

INTRODUCTION

MOTIVATION AND SCOPE

In 2017, the GIIN, in partnership with Cambridge Associates, released *The Financial Performance of Real Assets Impact Investments: Introducing the Timber, Real Estate, and Infrastructure Impact Benchmarks*.¹ This effort launched three impact investing fund benchmarks, which have since been updated quarterly by Cambridge Associates. The performance of the timber benchmark, comprising 18 impact funds at the time of its initial release, compared favorably to that of the conventional timber fund universe, with top quartile funds in the impact universe generating net returns of 8.6% or higher compared to 4.2% or higher among conventional peers.

Many institutional and private investors have historically had allocations to timber in their portfolios, and many have public commitments to impact investing. Following this benchmark report, other investors expressed interest in the timber sector and sought to better understand the sources of this outperformance so as to make informed capital allocations decisions.

Yet asset managers in the sustainable and impact timber space also articulated a persistent challenge in raising capital, particularly as they strove to articulate the real sources of risk and revenues effectively to prospective Limited Partners (LPs) and to better understand the requirements and expectations of those LPs. This challenge contributes to lengthy due diligence processes and correspondingly high transaction costs, thus further restricting the number of high-quality products available to the market and constricting the flow of capital into the timber sector.

This report, the result of conversations with 24 asset owners and managers in the impact and sustainable forestry space, seeks to bridge these gaps by describing the range of forestry investment strategies, detailing specific examples of asset managers' revenue-generating strategies, and exploring asset owners' motivations and constraints for investing in timber. The report also seeks to elucidate differences between conventional, sustainable, and impact forestry and to highlight how asset managers distinguish their strategies along this spectrum.

DEFINITIONS

Impact investing

Impact investments are defined as investments that seek to create positive, measurable social and environmental impact alongside a financial return. Impact investments seek financial returns ranging from competitive, risk-adjusted market-rate returns to capital preservation and can be made across asset classes and geographies.

¹ Jessica Matthews, Kristine Leary, Abhilash Mudaliar, Aliana Pineiro, and Hannah Dithrich, "The Financial Performance of Real Assets Impact Investments," GIIN and Cambridge Associates, May 3, 2017, https://thegiin.org/assets/The%20Financial%20Performance%20of%20Real%20Assets%20Impact%20Investments_webfile.pdf.

Impact and sustainable forestry

A spectrum of types of investment in the forestry sector reflect the range of investors' impact and financial motivations.



Whereas *conventional* forestry investors consider few social or environmental factors into their decision-making, *sustainable* forestry investors manage investments with a longer-term horizon, practicing tenets of environmental stewardship designed to preserve land for future generations' use. Typically, sustainable forestry investors seek to adhere to the core principles outlined in commonly accepted certifications, such as the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI) certifications detailed on pages 8 and 9. *Impact* forestry investors take these principles one step further, moving beyond certifications that seek to restrict detrimental effects on the environment to create additional, positive impact on both the environment and communities affected by their investments.

Interviewed impact investors have cited a number of characteristics of their activity that differentiates investing in impact forestry from other forms of forestry investing:

- Selecting and managing investments with the intention to create positive, measurable social and environmental impact;
- In addition to adhering to commonly accepted certifications for sustainable forestry practices, such as FSC or SFI, regularly tracking and reporting on key impact metrics aligned to the specific social and environmental goals of the investment;
- Managing the results of those impact metrics; and
- Including investment terms reflective of the investment's social and environmental goals, such as a longer-term horizon and impact targets.

METHODOLOGY

To develop the findings and resources in this report, the report's authors:

- Conducted 24 interviews with asset managers, asset owners, and services providers, including consultants, advisors, and law firms active in the sustainable and impact forestry space;
- Compiled and analyzed a database of 37 funds and vehicles in the sustainable and impact forestry sector for their features, sources or risk and return, and impact measurement strategies; and
- Compiled five profiles of specific impact investment funds or vehicles that invest effectively in the forestry sector.



ASSET MANAGER LANDSCAPE

ASSET MANAGER LANDSCAPE

The landscape of impact investment vehicles focused on impact and sustainable forestry remains relatively concentrated among a handful of asset managers. For inclusion into the database, funds had to meet the criteria outlined above, namely to invest in sustainable and/or impact forestry and to demonstrate an intent to generate a measurable, positive social or environmental impact. The 37 private markets funds included, under the purview of nine fund managers, share a number of common characteristics, detailed through this section.

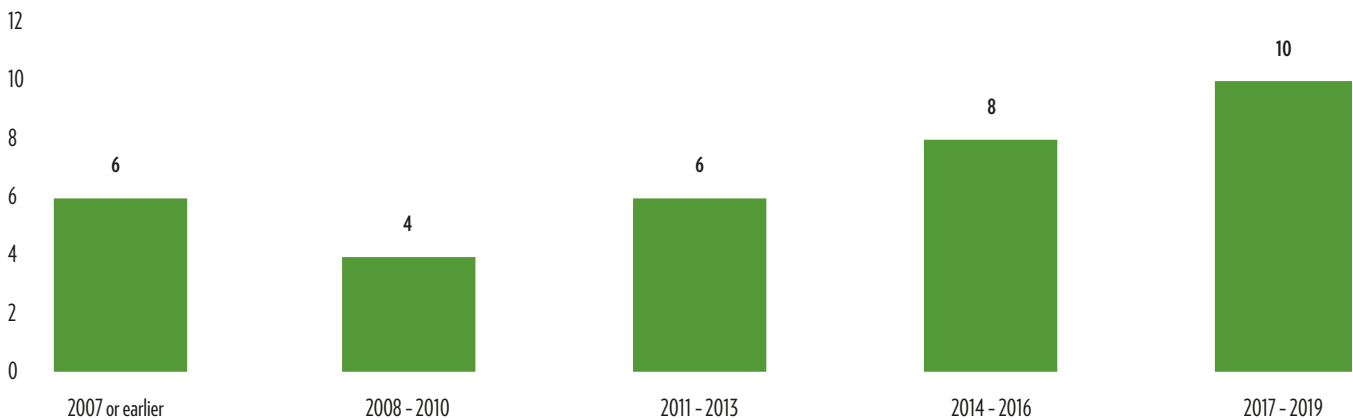
TRACK RECORD

In total, nine managers reported the characteristics, revenue sources, and drivers of risk for 37 funds. Managers indicated a range in the number of funds under their management of one to 12 funds and an average of just over four funds under management. At the median, managers oversee three funds.

All of the funds captured in the database and interviewed for this report were inceptioned in the past two decades (Figure 1). Notably, recent years have seen a rise in the launch of impact and sustainable forestry funds, with eight vehicles inceptioned between 2014 and 2016 and another ten inceptioned between 2017 and 2019.

FIGURE 1: FUND INCEPTION YEARS

n = 34 vehicles



Note: Inception year was unknown for three vehicles.

Source: GIIN

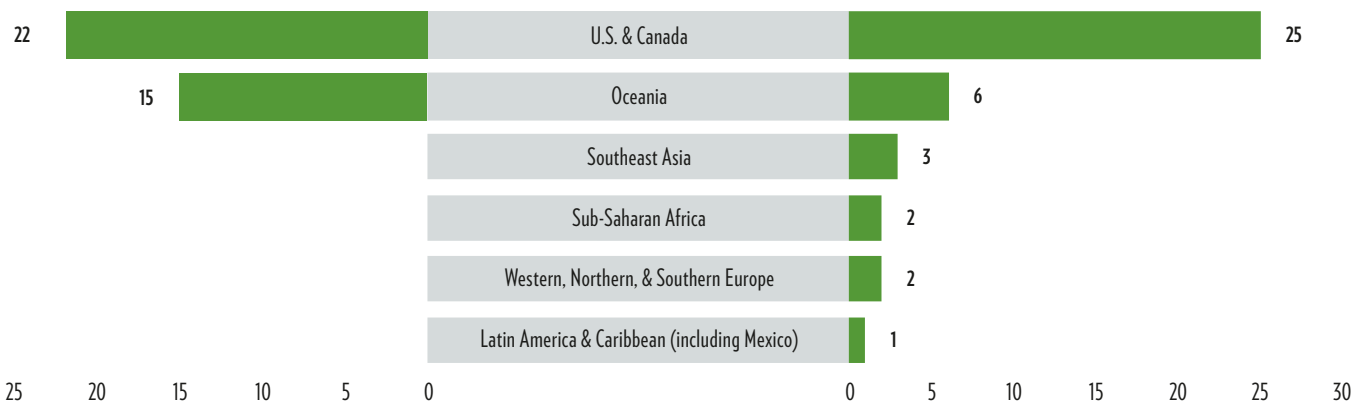


GEOGRAPHY

Sustainable forestry impact investment funds continue to favor developed markets; the majority of such funds are both domiciled in and investing in the U.S. & Canada and Oceania (Figure 2). A small number of funds, however, do deploy capital into emerging markets including Southeast Asia, sub-Saharan Africa, and Latin America and the Caribbean.

FIGURE 2: GEOGRAPHIES OF HEADQUARTER LOCATIONS AND INVESTMENT FOCUS

n = 37 vehicles; left shows vehicle headquarter locations and right shows target regions of investment. Vehicles may invest into multiple regions.



Source: GIIN

FUND SIZES

Altogether, 34 vehicles manage USD 9.4 billion in forestry and related assets.² At the fund level, size varies significantly, ranging from USD 5 million to USD 1 billion, with a median size of USD 176 million. This variance reflects the range of fund investment strategies, wherein fund sizes vary by region of investment, nature of the target forest assets, and impact strategy. For example, the median fund size of organizations allocating to only developed markets was USD 210 million, whereas the median fund size of those focused on emerging markets was USD 144 million.

FINANCIAL & IMPACT TARGETS

All but one fund in the sample target risk-adjusted, market-rate returns. Specifically, annualized, gross returns expectations range from 7% per annum to 18% per annum, with a median target of 8% per annum. Return expectations varied based on the geography of investment and revenue strategy. For example, emerging-market-focused funds target annualized returns of 15% on average, and developed-market-focused funds 10%. Funds generating revenues through the sales of various forest products target returns of 15% (8 funds), and funds sourcing revenues from leasing of land and/or land rights target returns of 13% (5 funds). Funds focused on other revenue sources – such as timber sales, sales of land rights for permanent conservation, and sales of carbon offsets – sought returns of 8% to 10%.³

Most of these funds (73%) primarily target environmental impact, with common strategies including climate change mitigation, land conservation / restoration, biodiversity conservation, anti-poaching efforts, and water stewardship. Another 27% of funds noted that they explicitly target both environmental and social impact. Among these, common target social impact strategies include community development, quality job creation and wage growth, management of land use / land rights conflicts, and health and nutrition. This desire for both environmental and social benefits is widely shared by asset owners. The various strategies for creating impact are reflected in the newly launched Navigating Impact theme for sustainable forestry, described in the box to the right. To measure progress toward these strategies, most asset managers use IRIS or IRIS-aligned metrics.⁴

Notably, all of these funds pursue certification with the Sustainable Forestry Initiative (SFI) or Forest Stewardship Council (FSC), with three exceptions which could not be certified based on their structure. Additional detail about these two certifications can be found on pages 8 and 9.

NAVIGATING IMPACT: SUSTAINABLE FORESTRY

The Navigating Impact project was created by the GIIN to help investors select impact strategies, in this case pertaining to sustainable and impact forestry, and adopt evidence-based metrics that indicate performance toward their goals. The five forestry strategies included in the Navigating Impact project are:

- Increasing production of sustainable timber
- Increasing production of sustainable tree-based products
- Increasing sustainability of local economies and communities
- Improving the Sustainable management of natural resources in forests
- Increasing carbon sequestration through forestry

For more information, please visit
navigatingimpact.thegiin.org.

² Three vehicles did not share data on their size.

³ Notably, many funds generate revenues through multiple sources.

⁴ IRIS is the catalog of generally accepted performance metrics managed by the GIIN; see www.iris.thegiin.org.

Forestry Stewardship Council (FSC)

The Forestry Stewardship Council is a nonprofit organization established in 1993 to encourage environmental stewardship. FSC works with businesses, communities, and environmentalists to improve forestry practices. FSC's certification of responsibly managed forests that meet ten core principles promotes sound management practices among forestry managers globally.⁵

1. **Compliance with laws and FSC principles:** Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory and comply with all FSC Principles and Criteria.
2. **Tenure and use rights and responsibilities:** Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.
3. **Indigenous peoples' rights:** The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.
4. **Community relations and workers' rights:** Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.
5. **Benefits from the forest:** Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.
6. **Environmental impact:** Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.
7. **Management plan:** A management plan — appropriate to the scale and intensity of the operations — shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.
8. **Monitoring and assessment:** Monitoring shall be conducted — appropriate to the scale and intensity of forest management — to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.
9. **Maintenance of high conservation value forests:** Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.
10. **Plantations:** Plantations shall be planned and managed in accordance with Principles and Criteria 1-9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

⁵ For more information, see the Forest Stewardship Council webpage (<https://us.fsc.org/en-us>).

Sustainable Forestry Initiative (SFI)

The Sustainable Forestry Initiative (SFI) is a nonprofit organization that promotes sustainable forest management. SFI offers a forest certification to owners and managers of forestland in the U.S. and Canada that consider water quality, biodiversity, wildlife habitat, at-risk species, and conservation value. The certification is rooted in 13 principles:⁶

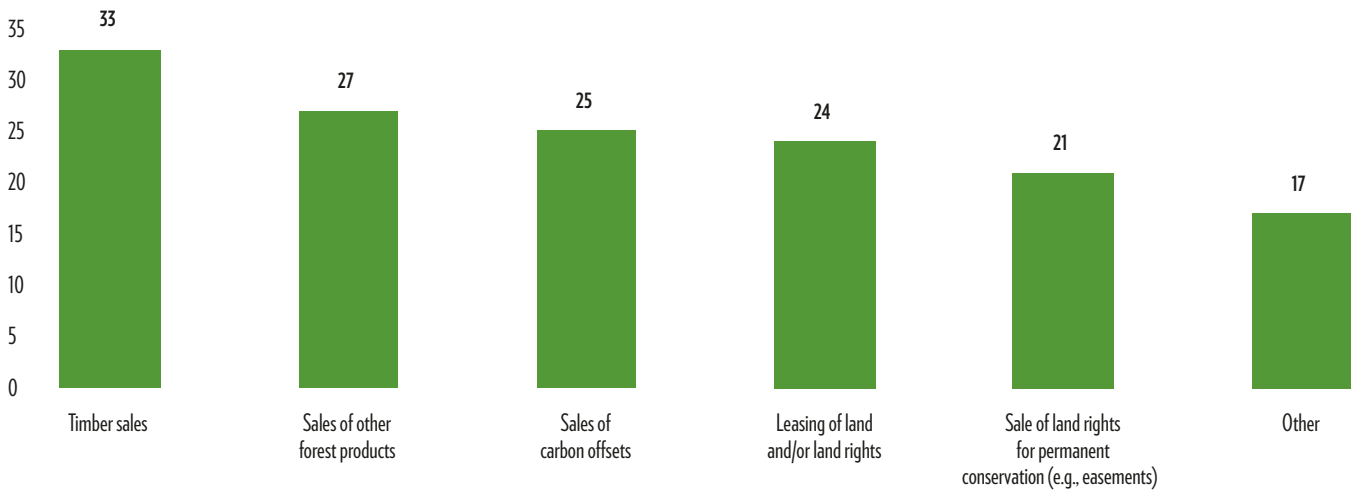
1. **Sustainable forestry:** To practice sustainable forestry to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic that integrates reforestation and the managing, growing, nurturing and harvesting of trees for useful products and ecosystem services such as the conservation of soil, air and water quality, carbon, biological diversity, wildlife and aquatic habitats, recreation and aesthetics.
2. **Forest productivity and health:** To provide for regeneration after harvest and maintain the productive capacity of the forestland base, and to protect and maintain long-term forest and soil productivity. In addition, to protect forests from economically or environmentally undesirable levels of wildfire, pests, diseases, invasive exotic plants and animals, and other damaging agents and thus maintain and improve long-term forest health and productivity.
3. **Protection of water resources:** To protect water bodies and riparian areas, and to conform with forestry best management practices to protect water quality.
4. **Protection of biological diversity:** To manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, and ecological or natural community types.
5. **Aesthetics and recreation:** To manage the visual impacts of forest operations, and to provide recreational opportunities for the public.
6. **Protection of special sites:** To manage lands that are ecologically, geologically or culturally important in a manner that takes into account their unique qualities.
7. **Responsible fiber sourcing practices in North America:** To use and promote among other forest landowners sustainable forestry practices that are both scientifically credible and economically, environmentally and socially responsible.
8. **Legal compliance:** To comply with applicable federal, provincial, state and local forestry and related environmental laws, statutes and regulations.
9. **Research:** To support advances in sustainable forest management through forestry research, science and technology.
10. **Training and education:** To improve the practice of sustainable forestry through training and education programs.
11. **Community involvement and social responsibility:** To broaden the practice of sustainable forestry on all lands through community involvement, socially responsible practices, and through recognition and respect of Indigenous Peoples' rights and traditional forest-related knowledge.
12. **Transparency:** To broaden the understanding of forest certification to the SFI 2015-2019 Forest Management Standard by documenting certification audits and making the findings publicly available.
13. **Continual improvement:** To continually improve the practice of forest management, and to monitor, measure and report performance in achieving the commitment to sustainable forestry.

⁶ For more information, see the Sustainable Forestry Initiative webpage (<http://www.sfiprogram.org/>).

STRATEGIES FOR GENERATING REVENUE

Asset managers focused on sustainable and impact forestry identified several strategies to generate revenues while sustainably managing the forests in which they invest. Common strategies include sales of timber, carbon offsets, other forest products, and land rights for permanent conservation (e.g., easements); and land leasing; among other strategies (Figure 3). These strategies are described in detail, along with illustrative fund examples, throughout this section.

FIGURE 3: STRATEGIES FOR GENERATING REVENUE
 n = 37 vehicles; vehicles may generate revenue through multiple strategies.



Note: Other strategies for generating revenue include sales of minerals, biomass and solar energy generation, downstream manufacturing, and tax credits.

Source: GIIN



Source: Lyme Timber

TIMBER SALES

As with sustainable and traditional forms of forestry investment, impact investments in forestry often generate revenues through timber sales in addition to the capital appreciation of the forest itself. Interim revenues vary by type of timber and its intended use (e.g., furniture, housing and other construction, paper). Additionally, investors can drive business value of the asset through improvements in operations and business management and through the provision of capacity-building support.

New Forests Tropical Asia Forest Fund

New Forests, a real assets fund manager founded in 2005, manages several funds with collectively USD 3.6 billion in AUM, that aim to generate competitive financial returns and social and environmental impact from sustainable timber plantations, rural land management, and conservation investments. Headquartered in Sydney, Australia, New Forests manages approximately 550,000 net hectares of forests across Southeast Asia, Oceania, and the U.S.

It invests in sustainable timber in Southeast Asia through its Tropical Asia Forest Fund (TAFF). The TAFF management team is based in Singapore and engages closely with the regional forest sector as well as supporting its investees. The TAFF targets commercial, market-rate forestry returns while generating environmental and social impact through sustainable forest management, land restoration, conservation, reduction of CO₂ emissions, and rural job creation.

The TAFF manages USD 150 million with investments in Malaysia, Laos, and Indonesia. Southeast Asia's forests contain a large supply of tropical hardwood trees known for their durability, which accounts for a significant proportion of international tropical hardwood sales. Moreover, demand for wood products across Southeast Asia is increasing, driven by the growing middle class in East, South, and Southeast Asia (particularly India and China), providing ample opportunity to tap both regional and international markets. As supplies of natural forests decline, plantation-based timber is needed to meet rising global timber demand. The TAFF capitalizes on this demand by investing in sustainable plantation timber companies.

The TAFF generates returns through income from timber sales, rubber latex sales, capital appreciation from the biological growth of the asset, and improvements of business systems, including for risk mitigation, environmental and social management, and forest resource management. The TAFF has underlying exposure to pulpwood, veneer, hardwood sawlog, and natural rubber markets. Primary markets for pulpwood include domestic and regional pulpmills, while veneer and sawlog markets are strongly supported by regional furniture manufacturing. In some cases, the achievement of forest certifications allows TAFF to access higher value markets or prices.

TAFF was established to invest in forestry plantation companies, bringing a focus on technological and silvicultural improvements and strong ESG standards. The TAFF's holdings are either already FSC-certified or progressing toward FSC certification. New Forests works closely with its TAFF operating companies to improve their environmental and social practices, aiming for compliance with the IFC Performance Standards⁷. For example, it works with consultants to develop Environmental and Social Monitoring and Management Systems and helps recruit company leadership with experience in sustainable forest management.

TAFF investments also seek to support local populations and address risks around land tenure issues and community development. New Forests often uses the same FSC and IFC Performance Standards to help companies implement improvement plans that ensure the health, safety, and well-being of their employees and local communities. For example, Mekong Timber Plantations established a policy to prohibit child labor and to educate its contractors about the risks of child labor. It also worked with consultants to renew its community development programs, including a technical assistance program with the IFC to revitalize the company's outgrower scheme, which was established under prior ownership and was languishing due to lack of markets and support to outgrowers. The other two TAFF operating companies also engage with local communities on livelihoods plantings in Indonesia and piloting agroforestry joint ventures in Malaysia.

As of the end of 2017, TAFF's portfolio includes around 140,000 gross hectares of land across three operating companies with around 46,000 hectares of planted commercial plantations. The TAFF companies planted more than 6,700 hectares in 2017, of which around 3,700 hectares were commercial reforestation, i.e., planting trees where there was not existing forest cover and supporting native reforestation and restoration. The TAFF portfolio companies provided around 2,000 jobs, providing employment and livelihoods opportunities in rural areas of Malaysia, Indonesia, and Laos.

| | |
|------------------------------|---|
| Organization type | Fund manager |
| Inception year | 2005 |
| Headquarters location | Sydney, Australia |
| Geographic focus | Southeast Asia, Oceania, and the U.S. |
| Forestry strategy | Sustainable timber |
| Total organization AUM | USD 3.6 billion across commingled funds and separate accounts |
| Fund profile | Tropical Asia Forest Fund (TAFF) |
| Fund assets under management | USD 150 million |

Investment example: TAFF acquired an 85% stake in Mekong Timber Plantations Ltd in 2017. The company manages 18,000 hectares of eucalyptus and acacia hardwood plantations in Laos and focuses on improved silvicultural practices and responsible forest management.

⁷ The IFC Performance Standards define responsibilities of IFC clients for social and environmental risk management. For more information, see www.ifc.org/performancestandards.

SALES OF CARBON OFFSETS

Carbon offsets are reductions in carbon dioxide or other greenhouse gas emissions intended to counterbalance emissions made elsewhere. Such offsets can be sold to both individuals and organizations seeking to reduce their carbon footprint; the revenues generated from these sales can fund the purchase and sustainable management of forests, among other types of environmentally conscious projects.

Climate Trust Capital

Founded in 2016 by the non-profit The Climate Trust, Climate Trust Capital (CTC) is a for-profit investment manager based in Portland, Oregon. It aims to reduce over 2,000,000 tons of CO₂ emissions over the fund's ten-year life by financing and developing projects that generate carbon offsets.⁸

As a ten-year fund, CTC seeks to generate revenue through carbon offsets, guided by the conviction that they are currently undervalued. It aims to take advantage of this perceived mispricing while providing much-needed upfront capital for conservation finance.

The fund invests in early-stage projects – often with mission-aligned partners – across the United States that reduce greenhouse gas emissions and generate carbon offsets. These include projects in forestry, biogas and grassland conservation – all sectors with a high potential to create positive environmental impact. The projects it supports are recognized under federal, state, or regional regulations (such as the California's Air Resources Board in the investment example) as qualified carbon reduction projects, and the carbon credits these projects issue meet third-party standards such as the Climate Action Reserve.⁹ It takes an active approach, managing projects to help them achieve strong environmental performance and providing particular expertise on the monitoring, verification, and sale of carbon credits.

CTC's investments generate revenue by selling carbon offsets on the carbon market, both through California's cap-and-trade program that leverages economic incentives to encourage emissions reductions and in the voluntary markets. Since the fund's investments are repaid through the sale of carbon credits, which represent a verified and quantifiable reduction in greenhouse gas emissions, the fund's financial returns are directly tied to positive environmental performance. Key financial risks include potential price volatility related to offset supply and volatility of demand in voluntary offset markets, as well as regulatory risks associated with any government mandated program. Offset invalidation is not a material risk, as less than 1% of all compliance offsets have been invalidated.

| | |
|------------------------------|------------------|
| Organization type | Fund manager |
| Inception year | 2016 |
| Headquarters location | Portland, Oregon |
| Geographic focus | U.S. |
| Forestry strategy | Carbon offsets |
| Fund assets under management | USD 5.4 million |

Investment example: Climate Trust Capital invested approximately USD 2.2 million into a carbon offset project along the St. John River in Maine. The project, CTC's largest investment to date, involves a 10-year agreement on 124,000 forested acres. The fund will develop and manage the Upper St. John River through and improved forest management plan.

⁸ The Climate Trust, "\$5.5 Million Investment for The Climate Trust Seeds Carbon Investment Fund," November 23, 2016, <http://www.ecosystemmarketplace.com/articles/5-5-million-investment-for-the-climate-trust-seeds-carbon-investment-fund/>.

⁹ The [Climate Action Reserve](#) is a national program to oversee third-party verification providers, establish standards for carbon offsets, issue carbon credits, and track the sales of credits through a publicly available system.

SALES OF OTHER FOREST PRODUCTS

In addition to the sales of timber, impact investments in sustainable forestry often generate revenues through sales of other forest products to both maximize the productivity of the underlying land asset and to diversify income sources. Such products can vary widely; funds included in this study cited sales of rubber and latex, honeybee products, and minerals, among other sources, as key revenue sources.

Criterion Africa Partners

Criterion Africa Partners (CAP) is a private equity firm that invests in the sustainable forestry industry in sub-Saharan Africa. Through its two funds (the Africa Sustainable Forestry Fund I, with USD 160 million, and the Africa Sustainable Forestry Fund II, first closing of USD 82 million), CAP identifies income-generating solutions to improve forest health and bring about positive social development. CAP invests across the value chain, from plantations themselves to forest product processing and manufacturing companies to biomass energy generation companies. One of CAP's revenue sources is from the sale of sustainably produced timber products, such as plywood, fencing and utility poles, through its investments in timber product processing companies that sell these products in local markets.

CAP's Africa Sustainable Forestry Fund I (ASFF I), launched in 2010, has invested in eight portfolio companies in Swaziland, South Africa, Tanzania, Uganda, and Gabon. The fund manages almost 700,000 hectares of timberland in addition to its investments in processing companies, sawmills, and biomass energy plants. Through these investments – along with its investments in sustainable timber plantations and biomass energy plants – CAP seeks to create environmental impact through sustainable forest management, conservation of natural forest, reduction of CO₂ emissions, carbon sequestration, and the use of biomass to replace fossil fuels. Its timber plantations and forest products are FSC-certified. The fund also seeks to create positive social impact by protecting Africa's natural forests (aiming to reduce the continent's reliance on wood product imports) and employing local populations; ASFF I's investees directly employ over 8,500 people, with salary payments of USD 29 million per year. CAP also seeks to improve health and safety standards in local communities, increasing access to clean water, and providing skills training and other resources like nutrition programs. CAP's initiatives seek to reduce social and environmental risks like worker accidents, pollution, and forest fires.

With its investments in forest product manufacturing, the fund capitalizes on growing local demand for building products. Socio-economic trends in sub-Saharan Africa – such as population growth, increasing urbanization, and the growing middle class – are increasing the demand for wood building products like lumber, panels, and scaffolding. Timber plantations themselves are often unable to capitalize on this demand because they are not directly linked to these end markets or to manufacturing facilities. CAP matches harvested timber with manufacturers who create building products (such as plywood and panels) and generates revenue by selling these in local markets. CAP is also developing industrial processing to manufacture higher value products including plywood, which is critical for pouring concrete infrastructure.

| | |
|------------------------------|---|
| Organization type | Fund manager |
| Inception year | 2010 |
| Headquarters location | Stellenbosch, South Africa and Bethesda, Maryland, U.S. |
| Geographic focus | Sub-Saharan Africa |
| Forestry strategy | Sustainably produced timber products |
| Fund profile | Africa Sustainable Forestry Fund I & II |
| Fund assets under management | USD 242 million |

Investment example: In 2013, CAP invested in Imvelo Forests, a forest management company managing over 3,700 hectares which supplies logs for multiple uses, including building, fencing, and transmission poles.

SALES OF LAND RIGHTS FOR PERMANENT CONSERVATION

Working forest conservation easements (WFCEs) are legal agreements between landowners and eligible organizations such as land trusts or government agencies that restrict future activities on the land to protect conservation values. Easements are based on the notion that ownership of land is simply ownership of a ‘bundle’ of rights to use that land. In common law countries, those rights can be sold individually such that the right to develop a property, access that property, mine on that property, or otherwise significantly shift its use can be sold to a third party. The property owner retains the rights to sustainably manage the forests on that property and generate revenue in accordance with a forest management plan. Land trusts, governments, and private individuals have utilized this model to permanently protect working forests in the U.S., purchasing and extinguishing the rights to develop or alter intact forests, while allowing for the ongoing sustainable operation of those properties as working forests. With some land rights permanently held by these kinds of entities, the value of the property is reduced in accordance with the value of the rights conveyed, which provides an attractive proposition for sustainable forestry fund managers, for whom sale of land rights can provide critical cash flows early in the fund cycle.

The Conservation Fund: Working Forest Fund (WFF)

The Conservation Fund is a nonprofit organization with a dual mission to preserve critical ecosystems and pursue economic development for communities across the U.S. Beginning in 2009, the WFF has worked to conserve over 450,000 acres of ecologically significant forestland to ensure that these forests can provide clean water and air, preserve wildlife habitat, and create economic benefit for communities across America. The Conservation Fund’s WFF works in partnership with public agencies, land trusts, and sustainable timberland managers to secure permanent protection. The WFF typically acquires the forest, holds the asset while it secures a working forest conservation easement, and then resells the forest once the permanent conservation outcomes have been achieved. WFF itself is composed of philanthropic capital, and it uses its balance sheet to own forests until the easements are in place, ensuring that forests are not fragmented or put into non-forest commercial use.

The Conservation Fund’s nonprofit status and longstanding relationships with public agencies has helped the fund develop a strong track record in arranging working forest easements. Moreover, the post-easement forest attracts sustainable forestry managers because the easement effectively lowers the residual value of the fee interest in the property down to the net present value of the allowable tree harvest. Many market-rate-seeking sustainable forestry managers, including several interviewed for this report, acquire these post-easement forests. As such, the role that WFF plays in permanently protecting these large, intact forests, is critical from a conservation perspective.

| | |
|------------------------------|---------------------------|
| Organization type | Nonprofit fund manager |
| Inception year | 1988 |
| Headquarters location | Arlington, Virginia, U.S. |
| Geographic focus | U.S. |
| Forestry strategy | Conservation easements |
| Fund profile | Working Forest Fund |
| Fund assets under management | USD 250 million |

Investment example: In 2018, The Conservation Fund purchased a 32,000-acre property in Northwest Pennsylvania, with plans to work with the commonwealth to put in place working forest conservation easements over time. The Conservation Fund used a variety of funding sources, including traditional debt from a bank.

LEASING OF LAND AND/OR LAND RIGHTS

Managers that own forest assets can offer leases, or temporary rights to hold and use land, to a wide range of lessees, for a fee. Those lessees do not hold rights to the real, underlying property but can use the land for a range of purposes, including hunting, fishing, and other recreational pursuits.

Lyme Timber Company

The Lyme Timber Company is a timber investment management organization (TIMO) that has been investing in and managing timberland and rural real estate across the U.S. and Canada since 1976. Since 2002, Lyme has made sustainable forestry investments through pooled private equity funds, executing or initiating conservation strategies on over 850,000 acres. Lyme's fifth fund, The Lyme Forest Fund V, closed in 2018 with USD 300 million in capital commitments.

Lyme's sustainable forestry investments often fill gaps in larger conserved landscapes, and the protection of the lands help to deliver ecosystem services, including the protection and restoration of streams and wetlands, protection of clean water supply, habitat conservation, carbon sequestration, flood control, air quality maintenance, soil regeneration, and recreation and tourism. Lyme's primary conservation strategy is the sale of WFCEs, such as those described in the previous profile, to permanently conserve them. WFCEs limit sub-division and development to preserve conservation value, but they allow for sustainable timber harvesting and certain other revenue generating strategies such as recreational leasing. Depending upon the terms of any WFCEs or carbon encumbrances on the lands, recreational leases to local hunting, fishing, and other recreational groups can be sold to generate annual income. WFCEs also keep lands in private ownership and on the tax roll, often allow for public access and recreation, and transfer with the property to those that will own it in the future. Lyme's working forest investments also generate cash flows through timber harvesting, the sale of the property, and, to a lesser extent, carbon projects.

Lyme manages its lands for sustainable production. All of Lyme's working timberland properties are third-party certified to one or both of the two leading sustainable forestry certification programs: FSC and SFI. Lyme also secures community and environmental benefits through below-market financing arrangements. For instance, concessionary financing has enabled Lyme to make investments for safer, better-paying jobs in rural communities.

| | |
|------------------------------|---|
| Organization type | Timber investment management organization |
| Inception year | 1976 |
| Headquarters location | Hanover, New Hampshire, U.S. |
| Geographic focus | U.S. & Canada |
| Forestry strategy | Land conservation, sustainable forest management, below-market financing to secure environmental and community benefits |
| Fund profile | Lyme Forest Fund V (Fund V) |
| Fund assets under management | USD 300 million |

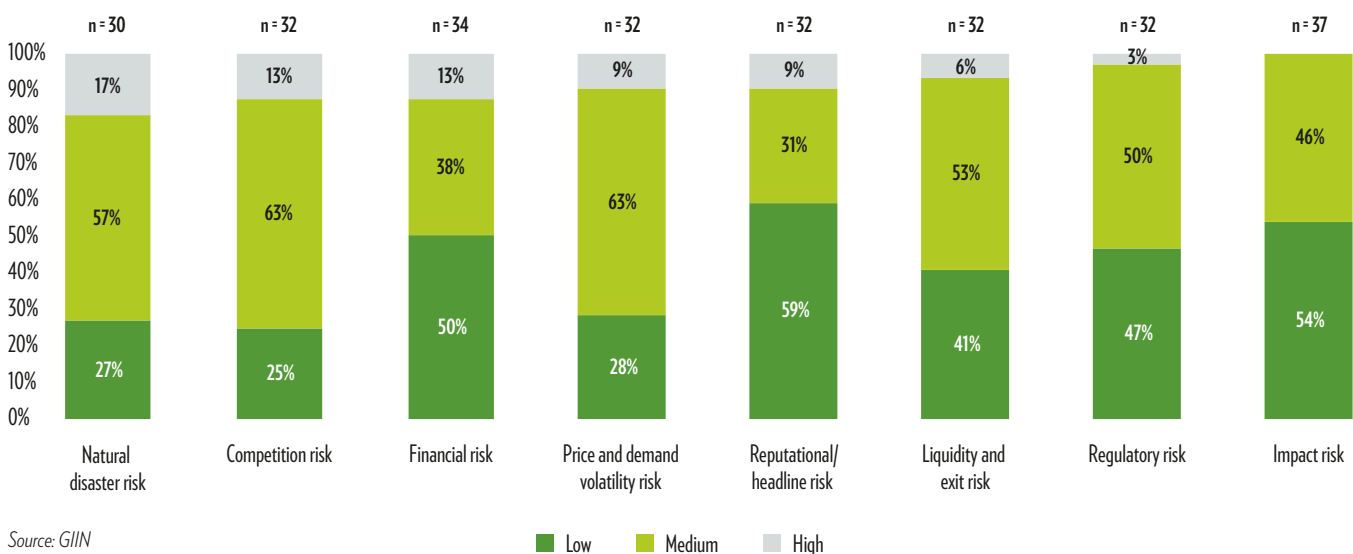
Investment example: In 2006, Lyme, through its second fund, purchased 278,000 acres in the Adirondacks in New York from the International Paper Company and established the Lyme Adirondack Forest Company ("LAFCo") to own and manage the property. In 2007, Lyme permanently protected the majority of the timberlands through the sale of a WFCE to the State of New York. During its ownership, Lyme harvested timber sustainably, maintained third-party certification on the lands, invested in the supply chain, and allowed for public and private use and recreational access under the terms of the WFCE. LAFCo also operates a log concentration yard in Queensbury, NY. In addition, LAFCo manages a recreational leasing program that offers individuals, families, and groups recreational access for activities like hunting, fishing, biking, and hiking and generates annual income for LAFCo. In 2015, Lyme sold the property to a strategic buyer but continues to manage the property for the buyer. The property continues to be third-party certified and managed for sustainable timber production.

RISKS IN FORESTRY IMPACT INVESTING

The revenue-generating schemes described previously are key to effective investment in sustainable and impact forestry. Equally significant is the consideration of various risk factors to an investment and/or portfolio and the implementation of mechanisms to counterbalance those risks. Asset managers interviewed for this study nearly universally indicated that *perceived* risks among LPs and potential investors are consistently higher than *actual* risks facing forestry investments.

Common sources of risk to impact investments in forestry are detailed in Figure 4 below. The most commonly cited, natural disaster risk, was considered a ‘high risk’ by 17% of funds and a ‘medium risk’ by another 57%. Competition risk and financial risk were both considered ‘high risks’ by 13% of funds; notably, however over half of funds considered financial risk ‘low’. Several other risks, namely reputational/headline risk, liquidity and exit risk, regulatory risk, and impact risk, were considered ‘low’ by at least 40% of funds. Interestingly, though forest investments require relatively long time horizons, liquidity and exit risk was only cited as ‘high’ by 6% of funds. This finding reinforces managers’ perceptions that actual risk is lower than perceived risk in the sustainable and impact forestry sector.

FIGURE 4: FUND MANAGER PERCEPTIONS OF VARIOUS RISKS TO FORESTRY PORTFOLIOS
Number of responses shown above each bar.



Each of these risks, and common risk mitigating mechanisms, is described in detail below:

- **Natural disaster risk:** Likelihood of damages incurred by natural disasters and other hazards, such as fire, drought, or pests. Managers mitigate these risks through sustainable management of the land, for example by considering flammability of different tree species, by routinely clearing dry brush, and by investing in soil management practices to reduce the threat of pests.
- **Competition risk:** The risk that competitive forces may prevent an investor and/or investee from achieving their stated impact and financial goals, e.g., due to declining margins or declining market share. Managers cited proactive analysis of competitors – including producers of timber or other forest products as well as players along the timber processing supply chain – as key to developing a competition risk management strategy.

- **Financial risk:** The risk of an investee not being able to meet its financial obligations in the face of economic downturns. Managers deriving revenues from the sales and processing of forest products and leasing of land and/or land rights primarily cited financial risk. To mitigate this risk, those managers often pursue diversified income streams and coordinate with investee companies (i.e., those companies along the value chain) to develop and manage sound business plans.
- **Price and demand volatility risk:** The risk that the price of a given commodity and/or demand for that commodity will fluctuate, thus creating uncertain cash flows. This risk is heightened for investors that generate cash flows via timber sales, as price and demand volatility may correlate to broader, macroeconomic trends. This can be mitigated by strategically timing the harvest and sale of timber to align with market upswings.
- **Reputational/headline risk:** Risks of loss resulting from damages to an investor's or investee's reputation, including damages incurred from negative media coverage. Most managers interviewed cited impact measurement and management as key to mitigating headline risk; by building systems for routine impact data collection and analysis, incorporating strong impact management processes, and reporting impact results, managers can reduce the risk of poor impact performance and strengthen their reputations.
- **Liquidity and exit risk:** The risk of being unable to exit the investment at the desired time. Since many investors in the forestry space – such as pension funds and endowments – manage their portfolios with a long-term view, liquidity risk remains relatively low. Those managers that do face liquidity risks suggested offsetting this risk by bolstering a diverse set of revenue streams beyond the resale of the forest assets.
- **Regulatory risk:** Risk of changes in laws and regulations that may materially impact business outcomes, including the right to operate and access to carbon credits or other government benefits. Regulatory risk can be reduced through the development of clear contracts and master agreements that establish standardized provisions for the sales of carbon offsets, the use of warranties or covenants to assure the qualification of various carbon offset products, and close monitoring of changes in regulation.
- **Impact risk (specifically external, execution, and stakeholder participation risk):** The possibility that the investment does not achieve the desired social or environmental benefits. To protect against such risks, managers look to certifications and detailed impact measurement and management processes to ensure the centrality of impact. By setting clear impact targets, incorporating impact management into the core of investment management, and regularly collecting and reviewing data, managers can reduce impact risk. Sub-types of impact risk cited include:
 - **External risk:** The probability that external factors disrupt the investor's or investee's ability to deliver the expected impact.
 - **Execution risk:** The probability that the activities are not delivered as planned and do not result in the desired/intended outcomes.
 - **Stakeholder participation risk:** The probability that the expectations and/or experience of stakeholders are misunderstood or not taken into account. This may manifest via labor and land ownership risks.

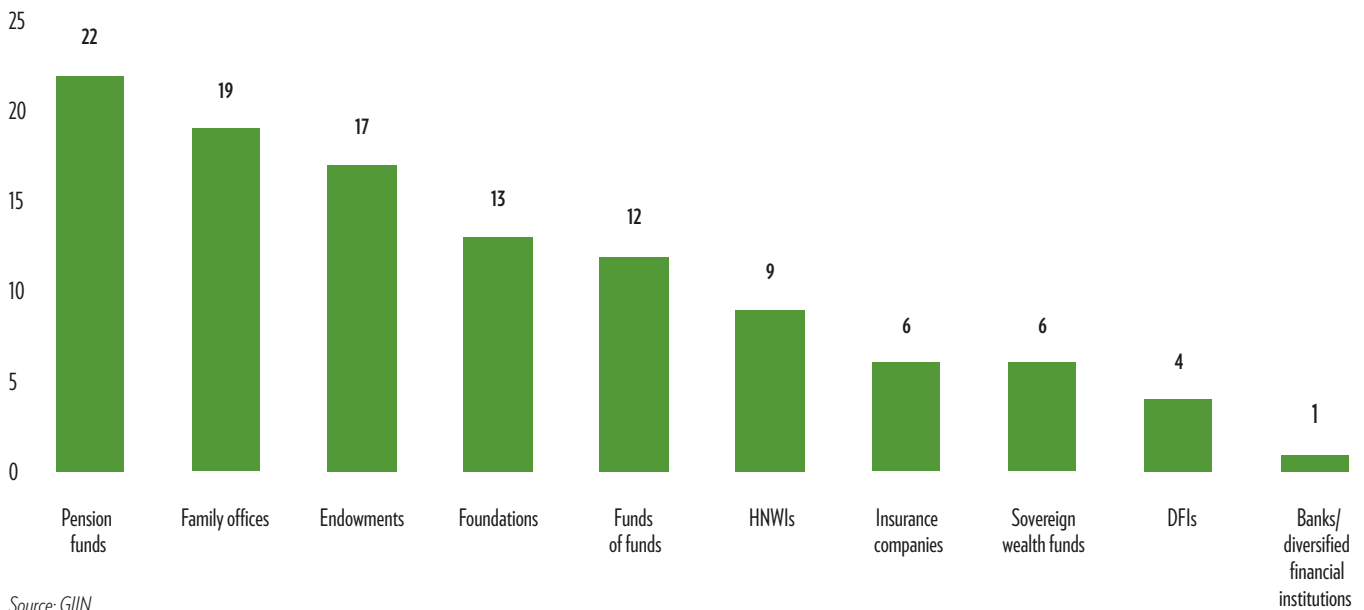


ASSET OWNER LANDSCAPE

ASSET OWNER LANDSCAPE

A diverse set of institutional and private asset owners allocate capital into private-market forestry investment funds around the globe. A majority of vehicles included in the database raised capital from pension funds (22 vehicles) and family offices (19), with other common investor types including endowments, foundations, and funds of funds (Figure 5).

FIGURE 5: TYPES OF LPs INVESTING INTO SUSTAINABLE AND IMPACT FORESTRY FUNDS
n = 37 vehicles; vehicles may raise capital from multiple LP types.



Among those asset owners interviewed for this study, the majority are headquartered in North America or Europe and invest into funds primarily based in developed countries. Each asset owner interviewed had exposure to sustainable forestry or impact forestry, and both.

MOTIVATIONS FOR INVESTING IN SUSTAINABLE FORESTRY

Asset owners' motivations for investment differ by investor type and geography. Generally, however, they identified a set of common, advantageous characteristics of sustainable forestry investments, as described below.

Long-tenured investments in relatively illiquid forest assets match well to the liabilities and portfolio management needs of many institutional and long-term investors. As noted in the asset manager section of this report, many managers indicated fund tenures in the 10- to 12-year range – significant even for private markets and real assets investments. Some investors indicated that the lack of liquidity, and in some cases, the lack of liquidity premium associated with this 10- to 12-year tie-up, was disqualifying. Others however – particularly long-term institutional investors and family offices – noted that the long time horizon was advantageous in the context of their portfolio constraints because their portfolios then include flexible capital that can be locked up for longer periods. Broadly, most interviewed investors agreed that the ideal duration of these funds should reflect the maturation of the underlying asset. Most species of trees require a minimum of 25 years to mature, and optimally, the term of the fund would reflect the term required for the underlying assets to fully mature. Asset owners also noted that longer-term products, while not always ideal from a portfolio management perspective, align well with the sustainability goals of these funds. The necessity of forest sales at the end of a 10- to 12-year fund cycle often results in acquisition by buyers who are less aligned with the long-term, sustainable management goals of the fund. In order to comply with fiduciary duty requirements, some fund managers convert forest tracts to other uses, which may lead to forest fragmentation, thus detracting from the scale and duration of impact.

Some asset owners noted that their timber investments' have historically supported their portfolios to hedge inflation. Inflation, a measure of the overall prices and purchasing value of money in a country or region, can be hedged through the purchase and holding of forest assets. There are two primary reasons for this. The first is that biological growth cycles (detailed further, below) are independent of inflationary cycles, and therefore there is limited correlation between the two. The second has to do with cash flows from the sale of timber – similar to other commodities, wood products experience high demand in periods of inflation, leading to upward pricing pressure, and a stronger correlation to inflation. Some asset owners, particularly those investing outside of North America, however, noted that in the context of their portfolios, timber investments have been less effective than originally expected at hedging inflation, likely due to the globalized nature of timber and the somewhat more localized nature of inflationary cycles.

FORESTRY INVESTMENTS IN THE PORTFOLIO CONTEXT

While many institutional asset owners historically had carve-outs dedicated to forestry – and specifically, timber – in their portfolios to hedge inflation or protect against market cycles, most indicated that these investments have been migrated over the past decade to their alternative investment portfolios, in some cases within a segment related to natural resources. In part, this migration was due to relatively low returns on traditional timber investments, as compared to other real assets, and changes in perception about the ability of these funds to hedge against inflation or provide other diversification benefits. As detailed throughout this section, this shift provides a challenge to sustainable forestry managers who had previously fundraised from investment professionals with an understanding of their sector and its various value drivers. In the broader real assets portfolio, asset owners and managers both noted that forestry investments, whose returns are often much less volatile but lower, struggle to compete with firms in infrastructure, clean energy, agriculture, and other real assets.

Asset maturation (e.g., tree growth) follows biological, rather than economic, cycles, resulting in relatively low risk to the supply of timber, more predictable cash flows, and lower correlation to markets. Timber investments have historically derived value from two sources: appreciation in the value of land and sales of forest products (e.g., timber), with the former generating returns only at exit and the latter providing interim returns. While the value of the land is influenced by market cycles, the maturation of the assets on that land – the trees themselves – is independent of changes in land prices. Trees grow just as quickly in recessions as they do in economic booms. Asset owners cited noncorrelation as an attractive feature of the sector. Further, several noted that sustainable forests are even more attractive since they often generate cash flows from payments for forest ecosystem services in addition to timber sales.

Nearly universally, interviewed asset owners consider the ecosystem services provided by forests to be fundamentally undervalued; as they are more fully understood and monetized, sustainable forestry will further outcompete the broader market. Most who held this opinion noted that given the targets set in the Paris Agreement around reforestation and afforestation, the prices of forests – bolstered by cash flows from ecosystem service payments, carbon markets, and rising land prices – will increase. That increase in value may be realized within the next decade and bolster the exit values of funds investing now.

Interest in, and demand for, sustainable and impact investing and ESG integration have extended to the forestry sector. All interviewed asset owners have some exposure to sustainable or impact investments, and all cited the clear impact thesis associated with sustainable and impact timber investments as one driver of their investment. In addition to ecosystem benefits, the perpetual conservation of land, carbon sequestration, and numerous other climate-change-related benefits, many also cited the social outcomes that can be achieved through the sector, such as rural economic development, preservation of culturally important land, and health-related benefits from improved air and water quality. In particular, these impacts were mentioned by the private market investors, such as family offices, and their advisors. In fact, for wealth managers who have limited resources to diligence and onboard impact products that meet all impact objectives across a diverse client base, sustainable and impact timber present an opportunity to satisfy multiple clients targeting multiple types of impact with one product.

CONSTRAINTS FOR INVESTING IN SUSTAINABLE FORESTRY

Most asset owners included in this report cited a set of constraints that prevent further allocation to sustainable timber, as described below.

Investment tenure and illiquidity restrict the pools of capital available for private market timber allocations, in some cases preventing investors from allocating entirely. Most asset owners cited the illiquidity of private market sustainable timber investments as the primary impediment to allocation. With fund terms often in the 10- to 12-year range, and liquidity premiums limited given the low volatility of returns, many asset owners noted that very few segments of their portfolio had the necessary long-term capital. Additionally, asset owners expressed concern that the illiquidity of

the market, transaction sizes, and relatively non-standardized nature of the transactions, resulted in managers selling for less than fair-market valuation at fund-close. However, as described in the previous section, others favored the longer term horizon given its parallel to the tenure of their portfolios.

Forestry fund business models are often complex. Many asset owners noted that the complexity of the business models of sustainable forestry funds was a barrier for their investment teams. Traditionally, timber investments have provided returns based on appreciation of forest value and interim cash flows from logging and forest management. As outlined in the asset manager section, cash flows, as well as the types and significance of risk factors for sustainable forestry funds, tend to be various, and while funds tend to employ only one or two of these cash flow mechanisms, the mechanisms employed differ significantly across funds. As a result, diligencing the market requires an understanding of all of these strategies. Asset owners noted the need to hire dedicated staff or consultants with experience in forestry, or even sustainable forestry, to feel comfortable with these diverse strategies.

Financial performance of forestry investments since the financial crisis has led some investors to exit the sector entirely. Many investors cited recent, disappointing financial performance in the conventional timber market as an impediment to moving capital into sustainable forestry investments. While sustainable forestry has outperformed the conventional market on a weighted basis since 1997, many – particularly institutional investors – noted that as a function of low returns, they no longer have allocations dedicated to timber.¹⁰ Instead, they review funds on an ad-hoc basis, often in the context of their broader real assets portfolio – which includes funds that bear little resemblance to the risk or return profile of sustainable timber. Other asset owners noted that the perception of low returns, rather than actual low returns, has prevented the market from continuing to grow. As mentioned above, asset owners also indicated that forests were fundamentally undervalued. While most viewed that as an opportunity and felt that changing regulatory and consumer pressures would shift forest valuations in the next 5-10 years, others felt that those changes were less imminent and that the time for purchasing forests as a value play was still far off.

A relatively small set of funds, often with limited track records, increases both real and perceived risk of investing in sustainable forestry. One wealth advisor noted that their investment committee, who reviewed funds for their platform from the impact team as well as the other asset class teams, was uncomfortable with what they deemed insufficient track record and density of funds in the sector. As mentioned above, while several asset managers in the space seeking market rates of return have a track record of an average of four funds, the landscape is still relatively nascent. This lack of density makes it untenable for some asset owners to invest resources in screening and diligencing sustainable forestry funds.

¹⁰ Matthews et al., "The Financial Performance of Real Assets Impact Investments".

CONDUCTING DUE DILIGENCE ON SUSTAINABLE FORESTRY INVESTMENT FUNDS

As mentioned in the manager section, the pool of sustainable forestry investment vehicles is small relative to the universe of real assets investment vehicles. As such, asset owners rely on knowledge of the key players in the market and on manager-led outreach to their target investor types to source investment opportunities. Timing of this outreach is essential, as fundraising cycles must align with availability in the asset owner's portfolio. Given the projected and actual returns of many of these funds described earlier, this has historically been an impediment to investment.

Most asset owners noted that their diligence processes for funds in the sustainable forestry space did not differ significantly from the processes they used for traditional real assets fund diligence. Private advisors, family offices, and institutional investors all indicated that diligence most often begins with desk research on the basics of funds' economics and impact strategies. For most firms, a point person on staff (typically one with significant experience in fund diligence, the forestry sector, or both) or a consultant is engaged to lead the effort. Asset owners generally felt that some level of expertise in sustainable forestry and its value drivers was essential.

Most also expressed that they did not have impact-specific diligence processes, but that they do typically add a set of questions about managers' impact targets and their ability to deliver against those targets. Further, they articulated a need for additional guidance in the diligence processes, particularly in determining the right set of questions to ask of their prospective managers.



Source: Criterion Africa Partners

What follows is a sample, standardized due diligence questionnaire (DDQ). This document, built by the authors of this report based on interviews with both asset owners and asset managers, is intended to be used by LPs to diligence their managers' practices, specifically around the ability of a fund to deliver against promised impacts. It is not intended to be comprehensive, but rather inserted into DDQs typically used by LPs to assess the viability of fund investments. This questionnaire seeks to understand the infrastructure that investment managers have in place to deliver the outcomes that they seek.

| 1. FUND OBJECTIVES AND POLICIES | |
|---|--|
| 1.1 | What is the manager's theory of change or impact strategy for delivering social or environmental outcomes in the forestry space? |
| 1.2 | How has that theory of change or impact strategy influenced fund formation, organizational setup, fundraising efforts, and investment selection? |
| 1.3 | Does the manager sponsor other, non-impact-oriented funds in the forestry or any other sector? |
| 1.4 | Which standards, guidelines, certifications, or frameworks, if any, does the manager use to ensure the impact of its investments in impact or sustainable forestry? |
| 2. IMPACT IDENTIFICATION | |
| 2.1 | How does the manager identify outcomes, both positive and negative, that can be achieved through a forestry investment/acquisition? |
| 2.2 | Once potential outcomes or impacts have been identified, how does the manager select valid indicators of performance toward those outcomes or impacts (both positive and negative)? |
| 2.3 | Does the manager set investment- or portfolio-level targets against those indicators of performance? If so, how are those targets determined? |
| 3. MEASUREMENT METHODOLOGY, CERTIFICATION, AND TRANSPARENCY | |
| 3.1 | Does the manager use any standardized methodologies, metric sets, or metrics to measure the social and environmental performance of its investments? Which metrics are measured? |
| 3.2 | Does the manager align their investment strategy to the Sustainable Development Goals? If so, which goals are targeted, and does the manager measure against that goal explicitly, seek to prove alignment, or seek to prove causation? |
| 3.3 | Does the manager require the certification of forests pre-acquisition, or support the certification once the asset has been purchased? If so, which certification(s) are pursued (e.g., FSC, SFI)? |
| 3.4 | Does the manager publicly report on their social and environmental performance? <i>If so, please provide a link to publicly disclosed data.</i> |
| 3.5 | What data are available to LPs during the investment process, and on what basis/frequency? |
| 4. IMPACT MANAGEMENT THROUGH THE DEAL CYCLE | |
| 4.1 | In the deal screening and diligence process, how, if at all, does the manager's consideration of outcomes and impact influence investment decisions? <i>If possible, provide recent examples of situations wherein selection of an asset was influenced by potential or realized impact or outcomes.</i> |
| 4.2 | Does the manager include impact-oriented terms into deal documentation during deal structuring and/or into post-investment planning? <i>If so, please provide examples of such documentation.</i> |
| 4.3 | How is impact management integrated into oversight of forest management during the ownership of the asset? |
| 4.4 | How does the manager consider impact at exit? <i>If possible, please provide examples of recent exits and detail how the manager ensured continued outcomes and impact post-exit.</i> |
| 4.5 | In what other ways does the manager seek to produce positive outcomes and reduce negative outcomes during the investment cycle? |

WAYS FORWARD

While many asset owners noted a strong desire to invest in sustainable and impact forestry because of the conservation benefits and rural economic development impacts, most recognized that financial returns – both in the impact universe and the conventional universe – were the single greatest barrier to additional capital allocation. In large part, this was tied to the tenure of many funds of at least 10 years. The list that follows details a set of solutions to overcome this constraint. These solutions were proposed by interviewees included in this report and could support the expansion of sustainable and impact forestry investment products and the growth of allocations into the sector.

Opportunities to strengthen and grow the sustainable and impact forestry market include:

- 1. Improving and clarifying product-market fit:** Many asset owners noted that they are often approached by asset managers who do not fully understand their portfolios' needs. The structure of many sustainable and impact forestry funds includes a number of distinct and disparate cash flows, making it hard to communicate about and project both risk and return. As an example, asset managers could develop investment opportunities tied to a smaller set of revenue streams, separating cash flows from timber and other forest product sales from the capital appreciation of the forests. Notably, this strategy could inadvertently increase risk by decreasing diversification of a fund's revenue sources.



Source: New Forests

2. Using blended finance: As discussed in the asset manager section of this report, the perception of risk among asset owners evaluating opportunities in sustainable forestry is consistently greater than the actual risks reported by asset managers. Blended finance combines capital with different levels of risk tolerance to catalyze risk-adjusted, market-rate-seeking capital into impact investments. Such blended finance does not need to be purely deployed for the purpose of de-risking, however. For example, one asset owner noted that they have provided first-loss capital to a fund in return for the fund tracking and managing additional social and environmental performance information. Given the significant social and environmental impact potential of sustainable and impact forestry and the existing activity of foundations and government agencies around the world intent on conserving forests, blended finance could be integral to the growth, development, and impact of the market.

Importantly, this capital could also be oriented toward bringing new funds and strategies to market or bringing existing strategies to new markets. As demonstrated in *The Financial Performance of Real Assets Impact Investments*,¹¹ returns are already favorable in comparison to the broader timber market, so additional risk mitigating capital should focus on untested strategies or markets or facilitate the achievement of impact that would not otherwise have occurred, rather than providing concession to support investors already active in sustainable forestry.

3. Developing partnerships with conservation organizations for the sales of land rights: Conservation easements in the U.S. have created a regulatory framework to conserve land in perpetuity while sustainably managing and deriving value from that land. As noted above, conservation easements are only allowable in common law countries. However, similar regulatory frameworks have been developed or are under development in other countries. Many European countries have similar frameworks, and increasingly civil law countries are passing legislation to allow for the sale of individual or bundled land rights, such as Chile, which passed legislation in 2016 allowing for a ‘real right to conservation’.¹²

In countries where there is an existing regulatory framework for conservation easements, philanthropies, land trusts, and governments can provide additional funding for conservation easements. Asset managers who utilize conservation easements noted that their work is restricted by the availability of capital to support the purchase of land rights.

4. Integrating vertically: Whereas historically many forestry investment managers have owned forests and relied on third parties to harvest and sell timber and produce products, increasingly sustainable and impact managers in the space operate fully vertically integrated supply chains, either via investing into management companies or by developing and owning them outright. At a certain scale, this creates operational efficiencies that can enhance return and allow for better management of risk.

¹¹ Matthews et al., “The Financial Performance of Real Assets Impact Investments”.

¹² Felipe Moro, Jose Miguel Bellagamba, and Paula Rojas, “Chile: Creation of a New Law that Creates an In Rem Right of Conservation,” Mondaq, June 30, 2016, <http://www.mondaq.com/x/505066/real+estate/Creation+Of+A+New+Law+That+Creates+An+In+Rem+Right+Of+Conservation>.

5. Strengthening communications: Underlying many of these opportunities for investors interested in the sustainable and impact forestry space is the need for better communication between asset owners and those structuring investment products in this market. While this challenge is felt across financial markets, it is particularly acute in sustainable and impact investment because of the additional variable of impact performance, a lack of understanding of forestry fund revenue sources, and the perceived complexity of the underlying science of ecology.

This report begins to address some of these communications barriers as the starting point in an effort to unlock further investment into the forestry sector. The GIIN is committed to continuing to explore the development of tools and resources to reduce information asymmetries between asset owners and managers, including testing in-development investment products and preparing additional resources, such as the due diligence questionnaire and Navigating Impact resource described previously, to further unlock capital flows.

APPENDIX. INTERVIEWEES

Jesse Simmons

Align Impact

Luciana Aquino-Hagedorn

Goodwin Procter

Anonymous

Anonymous Investor

Brian Kernohan & Sydney McConathy

Hancock Natural Resource Group

Nils von Schmidt

Aquila Capital

Tricia Scrivner

Margaret A. Cargill Philanthropies

Simba Marekera

Brightlight Group

MaryKate Bullen

New Forests

Ellie Barker & Christie Zarkovich

Cambridge Associates

Sanaz Raczynski

Nuveen, a TIAA Company

Candice Dial

Church Pension Group

Jay Barrymore & John Hepburn

N.Z. Future Forest Products

Kent Gilges

Conservation Forestry Partners

Brad Harrison

Tiedemann Advisors

Trevor Cutsinger

Conservation Fund

Kristen Kleiman

The Climate Trust

George McPherson

Criterion Africa Partners

John Orneberg

The Forest Company

Susan Phinney Silver & Madeline Wu

David and Lucile Packard Foundation

Merritt Patridge & Peter Stein

Lyme Timber

Amrita Vatsal

EFM

Taryn Goodman

The Nature Conservancy

Milena Bertram

Finance in Motion

Sylvia Poniecki

Wespath Benefits and Investments

About the Global Impact Investing Network

The Global Impact Investing Network (GIIN) is the leading global champion of impact investing, dedicated to increasing the scale and effectiveness of impact investing around the world. The GIIN builds critical infrastructure and supports activities, education, and research that help accelerate the development of a coherent impact investing industry.

Read the GIIN's Roadmap for the Future of Impact Investing: Reshaping Financial Markets at roadmap.thegiin.org.

To learn more, visit: thegiin.org

Research

The GIIN conducts research to provide data and insights on the impact investing market and to highlight examples of effective practice.

To learn more, visit:
thegiin.org/research

Impact Measurement and Management (IMM)

The GIIN provides tools, guidance, trainings, and resources to help investors identify metrics and integrate impact considerations into investment management.

To learn more, visit:
thegiin.org/imm

Membership

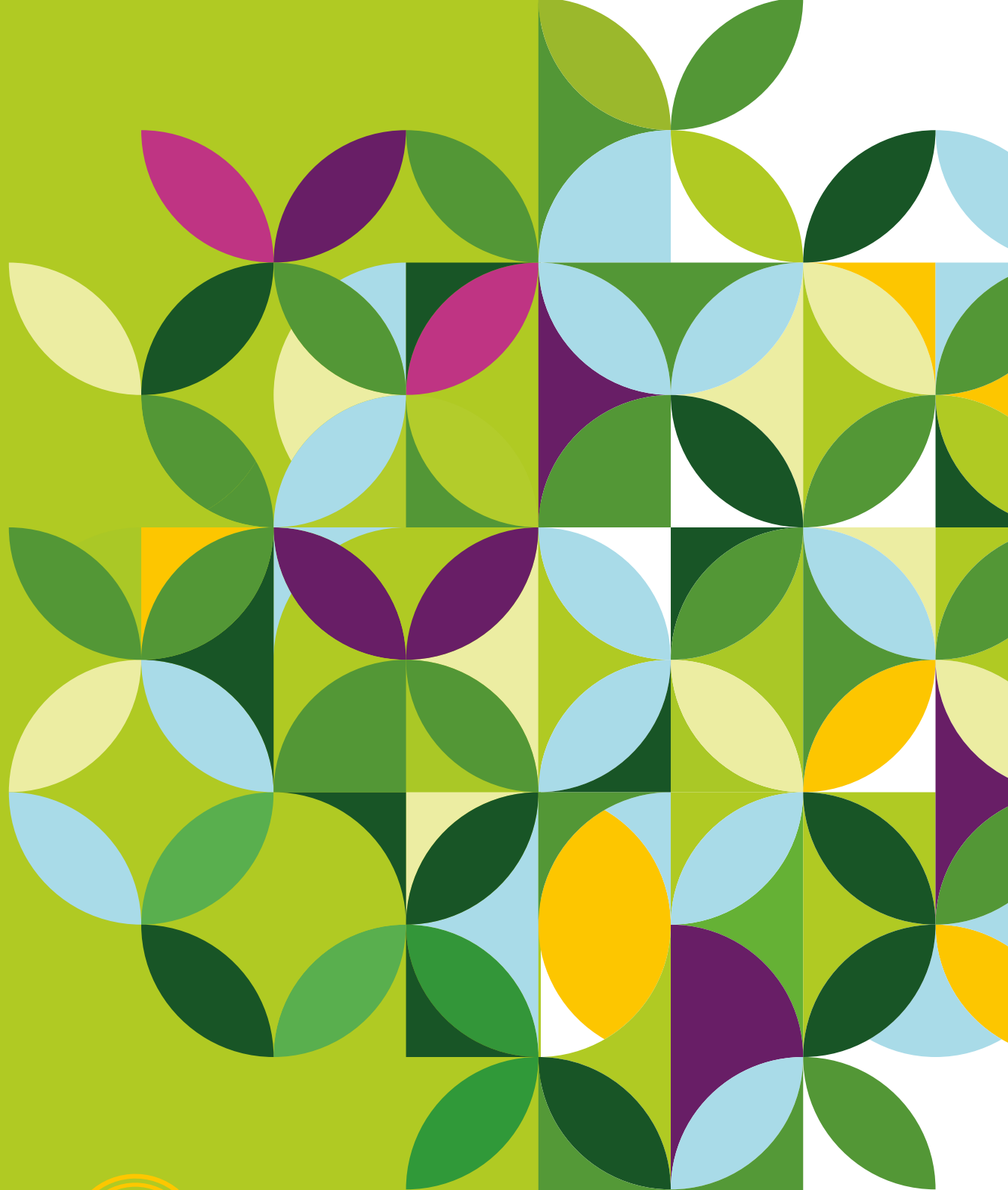
GIIN Membership provides access to a diverse global community of organizations interested in deepening their engagement with the impact investment industry.

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Initiative for Institutional Impact Investment

The GIIN Initiative for Institutional Impact Investment supports institutional asset owners seeking to enter, or deepen their engagement with, the impact investing market, by providing educational resources, performance research, and a vibrant community of practice.

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