

A Global Emerging Markets Forestry Investment Strategy

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I. Summary

In today's uncertain investment climate, timberland appears to be an attractive asset:

- Large-cap equities in the United States continue to trade above historical P:E ratios, and earnings growth does not appear to be adequate to offset a reversion to long-term trends in pricing;
- Inflation is heading upwards, and interest rates are rising so that fixed-income assets look vulnerable to capital losses;
- Real estate returns are falling. Yields on publicly traded REITS have declined by about 300 bps, and cap rates on private-equity real estate have fallen perhaps 200 bps in the last 24 months. Returns from this asset class appear to be constrained by high prices and an abundance of new inventory in the pipeline.

In contrast, U.S. timberland returns have rebounded from their 2001 lows, and cash yields have moved up, so timberland investments appear attractive in both relative and absolute terms. As a result of these factors, investors have moved into the asset class and are queued up to acquire properties in the traditional regions—the U.S. and the rest of the developed world.

But, all is not positive for the traditional approach to timberland investments. While timberland returns appear to have been more or less stable over the past five years,¹ more money has piled into the asset class. One knowledgeable timberland investment consultant estimates the total committed but un-invested capital to be in the range of \$4-\$5 billion; others have put the total at over \$10 billion.² More timberland investment managers have emerged to serve the new money, and they all want to acquire assets. The increase in the number of bidders for timberland properties has forced timberland prices up, and has encouraged those bidding to employ more aggressive underwriting assumptions. The traditional source of acquisitions for private equity investors—the U.S. forest products industry—has become a far more sophisticated seller. Sellers, along with their investment banker advisors, are taking a harder line on terms and conditions. In short, conditions are in place for a material downward realignment in traditional timberland returns.

In response to these conditions, we have developed a new timberland investment strategy designed to deliver better risk-adjusted returns while maintaining the desirable portfolio benefits of the asset class. This strategy involves investing where the large institutions do not currently invest—the “next tier” of countries where there are high-quality forest assets developed both by the public sector and by large pulp and paper companies. Typically these locations have poorly developed timber markets (one reason the timberland is inexpensive), so this strategy anticipates investing in operating assets—especially solid wood products manufacturing facilities—in addition to timberland assets. Integrating manufacturing with timberland ownership will allow us to crystallize the value of the timber in the form of finished and semi-finished products in national and international markets. In contrast to the situation in the developed world, we believe that owning operating assets will reduce risk and increase returns, especially through investments in new technology and human resource development.

Because these kinds of investments are on the frontier of the asset class, this strategy requires a unique set of skills in timberland investment, wood products manufacturing and emerging markets private-equity investment. To provide these skills, our investment team includes:

1 M.E. Aronow, T. J. Starr, M. Mattox, C.. Washburn and C.S. Binkley. 2005. Are expected timberland returns falling? Here's what the data say. HTRG **Research Note**, 7 March 2005.

2 M. L. Wilde and C. Chun. 2005. Should they own land? Deutsche Bank **Industry Bulletin**. 5 July 2005.

- Clark S. Binkley is widely known for his research and experience in timberland investment. While a professor at Yale University, he wrote much of the early academic research characterizing timberland returns and demonstrating the low financial risk of the asset class. From 1998 to 2005, he served as a Managing Director and the Chief Investment Officer of the Hancock Timber Resource Group where he supervised six years of investment performance that outperformed the NCREIF Timberland Index by 300 bps/year. In April, 2005 he left Hancock to launch International Forestry Investment Advisors (IFIA). IFIA develops and implements innovative, socially responsible timberland investment strategies for sophisticated investors. Dr. Binkley serves on the Boards of West Fraser Timber, Ltd., TimberWest Forests, Cellfor, Ltd., and the International Union of Forestry Research Organizations.
- John Earhart, the Chairman of Global Environment Fund (GEF), is an experienced forestry and emerging markets investor. John serves on the investment committees of all of the GEF's managed funds, as well as the boards of directors of several of the firm's portfolio companies. He has been particularly active with Global Forest Products, an integrated forest products company in South Africa that is an archetype of our investment strategy. John is a member of the Board of Directors of Keweenaw Land Association, a publicly traded timberland management company in the United States, and of Forest Trends, a non-governmental organization focusing on bringing ecosystem services into the market economy. John has been active in the international forestry field for 30 years and has lived and worked in several emerging market countries including Guatemala, Paraguay, Peru, and Argentina.
- Ken Fenner rounds out our investment team, bringing a wealth of operational and strategic experience in forest products manufacturing. Ken has more than 25 years of operations experience in the Canadian forest products industry, including work at Doman, Tolko and CP Forest Products. He has overseen the construction of new mills and large capex programs in existing ones. His manufacturing experience includes sawmills, plywood mills, oriented strandboard factories and pulpmills. He is the operating manager responsible for the success of Global Forest Products where he is currently the CEO and a member of the Board of Directors.
- Global Environment Fund has 15 years of experience in private-equity investments in emerging markets, with a particular emphasis on environmental infrastructure. GEF created Global Forest Products (GFP), a successful South African plantation and wood products manufacturing company, through an acquisition of timberland and associated manufacturing facilities from Mondi, Ltd. in 2001. GFP has earned a 35 percent since-inception IRR.

This paper elaborates our investment thesis and the associated strategy for emerging markets forestry investment. The strategy offers higher expected returns—15 percent to 20 percent—obtained over a shorter holding period—7-10 years—than traditional timberland investment strategies. Yet, we retain the focus on high quality, real assets.

The next section outlines the rationale for investing in timberland at all. Section III describes why the traditional timberland investment model has matured and, as a consequence, why we expect forward-looking returns from traditional timberland investments to be modest. Section IV outlines our emerging markets forestry investment strategy. We seek to retain the best characteristics of the traditional timberland investment model but refine the model to generate higher prospective risk-adjusted returns. Section V provides a case study of Global Forest Products, an example of the kind of investments we seek to make.

II. Why Invest in Timberland?

To understand the case for an emerging markets forestry investment strategy, it makes sense to start with the basics of timberland as an asset class. Institutional investment in timberland started in the early 1980s, so we now have over two decades of investment experience. As a consequence, the investment case is fairly well developed.³ This section summarizes the main arguments for investing in timberland and explains how our strategy will enhance the traditional model.

a. Solid returns with decent cash flow

Owning timberland as a source of wealth creation and preservation is an old concept, dating to some of the most venerable organizations on the Earth today. The modern era of timberland ownership began in the early 1980s. The National Council of Real Estate Investment Fiduciaries (NCREIF) started reporting property-level returns for U.S. timberland in 1987.⁴ By this measure, timberland has delivered average annual returns of 15.3 percent, with about 6 percent of this in the form of cash flow. More recently, returns have fallen, and were negative in 2001 for the first and only time of the history of the data series.

Our emerging markets forestry investment strategy seeks to provide higher average returns by:

- investing in less efficient, capital-short emerging markets,
- taking more extensive advantage of integrated manufacturing assets, and
- investing in technology and human resource development.

b. Low correlations with other assets—diversification, low risk, high Sharpe ratios

The merits of investment in any asset class depend not only on returns, but also on risk. Investment risk is commonly measured by the volatility of returns and the correlation of returns with those of other assets. Timberland has delivered its returns with a bit less volatility than large-cap equities and has therefore generated a materially higher Sharpe Ratio.

In addition to the comparatively low volatility of timberland, the returns have been poorly or negatively correlated with those of most other asset classes. The low-to-negative correlations and comparatively low volatility mean that timberland has been a powerful diversifier for mixed-asset portfolios. Historically timberland investments have carried a low beta and materially positive alpha. The good returns, modest volatility and low correlations arise from the fundamental investment proposition: trees grow. There is no reason to imagine that the growth of trees is somehow related to macroeconomic or capital-market variables. Instead tree growth depends on sunshine, rainfall and a moderate climate.

Our emerging markets forestry investment strategy builds on the low operational return volatility inherent to timberland investments. By serving a wide range of divergent markets, we believe that investment returns will not be highly correlated either with those from traditional assets, or with traditional timberland investment returns. As a result of investment in emerging markets, investors can anticipate greater volatility due

3 C.S. Binkley, C.L. Washburn and M.E. Aronow. 2005. Timberland: the Natural Alternative. in R. Greer, ed. **The Handbook of Inflation-Hedging Investments** (McGraw-Hill, NY) gives a good account of the arguments, and this section draws from it. We would be happy to provide a copy on request.

4 NCREIF's website, www.ncreif.com, provides the historical record on a quarterly basis.

to fluctuations in currency exchange rates; but we will seek inherently low-cost structural ways to hedge these risks and deliver attractive \$US-based returns (see Section VI.h below). Our strategy seeks to capture the latent value proposition in emerging market economies, while mitigating the intrinsic risk and volatility by investing in a diversified portfolio of low-volatility assets—timberland. Our investment in integrated manufacturing facilities will tend further to dampen the volatility of returns.

c. Modest growth in demand globally, with faster growth in emerging markets

We anticipate that future global timber supply and demand will be roughly in balance, with material regional disparities.

The demand for wood products (lumber, panels, packaging, paper) is expected to grow at about 1.6 percent/yr.⁵ Increases in population and income fuel this growth, but technological innovations tend to offset increases in end-use demand. For example, sawmills are becoming more efficient at about 1.2 percent/year—that is, each year, sawmills produce about 1.2 percent more lumber from a given quantity of logs. As another example, technological innovation is providing new kinds of wood-saving products: oriented strandboard (OSB) is substituting for plywood; wooden I-beams are substituting for large-dimension lumber. In each case, a smaller quantity of small, low-quality timber is replacing a larger quantity of large, high-quality timber.

The future supply of timber is comprised of two countervailing trends. On one hand, the supply from natural forests is declining as a result of physical depletion of timber, increased set-asides for parks and reserves, and rising access costs. On the other hand, material investments in tree growing by forest products companies, governments and financial investors has increased the supply of timber from plantation forests. We believe that these two trends are, very roughly, offsetting one another. But, once again, there are material regional disparities.

The key regional disparities are (i) the rapid growth in the demand for wood-products in developing markets (especially China and India), projected at 3.2 percent/year for emerging markets as a whole⁶ (ii) wood scarcity in such countries as China, India and Mexico, and (iii) the high levels of forest growth that are possible in the subtropics and near-tropic regions of the temperate zones.

Our emerging markets forestry investment strategy seeks to take advantage of these regional disparities by (i) investing in locations favorably situated to serve growing emerging markets, and (ii) acquiring relatively inexpensive timberland with excellent innate biological growth characteristics. Ideally, we will identify locations with both characteristics.

d. Significant barriers to entry—it takes time to grow trees

Some assets are susceptible to oversupply in the short run—prices rise, investors move to take advantage of higher prices and increase supply, and prices subsequently drop. As a result of the long production period for trees, timberland investments are less vulnerable to such cycles—almost all of the timber that will be

5 P. Harrison. 2002. World Agriculture: Towards 2015/2030 Summary Report. **Food and Agriculture Organization of the United Nations**. Rome, Italy, p. 66

6 A. Whiteman, C. Brown and G. Bull. 1999. Forest Product Market Developments. **Food and Agriculture Organization of the United Nations**. Rome, Italy, FAO/FPIRS/02. p. 14.

consumed in the next decade is already growing somewhere in the world. Supply cannot be readily augmented by near-term decisions. While such practices as fertilization and thinning can enhance growth within this time frame, the impact on overall timber supply will be modest. It is simply not possible to materially increase the supply of timber within a 10-year investment horizon.

In the longer term, supply responses can be significant; therefore, it is important to be a low-cost producer. Low cost is determined mainly by high growth rates, low land costs, and proximity to markets.

We believe that there is a unique opportunity in several emerging market regions to capitalize on barriers to entry by (i) acquiring high-quality forests that are currently poorly utilized due to lack of capital investment in the processing sector, and (ii) creating low-cost production units well positioned to compete domestically and internationally in the longer term.

e. Ability to leverage investments in human resources and technology

Investments in timberland are not investments in trees alone, but also in the management systems and processing technologies that bring those trees to market. Improvements in the supply chain can add material value to the underlying timberland. For example, the manufacturing facilities that process timber (e.g. sawmills, plywood mills, pulpmills) are, over time, becoming more efficient in their use of wood. Market dynamics generally work such that improvements in technical efficiency are backed into higher timber values.⁷

Our approach to unlocking value from timberland assets in emerging markets will take advantage of technological improvements by (i) actually owning the processing facilities so the full flow-through benefits of technological innovation accrue to our investors and (ii) systematically providing training to local management to improve long-term investment performance. We expect that management excellence reflected in cash flows will be rewarded on exit.

III. The Traditional Timberland Investment Model is Maturing, and Prospective Returns are Falling

The good investment performance of timberland has been recognized for at least 20 years. Since its modern inception in the early 1980s, timberland investment has grown at a rate of about 20 percent/year. The corpus of private equity timberland now amounts to perhaps \$20 billion out of a total available supply of \$75 billion in the U.S. with a comparable amount outside the U.S. This available supply is held by both forest product companies and private individuals.

Restructuring of the integrated forest products industry has been fueling the growth of the asset class. Traditionally, forest products companies felt the need to own timberland and processing facilities. For both financial and strategic reasons, forest products companies have been selling timberland. The total amount of timberland divested probably amounts to \$30 billion at current valuations. This trend has occurred in the US, Canada, Sweden, Finland, Australia, New Zealand, and to a lesser degree, in Chile and Brazil. Private equity investors have been the main ones to acquire the “surplus” timberland, but timber-intensive, publicly-traded companies are now playing a role as well.

7 P.A. Cardellichio and C.S. Binkley. 1988. The effects of overrun improvements on stumpage price inflation. *Can. J. For. Res.* 18:981-985.

Although restructuring continues, in the traditional investment regions the balance of power appears to have shifted from the buyer to the seller:

- The forest products companies now understand how financial investors price timberland, therefore less money is left “on the table”.
- Investment bankers are now generally involved in the sales processes; and, even when they are not, auctions are more characteristic than negotiated sales.
- The number of timberland investment management organizations (TIMOs) has swollen; so that auctions are more competitive, asset prices are accordingly bid up, and sellers can demand more onerous terms and conditions.
- The amount of capital flowing into the asset class has become large compared to the available supply. At the moment, timberland investors and their managers may have \$10 billion of unspent capital allocations awaiting investment in traditional regions. This amount equals perhaps four to five times the recently available annual amount of supply in the traditional venues—the U.S., Canada, Australia, and New Zealand.
- Such investment “gurus” as Jeremy Grantham of GMO and Jack Meyer formerly of Harvard Management Company are publicly touting the opportunities for timberland investment
- A Wall Street firm has begun to offer a timberland product to its private investors.
- A larger publicly traded commercial real estate REIT, iStar, has formed a private-equity timberland investment group.
- At least one very large hedge fund is considering starting a timberland investment option for their investors.
- Traditional private equity firms—Madison Dearborn and Cerebrus—have moved into the space.

In short, it appears that the amount of new capital flowing into the asset class risks depressing future returns. The evidence is anecdotal, but concerning.

Virtually all of this capital is dedicated to what we would call “traditional” timberland investments—the acquisition of existing forests in developed countries. An increasing amount of capital is chasing a fixed or declining number of deals. While there is not yet any empirical evidence that returns are actually falling, the conditions have been set for that to occur.

How can an investor access the desirable features of timberland investments without risking the falling returns that may be associated with traditional approaches? Our emerging markets forestry investment strategy is specifically designed to answer this question.

IV. An Emerging Markets Forestry Investment Strategy

Timberland has rewarded past investors handsomely, but there are reasons to believe that the forward-looking returns may be lower. Generating excellent returns in the future will involve some of the same strategies as were involved in the early stages of the asset class, specifically: (i) invest where the big institutions are not investing, (ii) acquire high-quality assets and manage them well, and (iii) plan at the outset for how the development of the asset class will make markets more efficient, increase asset values and reduce forward-look-

ing discount rates. We anticipate that this process will be a bit more rapid than in the past, simply because more investors are convinced of the merits of timberland investment.

The nature of ownership of the world's forests necessarily means that the next tranche of timberland investment will occur in emerging markets. The U.S., Canada, Australia and New Zealand appear overbought. Opportunities in such developed regions as Canada, the U.K., Japan and the Nordic regions either have limited scope for private investment or, due to subsidies and other structural factors, have low projected returns.

There are positive and negative features of the need to focus on emerging markets as the next act in timberland investment. The positives for investment in emerging markets include capital shortages (so that the innate returns on capital investment should be higher); low-cost labor (so that the production of clear wood via pruning will be economic, and investments in processing technology should have exceptional IRRs); and, perhaps surprisingly, excellent forest resources in some locations. Key risks are politics and currency. The fundamental objective of our investment strategy is to capitalize on the opportunities while controlling the risks. How do we plan to do this?

a. Diversify investments to reduce risk

As with all investment strategies, diversification is the only free lunch. We focus on a broad cross-section of timberland properties and associated processing assets. We believe that attractively priced assets are available in widely diversified areas of Latin America, Africa, Asia and Eastern Europe. In some cases, there may be opportunities to roll up disparate assets in a specific geography and build economies of scale.

b. Chose countries strategically

A key value driver for achieving good long-term returns in emerging markets is reduction of risk. Risk reduction operates on both the country and investment level. On the country level, we seek locations likely to be the next tier for the big institutional investors. This means countries where:

- major institutions are not now investing but might find acceptable within a seven-to-ten year timeframe;
- ongoing or clearly pending structural political/economic changes are reducing country risk (examples include movement into the European Union, or democratization);
- there is an emerging forest sector with good domestic demand and current or possible access to international markets (by “possible” we mean that the products that could reasonably be produced would be suitable for export markets, and that the necessary transportation infrastructure is either in place or is very likely to be in place within our investment timeframe).

We seek to capitalize on regions that are poised to become platforms for meeting rapidly rising demand for fiber and wood products in the big new markets of China and India, or that have favorable cost structures to ship to large markets of developed countries.

c. Focus on plantations

Our general investment focus is on high-quality plantations of well-accepted species (e.g. southern pines, radiata pine, eucalypts, teak, and certain tropical hardwoods). Plantations afford investors volume certainty, the opportunity to leverage technical innovations, and the environmental benefits of staying out of relatively controversial natural forests. We also believe that attractive investments may be made on an opportunistic

basis in natural forests where (i) environmental standards can be met (see below), and (ii) such investments would help us bridge to sustainable plantations.

d. Use concessionary financing where appropriate and available

Our strategy includes the prudent use of debt. Because we are investing in processing facilities, we will tend to have more certain cash flows than would be the case in a standalone timberland investment. Investments in productivity-enhancing manufacturing equipment that generate their own incremental cash flow are particularly attractive targets for debt financing. Because of the locations where we are investing, we believe we may have access to concessionary financing, either from in-country development corporations or international development banks. The concessions may be in the form of lower interest rates, but more likely in the form of better terms and covenants. A key concern is to be sure that the level of debt service payments is not so high as to force sub-optimally early harvest of timber. We are also concerned that the currency of the debt contributes to our currency-hedging strategy (see V.h, below). The term and interest-rate structure need to be consistent with our exit strategies.

e. Rely on Forest Stewardship Council (FSC) certification

In the political climate created by the worldwide destruction of forests, especially in the tropics, we believe that commercial forestry must operate to a high environmental standard. At the moment, there is only one international certification standard for sustainable forestry—the FSC. This standard is widely endorsed by such prominent environmental organizations as the World Wide Fund for Nature and Greenpeace. The market for FSC-certified wood is growing, and equals perhaps \$US 5 billion today.⁸ We will only invest in operations that either have this standard of certification or can achieve it within a reasonable period of time. Why is FSC certification important for investors?

We believe that FSC certification can improve risk-adjusted returns from a forestry investment. There are two components to this argument, one related to returns and the other related to risk. There has been enormous growth in the demand for FSC-certified products, yet the supply still lags significantly. Some markets will pay a small premium for FSC certified wood, so that certification can add to returns. This is especially important in weak markets where customers are trying to determine who to shut down. But, the more important value proposition relates to risk: FSC certification both provides the basis for a proper environmental management system that all companies should deploy; and provides protection against complaints and market campaigns from environmental non-governmental organizations. In-place FSC certification may also save on up-front due diligence costs. At present the overall quantity of FSC-certified lumber is small, and we may ultimately control a large fraction of the certified markets.

f. Invest in manufacturing facilities

Unlike traditional timberland investment funds, our emerging markets forestry investment strategy anticipates acquiring wood products manufacturing facilities. The main advantage of doing so is that we can effectively operate in locations that lack well-developed markets for standing timber. This opens new territory to us that is not currently available to traditional timberland investors. One of the reasons that stumpage values are low in our targeted markets is the lack of adequate and appropriate processing facilities. By

⁸ See “Estimated Size of the FSC Global Market Revised to US\$5 Billion,” Forest Stewardship Council, Bonn, Germany, 22 April 2005 (http://www.fsc.org/en/whats_new/news/news/40)

putting high-quality processing facilities in place, we will capture the value “back to the stump” (this was Weyerhaeuser’s strategy when they first moved into the Pacific Northwest in 1900, an “emerging market” a century ago).

We focus on solid-wood products (lumber, veneer, plywood, OSB, engineered wood products) more than on high-capital-expenditure pulp and paper. We have in place the core of the team needed to manage such operations and will have a strong personnel presence in each portfolio company. Although this strategy adds operational risk to a traditional timberland investment, investing in solid wood products manufacturing allows us directly to capture the value of technological advancement in mills. Investments in such new technology as optimized edgers or primary breakdown units can have payback periods measured in months. These high returns will flow back to our investors. The returns are particularly high in the kinds of chronically undercapitalized manufacturing facilities we expect to find.

As a result of these factors, we believe moving into the low-capital aspects of wood products manufacturing, especially in the context of emerging markets, makes a great deal of sense for timberland investors. Furthermore, having the employees associated with processing facilities will reduce the political risk of timberland ownership.

g. Control market risks

Our investment focus is mainly on known species with known markets and known manufacturing technologies. This includes an emphasis on pines, eucalypts, teak and such well-known tropical species as ipè and Spanish cedar. We are skeptical of an approach that depends on investing in large areas of currently non-commercial species with the “plan” or hope that these will become valuable over the time frame of our investment.

h. Control currency risks

One of the key risks in investing in emerging markets is currency risk. Typically developed-country investors seek returns denominated in \$US or in €, and returns from emerging markets may be denominated in low-liquidity (and, therefore, difficult-to-hedge) currencies with little or no correlation with the target-return currencies. We seek to control this risk by creating inexpensive natural currency hedges for our operations. The best way to do so is to match domestic costs with domestic revenues, and to sell exports in \$US or €. If there is a structural mismatch of costs and revenues, the careful selection of the currency of any debt for portfolio companies can augment the natural hedge. We will seek credit-worthy partners in domestic markets, especially for pulpwood sales.

One way to reflect country-specific economic risks (including such issues as currency exchange rates and default risk) is to adjust developed-country equity risk premia for the unique risks of emerging markets. There is a growing and useful academic literature on this subject.⁹ The gist of this analysis is that firms should include a country risk premium only for that portion of their (net) revenues that are exposed to the country in question. As a consequence, the export orientation of our proposed investments greatly diminishes our investors’ exposure to country risk. Political risks do remain, however.

⁹ see, e.g. A. Damodaran. Country Risk and Company Exposure: Theory and Practice. *Journal of Applied Finance*, Fall/Winter 2003, and C. Erb., C.R. Harvey and T. Viskanta. 1995. Country credit risk and global portfolio selection. *Journal of Portfolio Management*, Winter, pp. 74-83.

i. Constrain capital to available deal flow

Are there enough deals to implement this strategy? Because this investment space has been ignored by traditional investors, the prospects, in principle, should be good. We have surveyed the landscape, and believe that, at least initially, there is an adequate quantum of opportunities to make five to ten investments in the \$25-\$75 million range that will meet our return hurdles. Potential investments include spinoffs from pulp and paper companies, projects initially supported by development agencies (CDC, FAO, World Bank, etc.), and governmental privatizations in countries where plantations have been grown but commercial opportunities have not been maximized. We suspect that, as we work in this space, more opportunities will come to our attention.

j. Work with strategic partners

We believe that strategic partners can add material value to each portfolio investment, and perhaps to the strategy taken as a whole. We seek three kinds of partners. The first are large national or multi-national pulp and paper companies (e.g., International Paper, Oji Paper, StoraEnso) that may be looking for incremental supply which we can fill from thinnings and the non-sawlog portions of final harvests. These same firms will be customers for residual chips from our sawmilling operations. To the extent that these firms are selling into export markets, we may be able to contract for offshore payment in \$US or €. The second are remanufacturing and marketing partners who are looking to expand in emerging markets and desire FSC-certified wood (e.g. IKEA, Jeld-Wen, Anderson). These firms may be customers for our products, or may participate directly in labor-intensive remanufacturing operations we would acquire or establish. The third are key local partners who may operate the businesses we acquire or may occupy some element of the supply chain (e.g. landownership, owners of remanufacturing plants, financial interests). Working with local partners not only helps in reducing political risk, but affords another exit option.

k. Take advantage of markets for ecosystem services

Forests are increasingly recognized as providing valuable “products” in addition to timber. These products include conservation lands—a modern forest plantation typically includes one-third to one-half the total area in conservation zones. It is increasingly possible to monetize the value of such conservation areas via the sale of conservation easements or development rights. In the US, the sales of such title restrictions have averaged perhaps 30 percent to 40 percent of total asset value in recent years (the exact percentage will depend on the value of the conservation values preserved and varies greatly from place to place). In addition, the Kyoto Protocol on Climate Change provides several mechanisms for recognizing the positive contribution that forestry plays in mitigating climate change. Under the current rules, plantation projects in emerging markets are particularly advantaged. Furthermore, since we will be operating manufacturing facilities, we have a good opportunity to crystallize value related to biomass energy projects, either for self-consumption, or for cogeneration and sale to local communities.¹⁰

l. Invest in human resources and community development projects

The development literature indicates that education provides a high return on investment. We believe that introducing industry-specific training programs to forestry ventures in emerging market countries will produce significant productivity gains and economic rewards. Training will include programs from equipment manufacturers,

10 The general methodology for assessing the impact of carbon sequestration credits on forestry returns is laid out in G.C. van Kooten, C.S. Binkley and G. Delcourt. 1995. Effect of carbon taxes and subsidies on optimal forest rotation age and supply of carbon services. *Am. J. of Agric. Econ.* 77 (May): 365-774. The website www.ecosystemmarketplace.com provides considerable useful information on this point.

both on site and at the manufacturers’ own training centers. We also plan to organize portfolio-wide training programs for issues of common need; and we believe that there will be an advantage in bringing, for example, foresters from different locations together for educational programs. Not only will such training programs produce a high return on capital invested, but they will also reduce operational and political risk.

m. Plan exit options at time of acquisition

The overall objective of our investment strategy is to add value to investments by buying them right; operating them well; and eliminating risks via operational improvements, FSC certification and structural change in the regions we operate. Unlike the traditional timberland investments that are typically divided into small parcels and then sold, we have other exit options:

- Sale to financial buyers either as timberland alone or as integrated operating units (either private equity or timberland investors),
- Trade sales to local or international forest products companies,
- IPO of individual companies on their home-country exchanges, and
- IPO of the portfolio as a whole on a developed country exchange.

This last option may prove particularly attractive. Given our return expectations, a portfolio of emerging markets forestry investments might be worth \$1 billion to \$1.5 billion on exit. This would be large enough to IPO in its own right, or might be combined with a domestic asset for a larger package. Non-U.S. timberland is a “good” REIT asset, so it would be possible to combine such a portfolio with a large U.S. timberland asset to form a well-diversified REIT. We would then IPO that entity on a U.S. exchange. At the moment, US timber REITS trade EV:EBITDA multiples of 10-15x.

n. Generate superior risk-adjusted returns

Based on our experience with timberland investments and with emerging markets, we believe that annual returns (measured as cash-in, cash-out IRR) in the range of 15 percent -20 percent nominal, post fee should be attainable, via a combination of operating cash flow and sale of companies. We believe that the sources of return may break out as follows:

Source of Return	Estimated Contribution (nominal, pre-fee)
Core timberland	8-11%
Core manufacturing return	400-600 bps (based on 14%-18% ROE, with 25-40% of value in manufacturing)
Sovereign Spreads	100-600 bps
Manager Value Add	200-400 bps
Risk Reduction (operational + country, over 7-10 year investment horizon)	200-400 bps
TOTAL	17%-31%

V. Case History: Global Forest Products (GFP)

GFP is an integrated forest products company whose principal activity is growing pine plantations (predominantly *P. patula* and *P. elliotii*) for sawlogs and processing the logs for maximum value. The company is one of the leading producers of lumber and plywood on the African continent and is pursuing an active strategy of global expansion. Assets include nearly 70,000 hectares of world-class plantation forests certified by the Forest Stewardship Council (FSC), three sawmills, a plywood plant and two remanufacturing plants. Since GEF's investment in early 2001, GFP has been transformed from an unorganized agglomeration of disparate loss-making business units selling low-value products to the local market, into an integrated and dynamic company focusing on high-value products for local and export markets. Three factors are driving the turnaround:

- A cultural transformation to empower local workers,
- The introduction of industry know how and management skills through a dozen North American expatriate specialists, and
- A capital expenditure program designed to upgrade and expand the old processing facilities.

Revenues have more than doubled to \$120 million and EBITDA has grown by some four-fold to \$16 million from 2001 to the end of the current fiscal year.

GEF was attracted to the forestry assets of South Africa because they were predominantly low-cost, high-quality and FSC-certified. FSC sets rigorous standards not only for management and conservation of the natural resource but also for the rights of indigenous people, community relations, and workers rights. GFP has used the FSC principles as the foundation of its corporate mission of sustainable development, aiming to manage its forests, empower and develop its people and generate accelerating cash flows—all on a sustainable basis. FSC-certified lumber products are increasingly sought after in many markets in North America and Europe, and GFP's FSC status has provided it preferential access to these markets.

Since its inception in 2001, the GFP group of companies has dramatically improved its operating and financial performance by integrating the forests, mills and market into one business; by upgrading and expanding the processing plants; by introducing new management and ways of doing business; by importing know-how and management skills, targeting new markets; and by transforming corporate culture. GFP has increased lumber and plywood production by roughly 60 percent to 336,000 m³ and 41,000 m³, respectively, per year. Revenues will grow at a compounded annual growth rate of 21 percent to R714 million in 2004/2005, and EBITDA will improve from negative R35 million to positive R95 million.

Although GFP's performance has improved dramatically, there is still significant scope for further value creation, and therefore no shareholder exit is planned before 2006/07. In the interim, as the company continues to execute on its long-term business plan, revenues are projected to double and EBITDA to increase five-fold. GEF envisages several exit options for its holdings, including a strategic sale to a large integrated forest products company, a public listing on the Johannesburg stock exchange, a sale to a South African buyer, or some combination, thereof.

You may view a video documentary on Global Forest Products by following the link below:
<http://www.globaleenvironmentfund.com/downloads.cfm>



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