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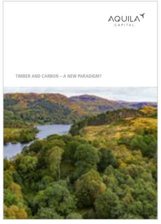


MANAGEMENT SUMMARY

TIMBER AND CARBON – A NEW PARADIGM?

Historically, timber as an asset class has been paid little attention by institutional investors in comparison to, for example, real estate and infrastructure, especially in Europe. This is now changing as market dynamics, the environmental imperative, and the macro risk environment all combine to refocus investor attention.

The world has recently entered a new era of uncertainty and volatility as a result of the Covid-19 pandemic, the Russian war against Ukraine and a weakening global economy on the back of steeply increased energy prices. As investors rebalance portfolios, there has been an emphasis on recalibrating their approach to risk and adding safer assets to allocations.

Against this backdrop, Aquila Capital strongly believes in the current and future qualities of timber as an asset class for institutional investors, with the following primary investment drivers:

- Strong, long term timber price trends,
- Climate change mitigation,
- Upside potential through asset optimisation, and
- Portfolio diversification.

1. Strong, long-term timber price trend

Timber prices are the major driver of realised forestry investment returns and are expected to increase in the medium to long term primarily as a result of the demand and supply imbalance on a global level.

Aquila Capital sees one major demand driver being the decarbonisation of the construction sector with the industry increasingly using timber as a substitute of concrete and steel, where possible. In conjunction with increasing urbanisation resulting from a growing world population, timber demand is expected to increase, strongly supporting timber prices.

Conversely, timber supply cannot be quickly increased to meet expected demand increases. Owing to the very nature of the product, trees reach maturity over a range of ages, depending on species and location. For example, this can vary from 6–8 years for pulpwood (eucalypts), 12–15 years for fast-growing poplar hybrids, 30–50 years for fast-growing pines and spruces, and over 100 years or more in temperate and tropical forests producing wood of large dimensions. A constrained supply of timber in the face of increased demand can therefore facilitate more attractive timber prices over a sustained period.

TIMBER DEMAND:

Triple by 2050[1]

Estimations by FAO predict that the global demand for timber will triple by 2050, due to increase urbanisation and the need to decarbonise the construction sector.

[1] *FAO Forest Product Statistics (2018); Forest Policy and Economics Vol. 119 (2020)*

Aquila Capital as an international forestry manager closely monitors the market and price developments on a global as well as at a local level and seeks to time harvesting operations to optimise cash flows. Mid to short term volatility in certain markets can be mitigated through the conclusion of timber supply or fixed price agreements. An international timber portfolio allows the manager the flexibility to slow or stop harvesting operations in areas with weaker timber prices, and to take advantage of stronger timber prices in others.

The unique advantage of timber is that there is no need to harvest in times of lower timber price, allowing the trees to continue to grow in volume and value "on the stump", preserving and increasing the capital value of the timber investment.

2. Climate change mitigation

April 2022 registered a new record[2] of the highest daily level of carbon dioxide in the atmosphere ever measured and served as a stark reminder that the world community needs to step up both carbon avoidance and, in particular, carbon removal efforts. With technical solutions still ineffective from a cost/benefit perspective, forests are today the only means for large-scale sequestration of carbon dioxide from the atmosphere and, therefore, are instrumental in the fight against climate change.

AFFORESTATION:
1 billion hectares[3]

IPCC calculations show that the afforestation of one billion hectares could help to achieve the 1.5°C target of the Paris Agreement and thus limit the worst effects of global warming.

Across all age classes, one hectare (ha) of forest in Central Europe binds approximately 12 tons of CO_2[4] annually through photosynthesis in below and above ground biomass. The total carbon sequestration ability is dependent on a variety of factors such as tree species, maturity, micro-climate, as well as nutrient and water availability.

In this context, sustainably managed forests under a suitable silvicultural regime will perform better in terms of their carbon sequestration function as compared to unmanaged forests. This is due to the fact that forest management entails routinely harvesting mature trees, which tend to bind less carbon dioxide from a certain age.

Therefore, investments in sustainably managed forests can play a vital role in combatting climate change. Structured in accordance with the applicable legal frameworks, timber investments may also contribute to achieving an investor's individual net zero goals in the context of disclosure to markets and stakeholders.

3. Upside potential through asset optimisation

Timber properties offer a large upside potential. Changes to the silvicultural regime, the amalgamation of smaller assets in larger portfolios, improvements to supporting infrastructure (e. g. road networks and access rights), and improvements within the applicable regulatory framework (e. g. increasing restocking areas under Long Term Forest Plans) tend to have a positive effect on the value of the relevant forestry asset or portfolio.

Managers of timber investments with the relevant expertise and organisation may, in addition, unlock income streams from forestry related and ancillary sources, such as carbon sequestration and renewable energy opportunities.

[2] Scripps Institution of Oceanography (2022)
[3] IPCC (2018)
[4] Encon website (2022)

In this regard, the generation and sale of carbon units in the compliance and/or voluntary market is nowadays the most prominent example for the monetisation of forest related ecosystem functions. The development of, for example, wind farms in suitable forest areas also adds value to an existing asset.

4. Portfolio diversification

While the prices of timber properties are directly dependent upon the forecasted cash flows and changes in the market discount rate, the returns are not only driven by wood prices as a function of supply and demand, but also by biological growth.

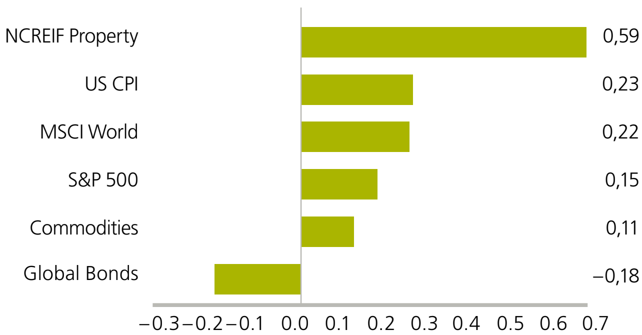
Biological growth as a driver of yield, in turn, is completely independent of financial markets. Hence, decoupled from the economic fundamentals underlying financial assets. Forestry assets provide diversification and value protection in mixed portfolios as the future yield increases through biological growth even in times of uncertainty and volatility.

Apart from limited correlation with the prices of financial assets, the risk profile of forest investments may further be optimised through spatial, temporal, product, and market diversification. Managers of forestry investments with a deep understanding of the applicable silvicultural regime and functioning of the global timber markets can build portfolios comprising various jurisdictions on different continents, age class distributions as well as a suitable mix of tree species.

Diversification in this sense enhances the resilience of the timber portfolio to climate change and limits the exposure to adverse economic developments in one target country as timber markets are largely localised. Different age classes and trees species facilitate a wider range of wood products, which may further limit the reliance on specialised regional off-takers.

NCREIF correlations with other asset classes[5]

Timberland returns have low correlations with financial assets
Correlations with U.S. timberland, 2000 – 2021



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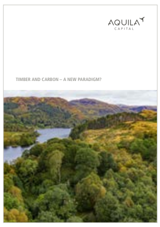

[5] *Bloomberg (2022).*

For more information please contact:

Aquila Capital
Valentinskamp 70
20355 Hamburg
Germany
Tel.: +49 (0)40 87 50 50 - 100
E-mail: info@aquila-capital.com
Web: www.aquila-capital.com

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