



How Institutional Investment Can Support the Growth of the Forest Sector

Speech by David Brand, CEO of New Forests

Presentation to the International Council of Forest and Paper Associations
4 July 2016 – Sydney, Australia

Thank you for the opportunity to participate here today and to have the chance to share some views on the future of the forest sector and particularly the growing opportunities that we have as an international sector.

I'd like to begin by briefly describing our company and then turn to a few issues that I think will affect the international forestry sector—mainly in a positive way.

New Forests was founded in 2005. We are an investment management business based here in Sydney. Our clients are pension funds, insurance companies, medical benefits trusts, sovereign wealth funds, and university endowments—collectively called institutional investors.

We manage more than AUD 3 billion in assets—primarily timber plantations, but also areas managed for grazing and cropping, areas under conservation management, and environmental assets including wetland and endangered species banks, terrestrial carbon projects, and water rights. This includes more than 700,000 hectares of forests and land. We have also invested in processing. We established Timberlink, which operates three sawmills in South Australia, Tasmania, and Blenheim, New Zealand. We also manage investments in woodchip mills, port facilities, and other forestry-related infrastructure. We oversee investments in Australia, New Zealand, Indonesia, Malaysia, and the United States.

Our business is organised around three investment strategies. The largest is our Australia New Zealand strategy, where we have acquired close to 600,000 hectares of land and timber plantations, as well as processing and infrastructure. We also have an investment strategy focused on Asia—particularly timber plantations in Indonesia, Malaysia, and Indochina. And finally we invest in the United States, mainly seeking forestry assets that also have exposure to environmental markets like California carbon offsets, wetlands banking, and other regulated environmental instruments.

Operating investments across these three regions over the past decade has provided us with a front row seat to significant changes in the Asia-Pacific forestry sector.

As investors, we see five intersecting trends that are driving the evolution of the forestry sector—

- The shift in demand growth from the traditional markets of Europe and North America to Asia.
- The shift towards incremental wood supply from plantations, principally in the Southern Hemisphere and tropical regions.

- Restructuring of markets – most strongly from newsprint, printing, and writing paper to new bioenergy and bio-materials as well as new multi-story construction systems using wood as a substitute for concrete and steel, as the world transitions to zero net emissions of greenhouse gases.
- The emergence of institutional investors as a major source of capital for the expansion and growth of the forestry sector.
- Rising requirements for sustainability standards, deforestation-free commodities, respect for human rights, and benefit sharing if you want to operate successfully at scale.

So from an investment strategy perspective you would have to say that acquiring high-quality timber plantations in the Asia Pacific region and managing them sustainably to support a range of existing and new markets would be a good bet. That is the basis of our company’s business model.

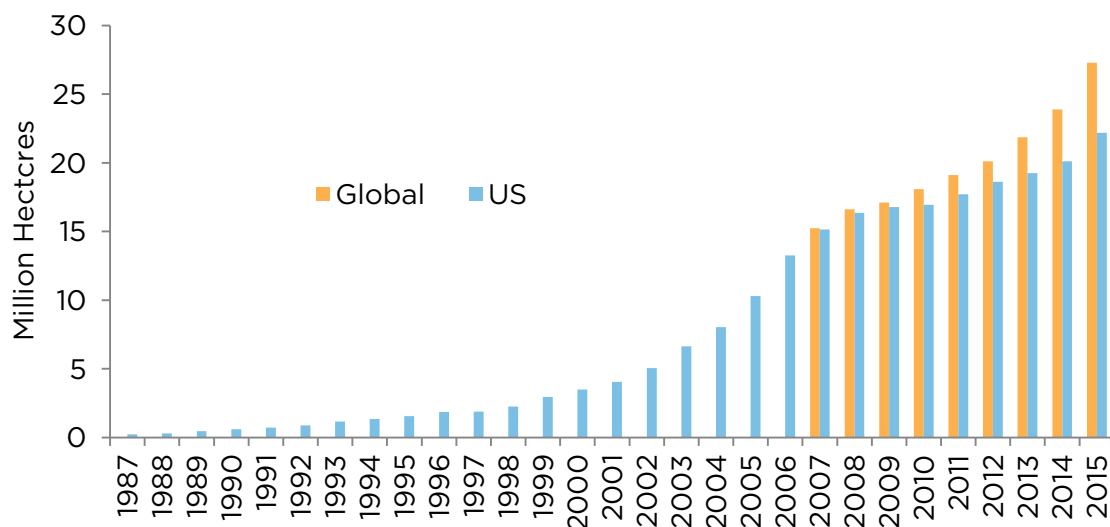
That brings me to the main topic I wanted to talk about today—the rising importance of investment capital to the future growth and development of the forestry sector.

Today most natural forests are still owned by governments and often licensed out to forestry operators, but most timber plantations are now owned by private sector investors. There are a few examples left of government ownership; New South Wales and Western Australia, the United Kingdom, Ireland, and France, for example, still have substantial government-owned plantation forests. However, as I mentioned earlier, the incremental growth in wood supply in coming years will be almost entirely from plantations, and that will be a function of capital investment. I would also say that the capital will come from the private sector, not from a renewed investment in timber plantation development by governments.

At present there are three main types of private timber plantation owners—corporates, institutional investors, and small private or community owners. Institutional investors now dominate in the USA, Australia, and New Zealand. Corporate owners dominate in Latin America, some parts of Asia (Indonesia, Malaysia) and Africa, and small private or community owners dominate in Europe and some Asian countries (e.g. Vietnam, Thailand, and China).

There is now about USD 100 billion of institutional capital invested in timber plantations, principally in the USA, followed by Australia, New Zealand, and Latin America.

Figure 1: Institutional Timberland Ownership

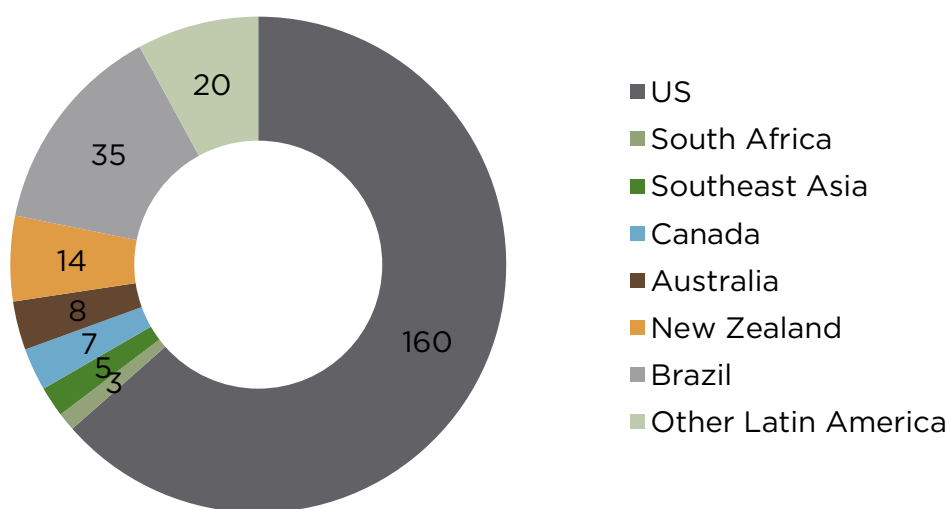


Source: RISI Timberland Investment Ownership database, Forisk Consulting

About USD 55 billion of that capital is invested via firms like New Forests that raise funds or client accounts to acquire and manage timber plantations. About USD 35 billion is in Timber Real Estate Investment Trusts that are listed on equity markets. These operate almost exclusively in the United States. The last class is direct investors, who tend to be large institutional investors who buy forestry plantation assets directly, often via unlisted companies or trusts. We estimate that there is in the order of USD 10 billion of these direct investments, such as Kaingaroa Timberlands in New Zealand.

It is estimated that you could buy the bulk of the commercial timber plantations in the United States South and West for about USD 150 billion, the plantation estates of Australia and New Zealand for about USD 25 billion, and all the plantations in Brazil, Uruguay, and Chile for about USD 50 billion.

Figure 2: Timberland Investible Universe by Region (USD Billion)

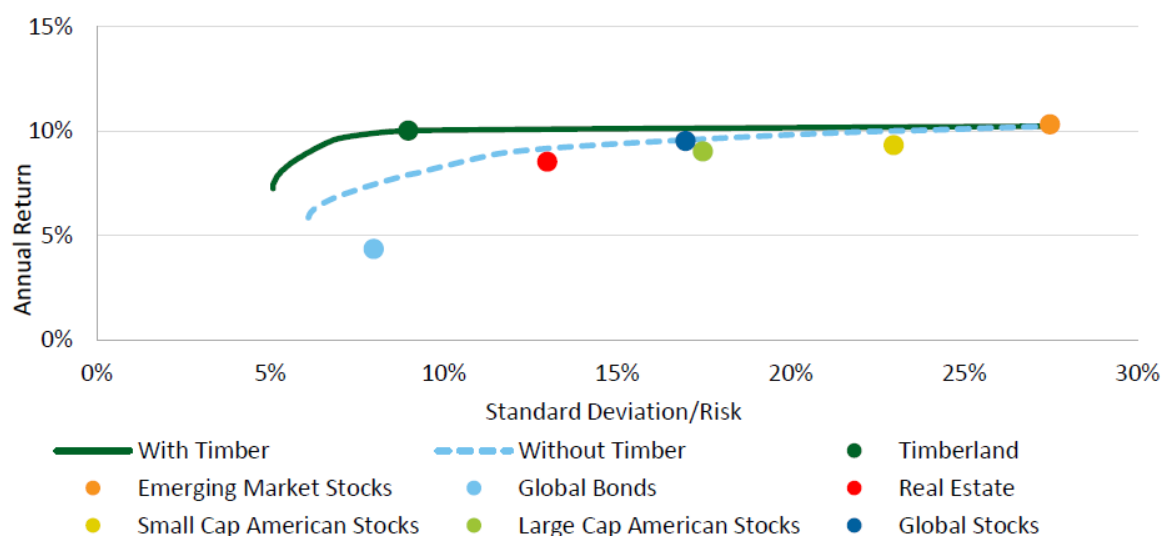


Source: IWC and New Forests estimates, does not include Europe

Setting aside smallholder plantations, you could probably buy most of the remaining commercial scale plantations in Western Europe, Southern Africa, Southeast Asia, and China for another USD 30 billion. That means at a global level, there are around 60 million hectares of plantations worth about USD 250 billion in total or around USD 5,000 per hectare. These are estimates, but give an order of magnitude of the investible timber plantation base. I would also note that this is not a large pool of assets by international standards—the agricultural land base of Australia has been valued at USD 300 billion, for example. Commercial real estate and private housing in Australia are estimated to be worth USD 3.5 trillion.

But forestry is very attractive to investors for at least three reasons. The first is that it is inherently a perpetual asset that can be grown, harvested, and regrown over and over. That is attractive to investors with very long-term investment horizons. Secondly, the returns relative to the risk in forestry are quite good and reflect that the returns from forestry come from biological tree growth, which is effectively capital appreciation as well as income from cutting and selling timber. Even in poor market conditions trees continue to grow and appreciate in value. And that leads to the third reason forestry is attractive—it has a low or even negative correlation to other asset classes like listed equities, bonds, and real estate, especially listed real estate. That means that when you package forestry assets in with these other assets, the volatility of the whole portfolio declines because you have uncorrelated assets that don't rise and fall in lockstep with each other.

Figure 3: Timberland on the Risk-efficient Frontier



Source: IWC, *Timberland Investments in an Institutional Portfolio*, March 2013

So with these positive characteristics shouldn't we expect massive investment in plantation establishment by institutional investors? Not necessarily. There have been examples of greenfield investment by institutional investors in Latin America and Africa—in fact New Forests invested in a large greenfield forestry plantation project in Indonesia late last year—but the vast majority of timber plantations were established by governments or under government incentives to private sector businesses. For example, in both Australia and New Zealand almost all the softwood plantations were established directly by government. The eucalyptus plantations in Australia were also almost entirely established based on a tax incentive scheme.

The challenge has been the long time it takes to grow trees to a point where there is income, and the underlying returns relative to the risks. As a result, governments in the past have felt that they needed to intervene in the market to make forestry investments more attractive. That is less likely to happen in future.

So how do we finance expansion of the timber plantation estate?

The first question is whether we actually need to expand the area of plantation, or could we just get away with making our existing plantation base more productive? If we believe that the future world timber demand will be restricted to existing products such as pulp, paper products including packaging and tissues, lumber, and wood panels, then forecasts suggest that demand will grow at about 1.5% per annum out to 2050. Given that there is plenty of evidence that plantation productivity per hectare can increase at 1.5% per annum over relatively long periods of time, you would say we have enough plantation area, you just need to invest in better genetics, better management systems, and operating on a best practice basis.

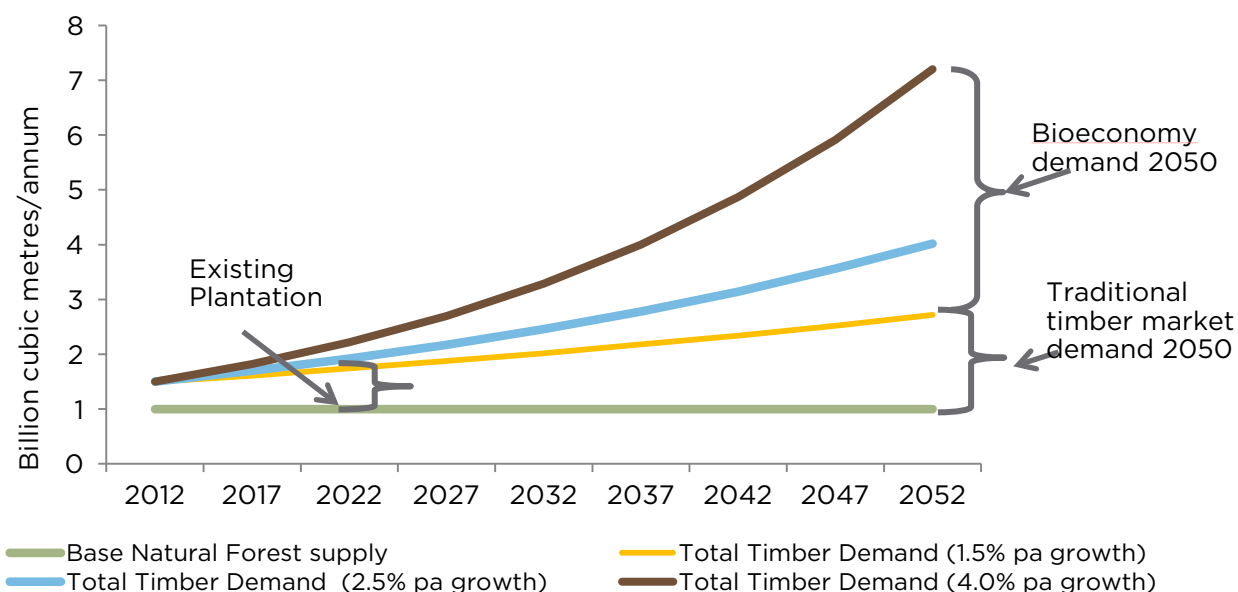
However, demand may look dramatically different. It's been suggested that we are on the verge of a bio-economy revolution as the world decarbonizes. The bio-economy is premised on the broad range of materials and products that can be made from natural bio-fibres and biomass. It could bring rising demand for bio-fuels, bio-energy, bio-based platform chemicals, cellulosic fabrics and multi-story wood dwellings. If this bio-economy is indeed in our future, then no, we don't have enough plantations.

Figure 4: The Emerging Bio-economy



The WWF put out a report a couple of years ago that suggested that we would need to increase timber plantation production by about 4% per annum to achieve a meaningful participation of biomass-based energy and fuels in the overall global energy system. That would mean going from the current 1.7 billion cubic metres of global annual roundwood production to about 8 billion cubic metres by 2050.

Figure 5: Global Timber Demand Forecast

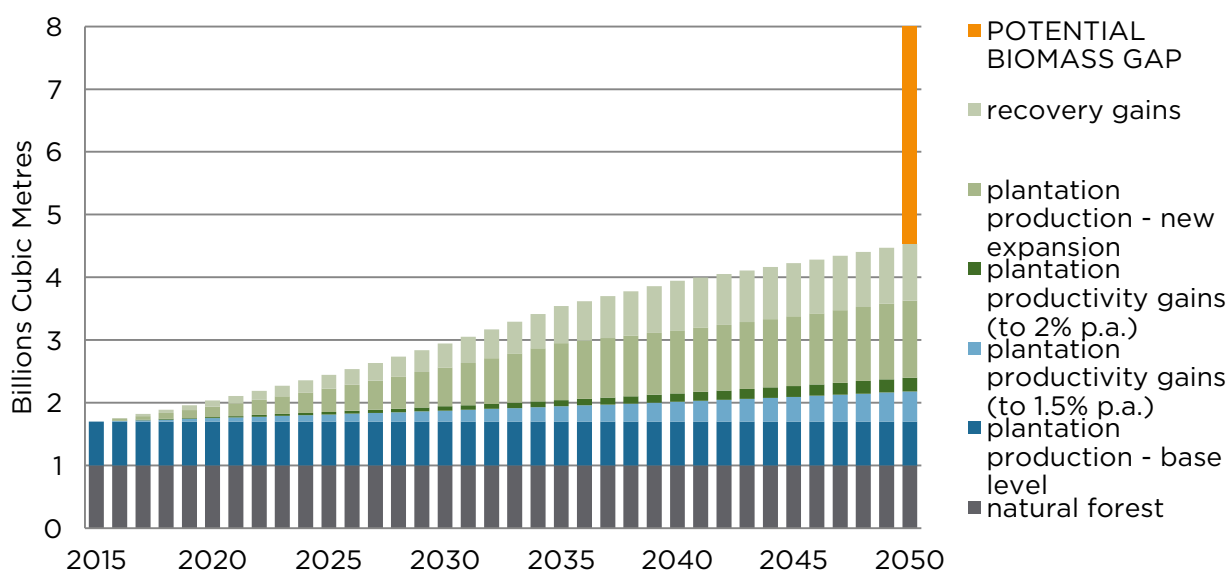


Sources: WWF 2013, "Living Forests Report.." FSC 2012 Strategic Review on the Future of Forest Plantations

In our [Timberland Investment Outlook](#) report last year, we asked ourselves what would it take to get to those kind of production numbers.

We started with the premise that the world produces about 1 billion cubic metres of timber supply from natural and semi-natural forests—say Canada, parts of the USA, Russia, northern Europe, West Africa, parts of Indonesia and Malaysia, etc. We don't expect that natural forest harvest to increase over the next 35 years, but it will most likely be stable. The plantation side of the equation currently produces about 700 million cubic metres per annum. If we increase that by 1.5% per annum for the next 35 years, we could produce about 1.2 billion cubic metres of timber from our existing plantation estate. If we are optimistic and suggest we could develop technologies that would increase productivity by 2% per annum, we would get to 1.4 billion cubic metres, or a total production including native forests of 2.4 billion cubic metres.

Figure 6: Projected Gains in Timber Production – Productivity, Recovery, and Plantation Expansion Forecasts



Source: New Forests

As a second step we asked how much new plantation area could be established. We looked at the various countries and regions and sought to realistically estimate how much new plantation could be established, and came up with maybe 25 million hectares of new plantation over the next 20 years. That would have to be based on buying existing farmland or rehabilitating degraded land, as I am assuming that no further clearing of natural forest for plantation development. In our experience, finding suitable areas to establish new plantations can be quite challenging especially when basing the decision to plant new trees on sound financial assumptions, so we take a somewhat conservative approach. By contrast, there are still large-scale land reforestation targets, mostly backed by government commitments. For example, China as a five-year plan that targets 30 million hectares of new plantation.

In any event, if you were to take our estimate of 25 million hectares and multiply that by average production of 25 cubic metres per hectare per year, that gives you another 625 million cubic metres per annum. This means cumulatively this “growth strategy” for timber production could yield 3 billion cubic metres per annum -a little less than a doubling of global timber production by 2050.

To get from 3 billion cubic metres to 8 billion cubic metres is then quite a stretch. We might get another 25% from significantly expanding utilisation of the woody biomass we harvest, but beyond that I think we would need to harness all the agricultural wastes and start to explore very

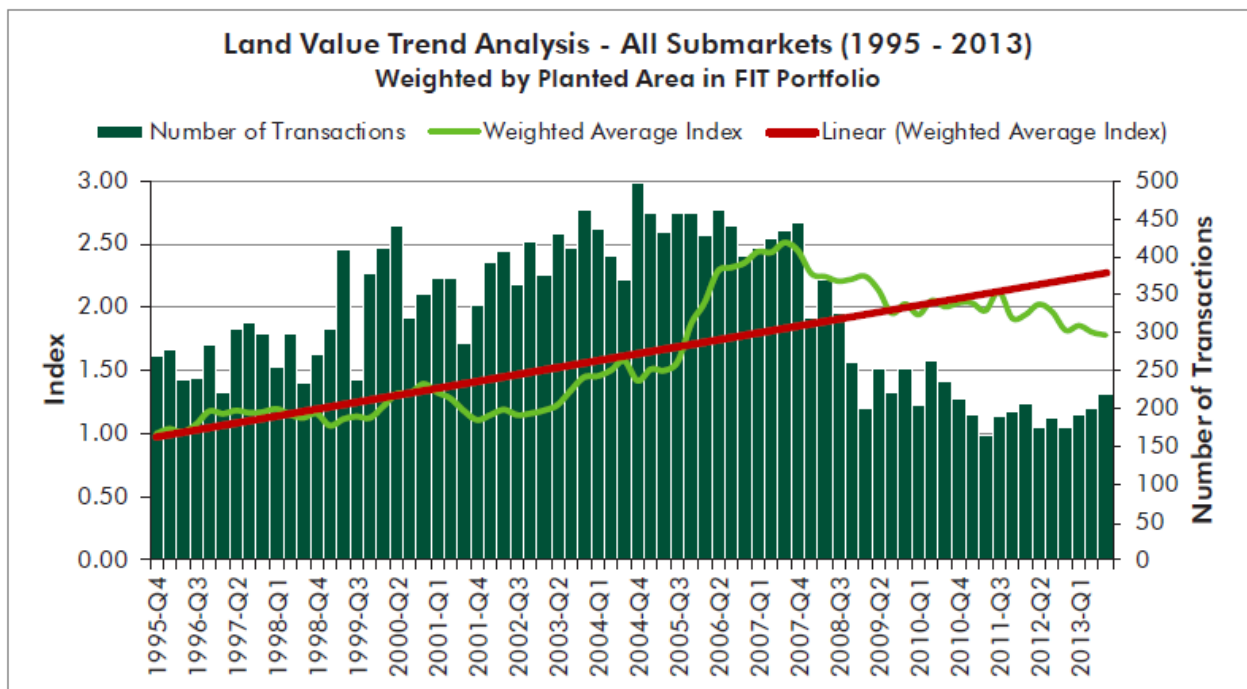
high productivity systems like sugar cane, bamboo, or grasses that simply maximise biomass production, which is then reformed into chemicals, energy products, and materials.

The conclusion would be that if we have a conventional economy and forestry plays little role in the decarbonisation of the economy over the next 35 years, then we can probably largely make do with our existing plantation base by managing it better and better over time.

If we believe that demand for wood and woody biomass will increase substantially, then we probably need to look at \$40-100 billion of new investment in forestry plantations. At the lower value, this would assume we are mostly leasing the land, and at the higher end would be to purchase freehold land for plantation establishment. Likely it will be a mix of these two approaches with places like Australia, New Zealand, and Latin America based on land acquisition while Asia and Africa may be largely long-term land leases. So let's call it \$70 billion over 20 to 25 years, which is about \$3 billion per annum. That is not a lot of money. The challenge is in the implementation on the ground.

If we think about the recent Managed Investment Scheme (MIS) debacle in Australia, those businesses struggled to acquire and plant 100,000 hectares per annum, even with effectively unlimited resources. Furthermore, many of those plantations represented a wasted effort because they were in areas with insufficient economic return to justify retaining them in a second rotation. There are also important lessons learned from the market distortions of the MIS system, such as the intensive land acquisitions that drove up land prices by as much as 100% over five or six years.

Figure 7: Land Sales Vs Pricing



Source: CBRE

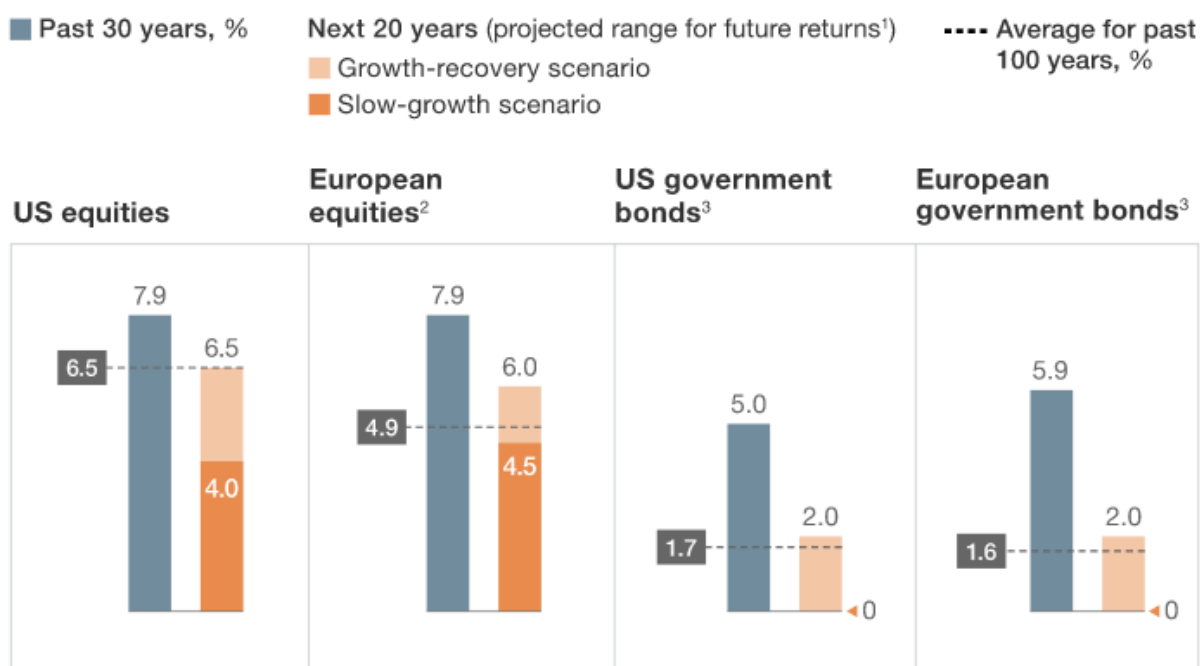
Similar situations have been seen in Uruguay, Brazil, Malaysia, and Indonesia where agriculture and forestry markets have effectively driven up the value of certain land uses and led to excessive land conversion. Once we stop clearing of new land – which is now widely agreed as an international goal and imperative – then we face a new challenge with heightened competition for a finite pool of good quality land to grow trees, graze cattle, develop dairy farms, and develop cropping.

So this is the challenge—it is not possible or acceptable to secure cheap land via conversion of natural forest, it is very hard to buy large quantities of agriculture land from the open market without driving up the prices, and whatever is available is under competitive buying pressure from other land uses.

This leads me to the conclusion that we really need to do absolutely the best job possible with the land base we already have and expand incrementally in a set of key regions. We also need to utilise 100% of the biomass we produce, and begin to explore some hyper productive crops like bamboo in the tropics.

The forestry investment market at the moment probably has more capital available than investment opportunities. To some extent this is just the reality that the forestry asset class is relatively small compared to the amount of institutional capital seeking to find real assets to acquire. However, the fact that government bonds have zero or even negative real yields means that expected equity returns are also declining. McKinsey recently released a major report projecting that equity returns over the next 15 years are likely to be 300 basis points lower than they have been over the last 30 years. If that is the case, then greenfield forestry will become increasingly attractive as an investment. However, inevitably land values will also increase.

Figure 8: Equity and Bond Return Expectations Are Falling



¹Numbers reflect the range between the low end of the slow-growth scenario and the high end of the growth-recovery scenario.

²Weighted average real returns based on each year's Geary-Khamis purchasing-power-parity GDP for 14 countries in Western Europe.

³Bond duration for United States is primarily 10 years; for Europe, duration varies by country but is typically 20 years.

Source: <http://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/why-investors-may-need-to-lower-their-sights>

I haven't talked today about the potential role of a carbon price signal in increasing new plantation development. In the short term a carbon price for carbon sequestered in plantations should spur reforestation. This is because it increases the overall return from the investment, provides a cash yield during the period that the plantations are increasing carbon stock, and

makes forestry more competitive with other land uses. However, it will also, once again, increase land values if it drives substantial increases in land acquisitions.

The forestry sector today has tremendous opportunities as the world transitions to a green economy. But equally, the maximisation of productivity, increases in utilisation, and prudent expansion of the timber plantation land base will require innovation, high performing management, and a relentless focus on continuous improvement. And that is a challenge we should all be up to.

Thank you.

© New Forests 2016. This publication is the property of New Forests and is may not be reproduced or used in any form or medium without express written permission.

The information contained in this publication is of a general nature and is intended for discussion purposes only. The information does not constitute financial product advice or provides a recommendation to enter into any investment. This publication has been prepared without taking account of any person's objectives, financial situation or needs. Before acting on this information, you should consider its appropriateness having regard to your objectives, financial situation or needs. Past performance is not an indicator of future performance. You should consider obtaining independent professional advice before making any financial decisions. The terms set forth herein are based on information obtained from sources that New Forests believes to be reliable, but New Forests makes no representations as to, and accepts no responsibility or liability for, the accuracy, reliability or completeness of the information. Except insofar as liability under any statute cannot be excluded, New Forests, including all companies within the New Forests group, and all directors, employees and consultants, do not accept any liability for any loss or damage (whether direct, indirect, consequential or otherwise) arising from the use of this information. It is your responsibility to be aware of and observe the applicable laws and regulations of your country of residence.

The information contained in this publication may include financial and business projections that are based on a large number of assumptions, any of which could prove to be significantly incorrect. New Forests notes that all projections, valuations, and statistical analyses are subjective illustrations based on one or more among many alternative methodologies that may produce different results. Projections, valuations, and statistical analyses included herein should not be viewed as facts, predictions or the only possible outcome. Before considering any investment, potential investors should conduct such enquiries and investigations as the investor deems necessary and consult with its own legal, accounting and tax advisors in order to make an independent determination of the suitability, risk and merits of any investment.

New Forests Advisory Pty Limited (ACN 114 545 274) is registered with the Australian Securities and Investments Commission and is the holder of AFSL No 301556. New Forests Asset Management Pty Limited (ACN 114 545 283) is registered with the Australian Securities and Investments Commission and is an Authorised Representative of New Forests Advisory Pty Limited (AFS Representative Number 376306). New Forests Inc. has filed as an Exempt Reporting Adviser with the Securities and Exchange Commission.