REAL ASSETS – THE NEW MAINSTREAM

PART I: REAL ASSETS – FROM NICHE TO CORE

Fixed income accounts for the largest share of institutional investors' portfolios by far. However, the zero interest rate policies of central banks and associated low yields mean that many institutional investors are in search of alternatives to meet their steady flows of payment obligations which they have little means of influencing. The 2008 economic crisis has reshaped the global financial landscape and the years of historically low interest rates that have followed have resulted in limited opportunities for growth. An eventual, albeit inevitable, rise in interest rates together with latent worries about inflation mean that investors are seeking investment solutions that will help them to prepare their portfolios for the challenges that lie ahead.

Increasingly, institutional investors across the globe are recognising the need to adjust their asset allocations in order to future-proof their portfolios. According to a recent Global Pensions Asset Study[1] by Towers Watson, pension funds have been reducing their fixed income and cash allocations to varying degrees since 1995, while allocations to alternative investments have increased from 5% to 18% over the same timeframe. Aquila Capital, which is part of the Aquila Group, believes that this trend will become significantly more pronounced over the next two decades, with allocations to real assets likely to exceed 20% of investors' portfolios.

In our opinion, the quest for new investment solutions will spark a prominent investor allocation shift towards real assets. As a leading European alternative investment manager with a long-standing track record in real asset investments, we believe that the unique combination of stable cash flows, growth potential and risk mitigation offered by real assets is unmatched by any other asset class. In contrast to structured financial products, which make similar claims, real assets are meaningful and indispensable from an economic perspective and are accepted socially. Real assets can generate attractive risk-adjusted returns and deliver valuable diversification benefits.

In our view, real assets will evolve eventually into a mainstream asset class and become an indispensable necessity in a diversified investor portfolio. Our own experience supports this assertion, as we are seeing a sustained rise in interest from investors in relation to real assets investment solutions. The prevailing market limitations and challenges that lie ahead support a strong investment case for considering real assets as a core holding within a diversified investment portfolio.

Table 1: Potential Benefits of Investments in Real Assets

Income	Attractive risk-adjusted returns in the upper single digits
Stability	Steady cash flows by regulated or contractual revenues
Visible Growth Drivers	Positive growth momentum led by significant fundamental trends
Low Volatility	Uncorrelated risks
Inflation Hedge	Cash flows tend to increase in an inflationary environment
Portfolio Diversification	Low correlation to traditional equity and fixed income investments
Availability	Huge demand for infrastructure investments meets fiscal constraints

Source: Aquila Capital Investment GmbH

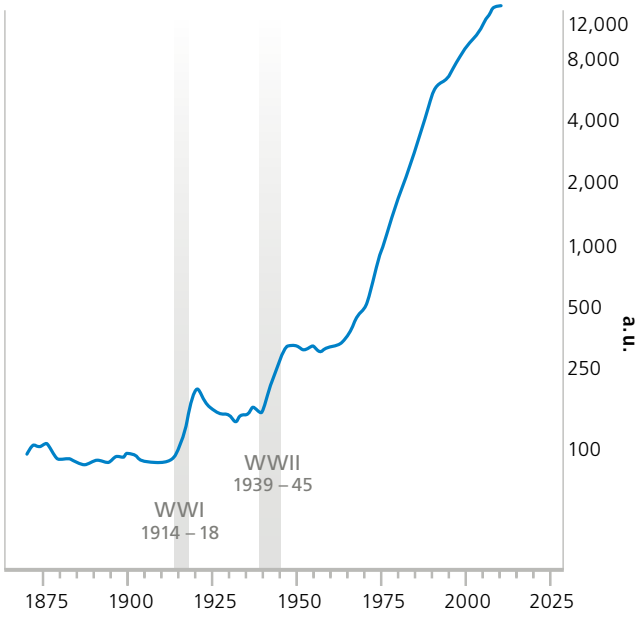
[1] *Global Pension Assets Study 2014, Towers Watson, January 2014*

The End of the Secular Credit Cycle and its Consequences

For a number of years, the global economy has been challenged with finding a new balance between fiscal and central bank credit expansion on the one hand and deleveraging in the private sector on the other. The term the "new normal" refers to the beginning of a stabilisation after the years of extreme market turbulence in 2008 to 2011/12. But to what extent is this normalisation actually taking place?

An analysis over the long term illustrates that the 40-year credit expansion phase that followed the Second World War was a one-off event in the history of the modern global economy. An examination of the total debt in the UK (net off population and underlying productivity growth) reveals that only two spikes in debt occurred prior to the 1960s. Both spikes took place after world wars and therefore have been crisis-triggered. The exponential credit expansion that has prevailed since the 1960s is the first of its kind in peace time and has been spurred largely by political efforts to avoid deep global economic crises and to smooth economic cycles with deficit spending and social programmes.

Chart 1: Total UK Debt Deflated by Population and Productivity Growth from 1870 to Present Day



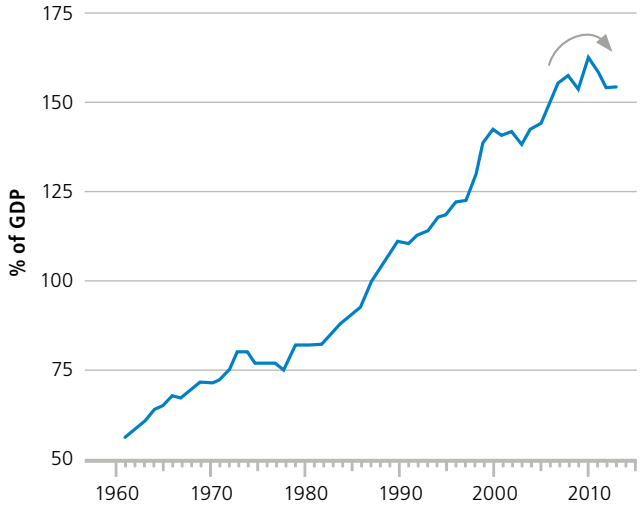
Source: Bank of England, Bank Credit Analyst

The United Kingdom was a dominant global economy up until the Second World War and is representative for the economies of the West.

An initially government-induced credit expansion spilled over into the private sector in the 1990s and reached its height during the equity and real estate bubbles of the 1990s. The bursting of these bubbles resulted in an abrupt behavioural shift within the private economy. Since then, there has been an increase in global saving rates, which governments have tried to counteract through increased public borrowing.

To what extent have the past six years already offset the debt excesses of the previous decades? Whilst a trend reversal in the level of private debt in OECD countries has become evident, as demonstrated by chart 2, the change has been relatively muted so far. On the contrary, charts 1 and 2 suggest that reduced demand for credit is likely to persist for a long time to come.

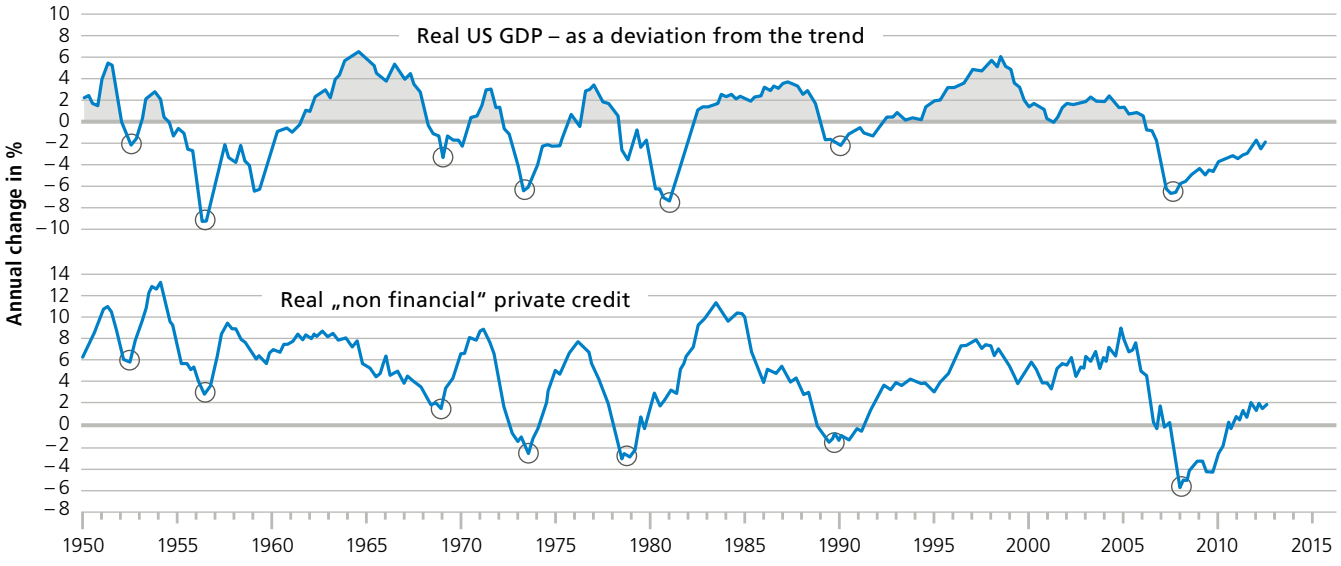
Chart 2: Total OECD Domestic Private Credit as a Percentage of GDP from 1960 to Present Day



Source: Bank of England, Bank Credit Analyst

This implies markedly below-average GDP growth rates for OECD economies for some time to come, a trend evident already in the current global economic recovery. Economic growth rates in many countries remain subdued despite the largest fiscal stimulatory programmes implemented to-date, with the United States being a prime example[1]. The strong connection between credit expansion and economic growth, as demonstrated by chart 3, illustrates why this is the case. Without the additional driver of growth in private credit, economic growth rates will be lower. This implies downwardly skewed interest rates for the foreseeable future.

Chart 3: US GDP Rate of Change Compared with 10-Year Moving Average and Real Changes in Demand for Credit



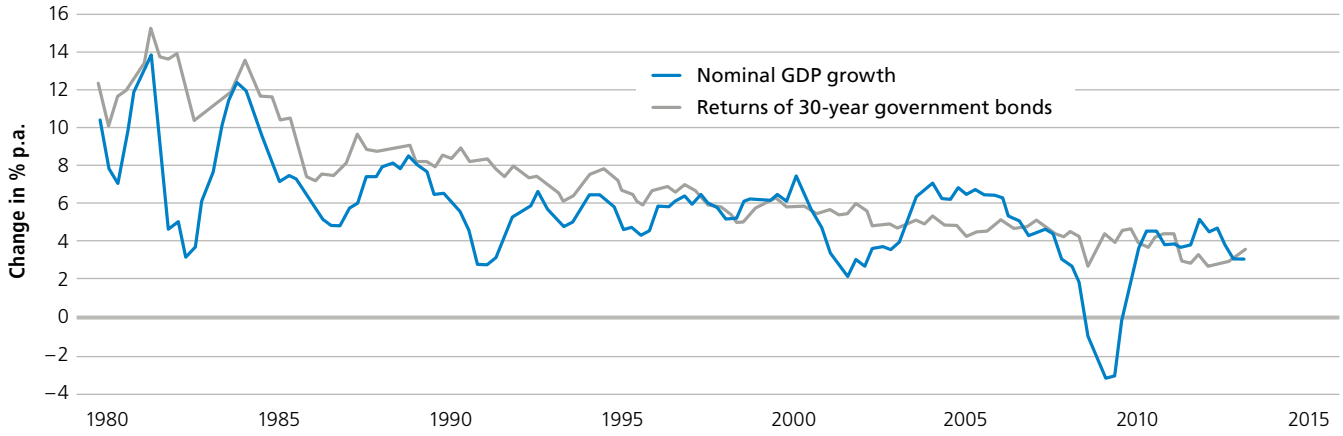
Source: Bank Credit Analyst

[1] *This is not taking into account that a large chunk of the growth can be attributed to the booming oil and gas sector (fracking): since 2008 approximately 1.4 million new jobs have been created in the "shale oil" states within the United States, while 400,000 jobs were lost in the remaining states over the same timeframe.*

The Quest for a Future-Proof Investment Alternative

Long-term interest rates are, predictably, fluctuating around the nominal growth rates of the world's economies. This must be the case, as otherwise we would see an arbitrage between companies and bond holders. If growth remains supressed by long-term deleveraging, then the result will be correspondingly lower interest rates.

Chart 4: Government Bond Returns vs. Nominal GDP Growth

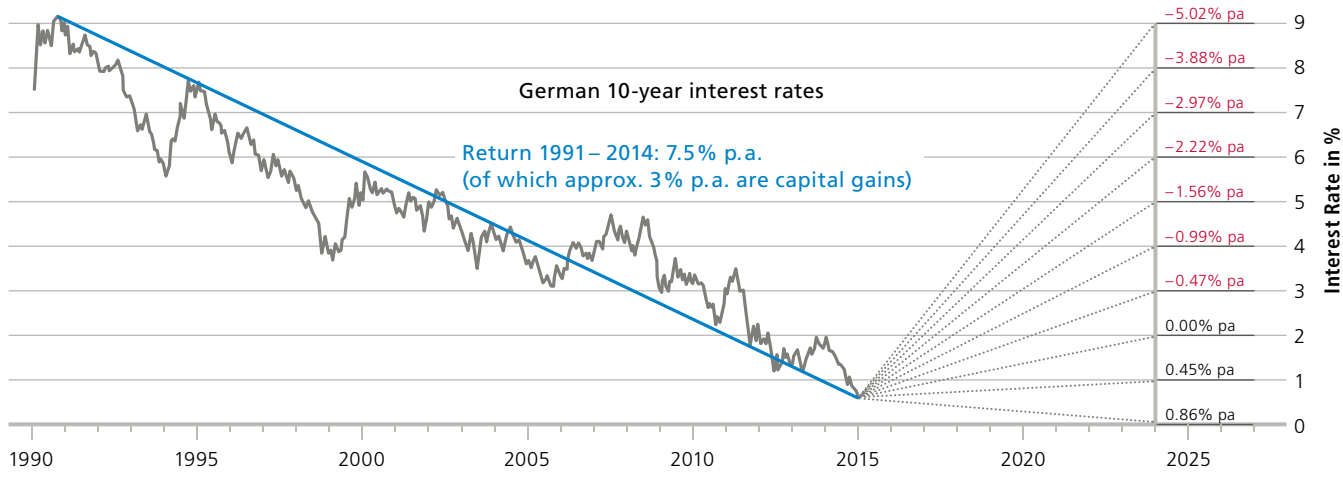


Source: Bank Credit Analyst

The current market environment has fostered significant challenges, causing investors across the globe to seek new investment solutions that offer the potential to enhance overall returns and mitigate volatility and risk. Following the 2008 financial crisis, government bond yields have hovered around historically low levels for several years, making it increasingly difficult for investors to unearth compelling investment opportunities in the fixed income space.

Whilst the current market environment is already challenging for unconstrained fixed income investors, the outlook for government bonds which are the core part of institutional fixed income portfolios looks even more bleak, with future returns from triple-A rated government bonds likely to be much lower than in the past. This is illustrated by the chart below, which maps potential returns from German 10-year government bonds for the next 10 years, calculated as a function of possible future interest rate levels. If German interest rates were to stand at 4% in 2024, for example, the total return achieved from interest payments and bond performance for a 10-year bond held at a constant 10-year maturity would amount to – 0.99% p.a. (even before inflation is taken account).

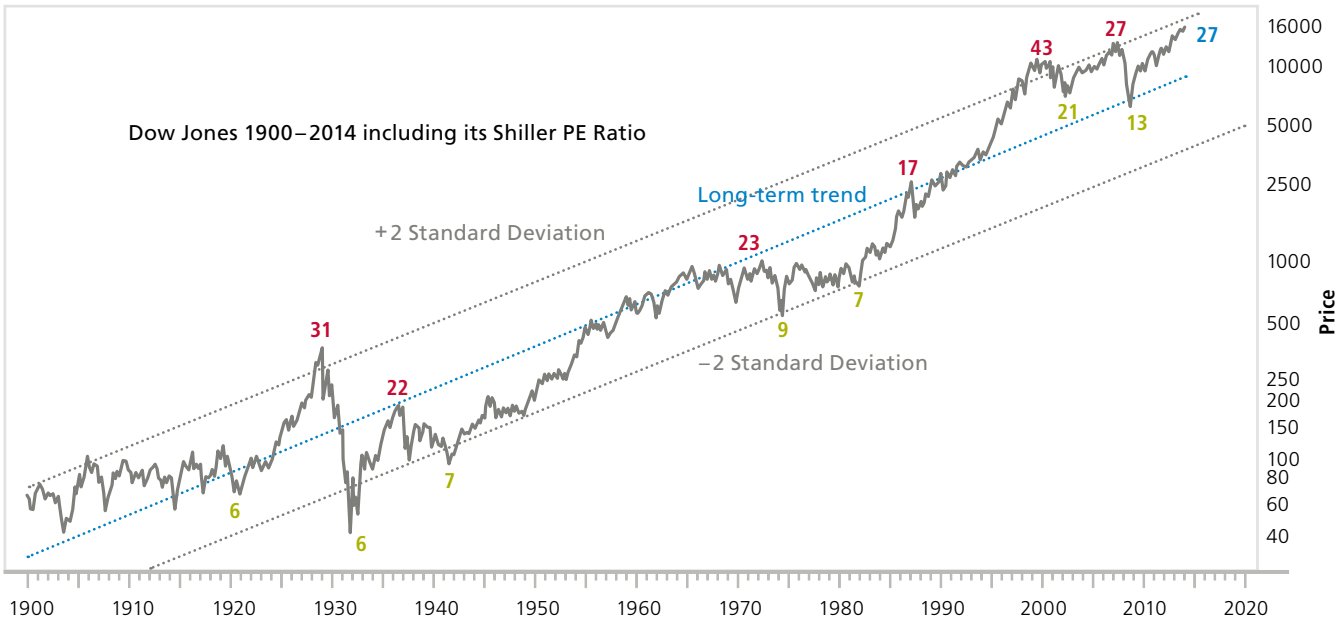
Chart 5: Future Return Potential of a Buy & Hold Investment in 10-Year Government Bonds



Source: Bloomberg, Aquila Capital Investment GmbH

Notably, it is not only the fixed income market that is proving a challenge to investors, since equity markets have also reached extended levels again. Using the well-known Shiller price-to-earnings (PE) ratio as a yardstick for equity valuations one can estimate the return potential for equities. Taking the Dow Jones Index, whose current Shiller PE ratio of 27 lies significantly above its historic average of 16, as an example, the lacklustre return expectations for the asset class become apparent.

Chart 6: Performance & Shiller PE Ratio of the Dow Jones Index



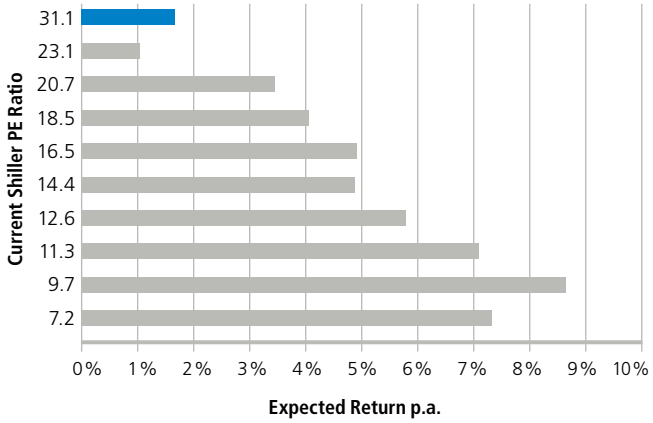
Source: Bloomberg, http://www.multpl.com/shiller-pe/, Aquila Capital Investment GmbH

Clearly, there is a distinct connection between current valuations and future equity market returns, as illustrated by Chart 7, which depicts the average performance of the Dow Jones Index over the next 10 years for various Shiller PE ratios.

Based on its current Shiller PE ratio and its 114 year history, the Dow Jones Index has a return expectation of only around 1.5 % p. a. over the next 10 years. Taking into account a current dividend yield of approximately 2.5 %, the total return that can be expected using historic data lies at only 4 % p. a.

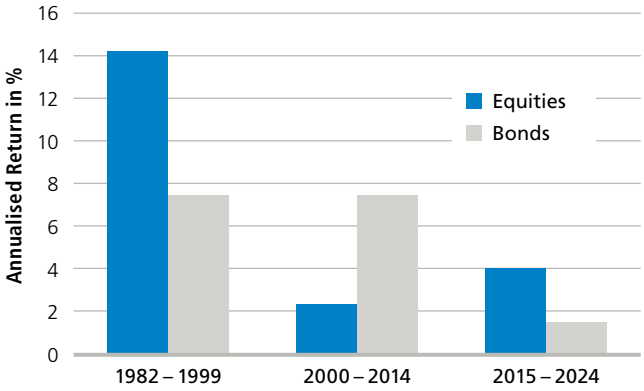
The Shiller PE ratio is defined as price divided by the average of ten years of earnings (moving average), adjusted for inflation. As such, it is principally used to assess likely future returns from equities over timescales of 10 to 20 years, with higher than average CAPE values implying lower than average long-term annual average returns.

Chart 7: Shiller PE Ratio versus Average Equity Returns (Without Dividends) Over the Next 10 Years



Source: Bloomberg, Aquila Capital Investment GmbH

Chart 8: Historic and Future Bond and Equity Returns



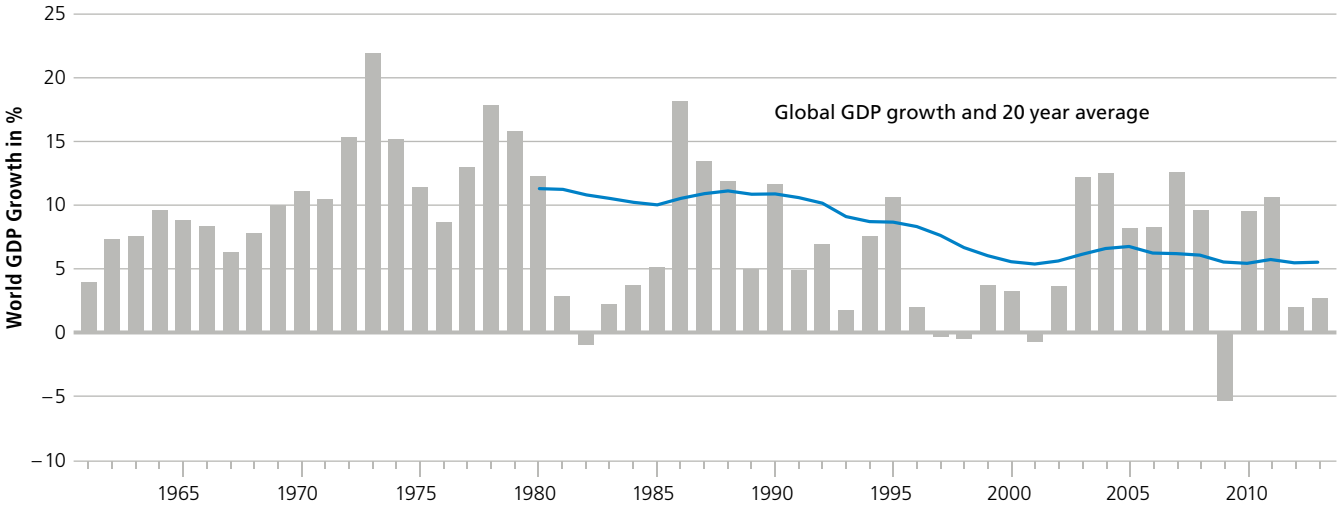
Source: Bloomberg

This unique investment landscape, for which there is no precedent in history, is giving rise to considerable challenges for pension fund managers struggling to fund deficits. Among these challenges is the need to assess the impact of today's loose monetary policies on global interest rates and inflation tomorrow. Interest rates have been at ultra-low levels for a number of years now and we are moving closer to the point where monetary policies must start to normalise.

How fast interest rates will rise and inflation will return to the global economy continues to be the subjects of heated debate and opinions are divided. At the same time, whilst pockets of growth have begun to re-emerge since the financial crisis, overall economic growth continues to be subdued.

According to the International Monetary Fund, which has recently cut its growth forecasts for 2015, the world economy may never return to achieve the pace of expansion seen before the financial crisis[1]. A recent report by Moody's[2] warns that prolonged low growth in the euro area may lead to low inflation becoming entrenched, with deleveraging turning increasingly economically and politically painful.

Chart 9: Subdued Global Growth is a Long Term Trend



Source: Bloomberg

Many institutional investors recognise that the prospect of low bond yields for years to come (even if not at today's ultra low rates) is a challenge they need to prepare for. Pension plans are becoming more mature, with a growing number of retirees collecting benefits and a shrinking number of active participants. As a result, deficits are ballooning and shortfalls are widening, as investment yields have fallen while liabilities have increased. This combination of growing demand for benefits and decelerating growth in pension assets is leading to significant financial strain.

Ignoring the problem may result in a struggle to keep funding ratios high, but allocating principal to higher risk products could have the same result. With such uncertainties ahead, we believe that investors will likely need to look beyond traditional portfolio components to generate attractive returns. Real asset investments provide a compelling solution to this dilemma.

[1] World Economic Outlook, IMF
[2] Summer lull: Subdued, but less risky global growth likely, Moody's Investor Services, 11 August 2014

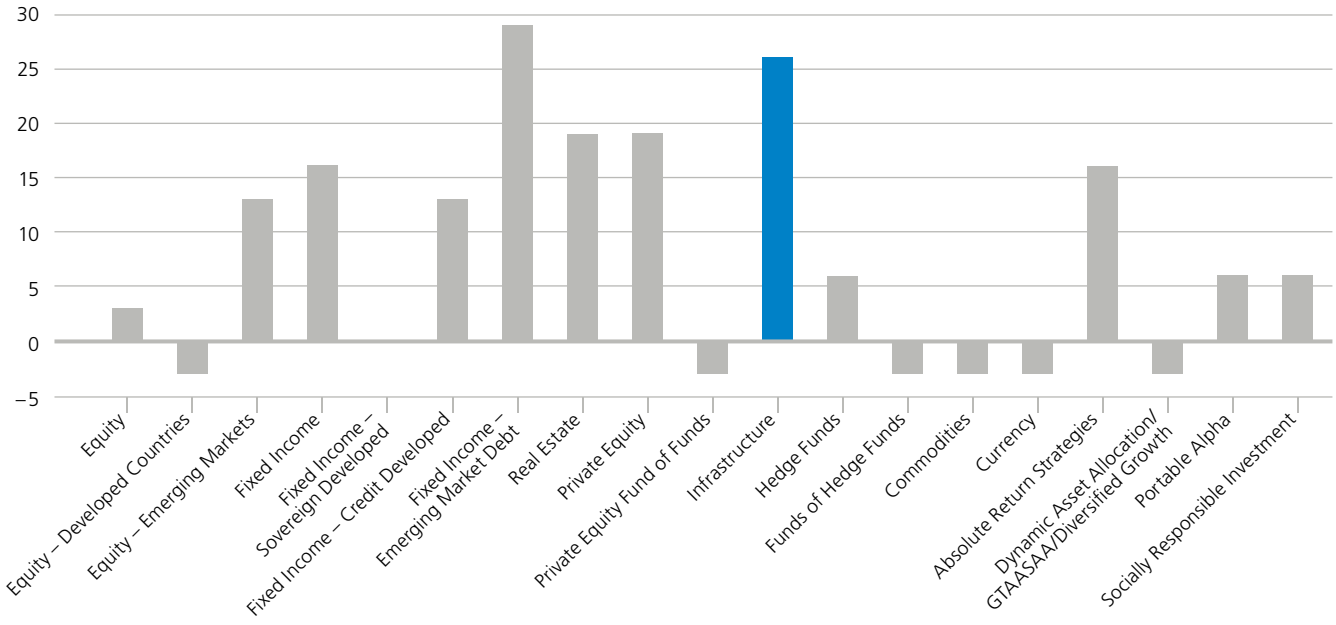
Real Assets – Evolving into a Mainstream Asset Class

A growing number of institutional investors struggling to meet their long-term commitments in this increasingly difficult investment climate are re-evaluating their asset allocation. Prompted by the lessons of the financial crisis of 2008 and new regulations that are forcing a de-risking of portfolios, investors are turning their attention increasingly to real assets.

This heightened appetite for real assets is illustrated by a recent bfinance survey[1], which found that a strong intention to invest in real assets is beginning to materialise. According to the survey, institutional investors who had decided to increase their allocation to infrastructure outnumbered those who had decided to decrease or maintain exposure by 26%. The same applied to real estate and private equity.

Chart 10: Increasing Real Asset Allocations

Investment decisions during the past 6 months (in %)
By difference between increase and decrease in asset allocation (net percentage of total respondents)



Source: bfinance Pensions Fund Survey 2014

These findings are supported by a recent survey[2] of European institutional investors, which found that the majority (60%) expect to see institutional allocations to real assets increase over the next three years. Of these, one in five expects the rise to be 'significant' while only 7% expect institutions to reduce their exposures.

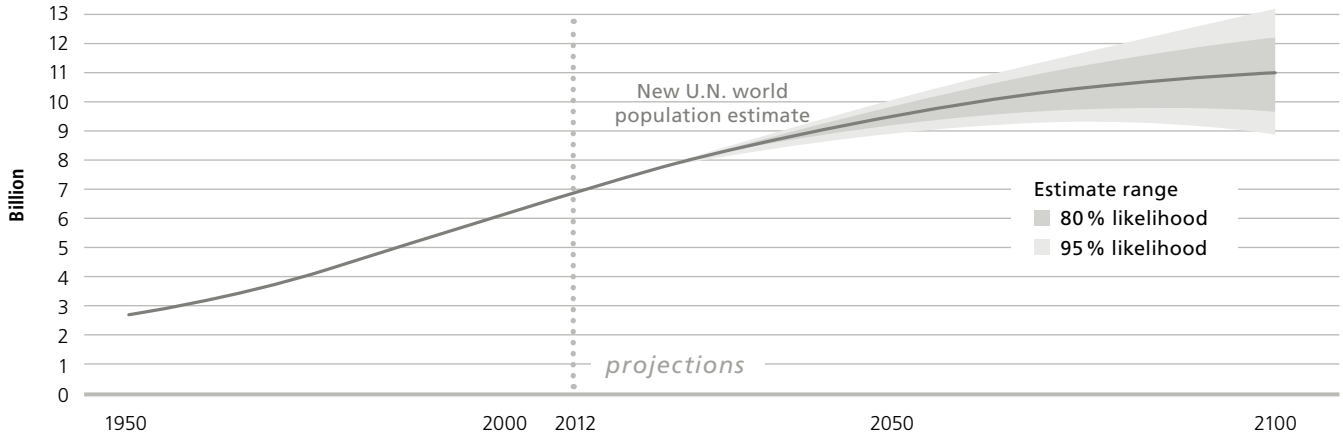
The survey compared investors' current holdings with their longer term views as well. 90% said that they had some exposure to real assets and 44% had more than a 10% exposure. Looking forward, more than four times as many respondents were positive on the investment outlook for the asset class (41%) compared with those who were negative (10%).

The findings confirm how, at a time when investors are struggling to fund long-term liability requirements, protect current wealth and future-proof their portfolios for impending changes in the market cycle, real assets can provide an attractive investment alternative. In our view, this demonstrates the potential for a long-term trend, as the awareness of and appreciation for real assets continue to gather pace. We expect real assets to evolve into a mainstream asset class that will, increasingly, feature in investors' portfolios alongside other alternative investments.

[1] *Pension Fund Allocation Survey, bfinance, January 2014*
[2] *Survey of over 50 institutional investors across Europe conducted on behalf of Aquila Capital*

This increased investor appetite for real assets is likely to be accompanied by strong growth in the supply of real asset investment opportunities. A number of persuasive macroeconomic trends support this view. At this point in time, according to the United States Census Bureau, the global population is more than seven billion and rising, with most of the growth taking place in emerging and developing countries. According to the United Nations Department of Economic and Social Affairs, Population Divisions, the world population is expected to grow to 9.6 billion by 2050, based on their medium variant calculation[1].

Chart 11: Global Population Growth



Source: United Nations Department of Economic and Social Affairs, Population Division

From an agronomic viewpoint, this is a challenge, as demand for food rises and land and water become increasingly scarce. According to the OECD, calorie production would have to be raised by at least 60% in the next 40 years, if the growing demand for food is to be met. What is more, the economic growth accompanying population expansion will fuel demand for commodities, part of a change process which will be highly energy intensive. With concerns over global warming, this also signals further growth in regenerative energy sources. This translates to a huge demand in investment requirements, beyond the reach of public financing alone, which will create a significant opportunity for the investment of private capital.

There is also increasing scope for investments in existing real asset structures. As financial deficits remain high in the developed world, a number of governments have chosen to privatise and dispose of mature government-owned infrastructure assets, such as airports and toll-roads, in the quest for liquidity. This is providing investors with more opportunities to invest in existing infrastructure assets.

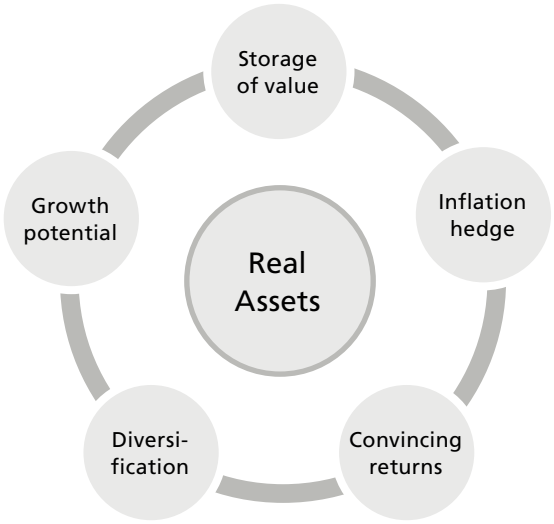
[1] *United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects, The 2012 Revision*

Real Assets – An Attractive Investment Opportunity

The term "real asset" refers to a broad range of potential investments that have intrinsic value. Real assets serve as the foundation for the delivery of goods and services that are necessary to support the global economy and encompass a number of sub-asset classes, including renewable energies/infrastructure, agriculture, timber and real estate. They are supported by long-term macroeconomic trends and can deliver a strong, inflation-protected income with high investment security, manageable risk and a limited correlation with the traditional investment asset classes of equities and fixed income.

Importantly, real assets have the potential to provide stability and growth in a range of market conditions. In a recessionary environment, they can provide invaluable downside protection to a portfolio thanks to the generally stable nature of their cash flow streams. At the same time, they can participate in the upside during periods of growth. As such, we believe real assets are uniquely positioned to provide value and enhance overall risk-adjusted returns in a broad range of market environments. The powerful combination of market-independent stability and growth, together with the several additional benefits detailed below, make them an attractive core holding for institutional investors.

Key Benefits of Real Assets



Source: Aquila Capital Investment GmbH

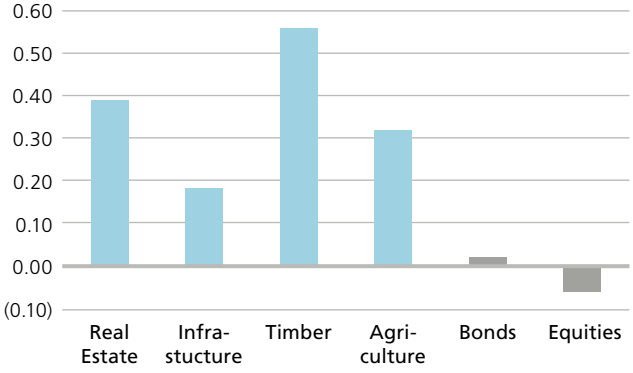
Storage of Value
Real assets represent tangible value and generate relatively steady cash flows from operations. The nature of these cash flows tends to be stable and subject to lower volatility than other traditional asset classes. Since real assets are physical resources, usually with few substitutes, demand for them tends to be inelastic to changing economic conditions or inflation. This natural demand is an additional value driver for real assets that sets them apart from financial market products.

Furthermore, while macroeconomic trends can affect real asset operations, the impact tends to be relatively low due to the long-term, contractual nature of the underlying revenue streams. Real assets provide investors with the opportunity to align their investment objectives and strategy, particularly if their investment time horizons stretch out decades rather than years.

Inflation Hedge
It is widely accepted that inflation surprises can have a significant impact on asset returns. Whilst many institutional investors have diversified their portfolios away from a simple 60/40 equity and bond allocation model, they often remain heavily allocated to both asset classes. Traditional asset classes such as bonds and equities have fared poorly as an inflation hedge in the past, with nominal bond returns especially vulnerable to inflationary pressures.

Real assets, in contrast, have a proven record of being positively correlated with inflation, since they are investments in physical resources that represent the value of goods and services, which is often inflation linked. We believe that the attractive inflation-hedging properties of real assets deserve to make them an important component of a pension fund liability-matching portfolio.

Chart 12: Correlation of Different Asset Classes with Inflation



Source: Bloomberg, data as of June 30, 2013

Table 2: Performance of Real Assets in Different Inflationary Scenarios

Annualised Performance (%)

	„Liquid Real Assets"				Real Assets						Tradtl. Assets	
	Commo-dities	REITs	TIPS	Senior Loans	Agri-culture	Energy Sector	Natural Re-sources	Real Estate	Renew-ables	Timber	S&P 500	Barcl. US Agg
Inflation > 3.5 %	17.5	– 2.5	8.1	0.7	15.8	20.6	27.3	13.1	35.7	21.4	8.9	4.2
Inflation 1.5 - 3.5 %	9.1	17.5	6.6	8	13.3	4.9	10.3	10.4	12.7	13	14.3	6.2

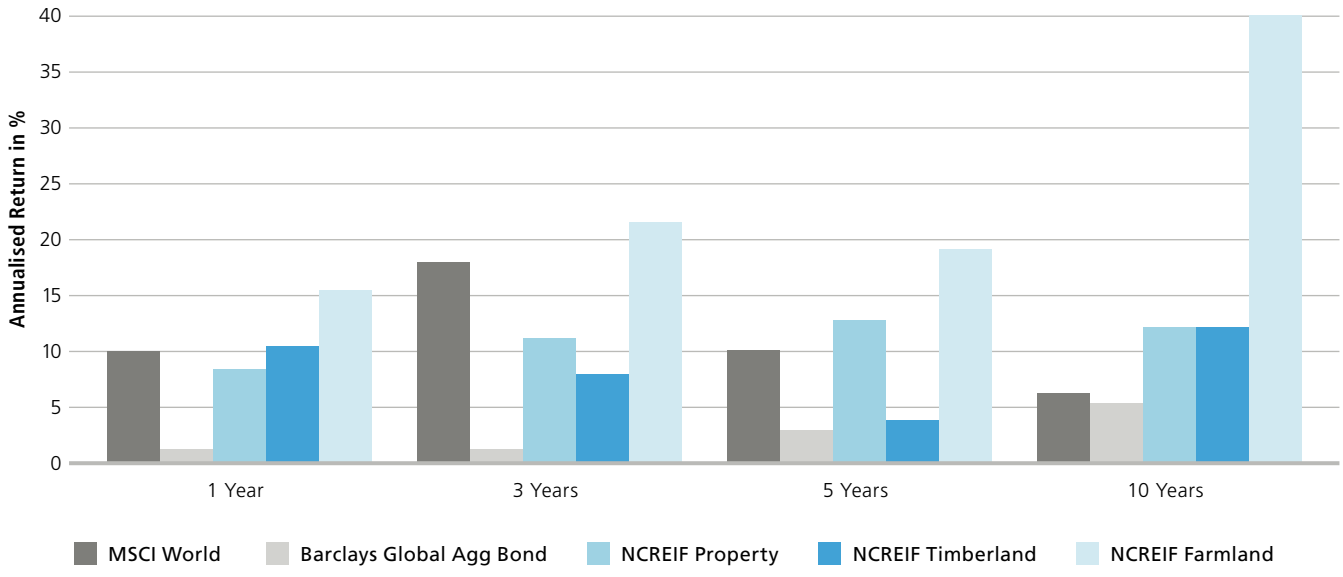
Ann. average performance during inflationary periods: >15 % <0 %

Source: IP Real Estate, 1992-2011

Convincing Absolute and Relative Returns

As demonstrated in the chart below, real assets have delivered convincing absolute and relative returns over the very difficult last decade, outperforming both global equity and global bond markets.

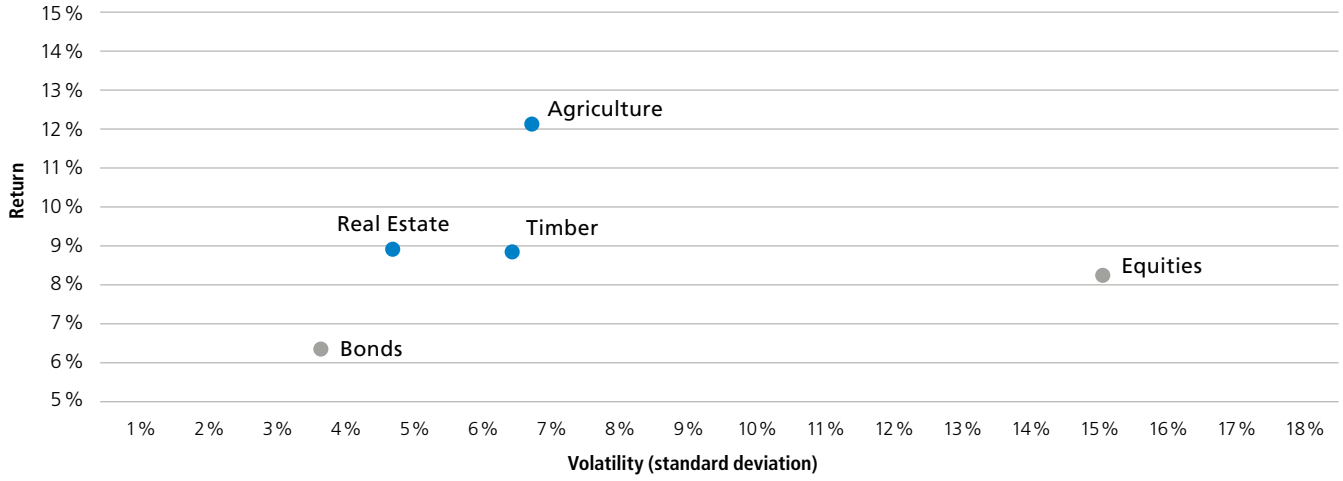
Chart 13: Annualised Real Asset Returns vs. Traditional Asset Classes



Source: Bloomberg, NCREIF, data as of 30 September 2014

This relative outperformance of real assets compared to bonds and equities becomes even more compelling when viewed on a risk-adjusted basis. The chart below highlights how real assets have generated better returns than both equities and bonds with much lower volatility than equities.

Chart 14: 20-Year Risk-Return of Selected Real Asset Classes vs. Bonds and Equities



Source: Bloomberg. Asset classes represented by respective indices: Equities (S&P 500 Index), Bonds (Barclays US Aggregate Bond Index), Real Estate (NCREIF National Property Index), Timber (NCREIF Timberland Index), Agriculture (NCREIF Farmland Index).

Diversification

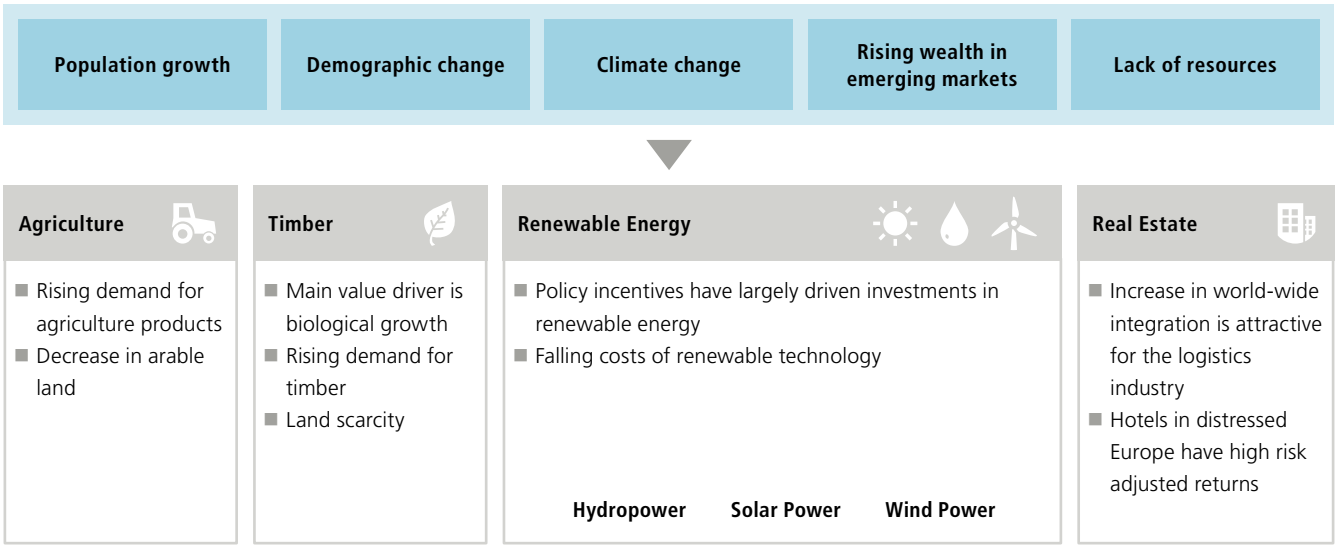
Diversification is especially appealing for institutional investors, as traditional asset classes have become increasingly correlated with one another in recent years. Real assets offer powerful diversification on two levels. Firstly, they have exhibited low correlations with traditional asset classes such as stocks and bonds. Secondly, the sub-categories of real assets themselves have demonstrated a low correlation with one another.

Table 3: Diversification Effects: 5-year Correlation Matrix

	MSCI World	S&P 500	Barclays Global Agg Bond	NCREIF Property	NCREIF Timberland
MSCI World	1.00				
S&P 500	0.97	1.00			
Barclays Global Agg Bond	0.38	0.22	1.00		
NCREIF Property	– 0.25	– 0.25	– 0.05	1.00	
NCREIF Timberland	0.02	– 0.04	– 0.11	0.29	1.00

Source: Bloomberg, Data from 30 September 2009 to 30 September 2014

Growth Potential
Real assets are driven by a number of macroeconomic trends that provide the potential for attractive growth.



Source: Aquila Capital Investment GmbH

Real assets span a broad opportunity set, both in terms of asset class and geography. Combining real assets in a variety of investment vehicle options – as illustrated later in this paper – can result in efficient diversification across geography, currency and asset class and provide additional protection against economic trends and market cycles.

Adding real assets to a diversified portfolio could provide valuable diversification benefits, lower a portfolio's overall volatility and improve its risk-return profile.

Real Assets and the Impact of a Rise in Interest Rates

We have touched already on the fact that today's ultra-low interest rate environment is unlikely to be sustainable in the long term. In the US and the UK particularly, higher interest rates loom large on the horizon. So how could higher interest rates impact the performance of real assets?

Instead of trying to make predictions about the route and timings of monetary policy, we prefer to assess this question based on our extensive experience as an active owner and experienced operator of real assets. Since real assets are the foundation of the delivery of goods and services, they are valuable due to their usefulness and tend to remain in high demand in varying economic conditions.

To assess how real assets perform in different market environments, it is important to understand the impact that changes in interest rates and inflation could potentially have on their core value components.

Real estate, for example, has generated stable returns also in high interest rate environments, since periods of rising interest rates are accompanied quite often by an increase in commercial rents as landlords pass their higher costs on to tenants. The result is that net operating income increases, thereby stabilising the value of the asset.

Given that periods of rising interest rates are associated typically with expanding economies and a growing demand for energy, renewable energy/infrastructure assets can benefit too. Direct infrastructure projects tend to offer income and capital appreciation and have real rate adjustment clauses, which provide built-in protection against inflation. Furthermore, because infrastructure assets provide essential services, economic changes tend to have a limited impact on cash flows.

Another factor to consider is that growth in the global renewables industry is largely secular and likely to outpace the effects of higher interest rates and inflation over time. The same can be said for agricultural land, where returns in the past have tended to be higher and largely uncorrelated with interest rates and inflation.

The performance of real assets during phases of rising interest rates is also attractive from a mathematical perspective. Since real assets tend to be positively correlated with inflation, rising inflation results in increased real asset returns. The 'coupon' of real assets consequently increases, which therefore reduces their duration.

Clearly, the prevailing low interest rate environment has benefitted financial and real assets alike. In contrast to financial assets, however, real assets can act as an inflation stabiliser for investors when the tide turns and interest rates and inflation begin to rise.

To conclude, we believe that the unique characteristics of real assets mean they have the potential to generate attractive returns in a range of different market environments.

Accessing the Opportunity

Investors have a number of options available to them when investing in real assets and choosing which route is best to take depends largely on an investor's own investment criteria and limitations regarding time horizon, liquidity, in-house resources and expertise.

Table 4: Range of Investment Vehicles

	Direct Investment	Club Deal	Closed-end Fund	Open-end Mutual Fund	Public Equity	ETF
Customisation						
Control over the asset						
Level of in-house expertise required						
Liquidity						
Minimum investment						
Diversification within the vehicle						

High — Low

Source: Aquila Capital Investment GmbH

The investment options to access the universe of real assets opportunities are numerous, with more established asset classes offering a wider variety of investment options. Recent research[1] commissioned by Aquila Capital found that more than half (57%) of institutional investors in Europe believe direct ownership is the best way to exploit opportunities in real assets – yet currently this approach is adopted by just 43%. The findings reveal that specialised investment funds are used by 38%; closed-end funds by 32% and club deal/co-investments and managed accounts by 16% of institutional investors.

Clearly, there is a growing appreciation of the benefits of direct ownership of real assets and, over the coming years, we can expect to see a narrowing of the gap between the actual and desired levels of this approach.

[1] *Survey of over 50 institutional investors across Europe conducted on behalf of Aquila Capital.*

Efficient Portfolios with Real Assets

Asset Allocation and Forecasts

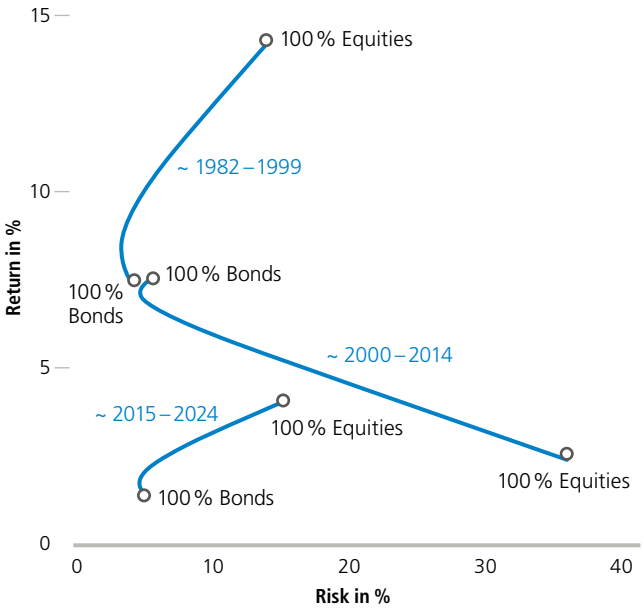
Modern portfolio theory, which offers established tools such as the efficient frontier, can serve as a valuable guide for investors when considering their real asset allocation within the broader portfolio context. As demonstrated by Harry Markowitz over 50 years ago, it can help pinpoint the optimal portfolio allocation that maximises the expected return for the level of risk that the investor is willing to accept.

An important factor to consider as part of an efficient frontier analysis is the fact that it is not possible to make a forecast free portfolio allocation. Without taking into account expected returns, volatilities and correlations one cannot arrive at a targeted risk-return range - there are simply too many possible portfolio variations. A simplified review of mixed equity and bond portfolios over the last 32 years illustrates this point.

The period from 1982–1999 is synonymous with the "golden age" of financial markets of the past century. During these two decades, it was possible for investors to reap double-digit returns with relatively low risk and a portfolio's equity weighting was a clear measure of its overall return. Passive investment strategies with high investment quotas were the most successful. 2000–2014 saw a reversal of this situation, with medium, single-digit returns the absolute best that could be generated and bonds being the primary driver of portfolio returns.

What about optimal portfolios in the future? For the next ten years, we expect optimal portfolios to be positioned in a completely different area of the risk-return matrix. The traditional relationship between equities and bonds is likely to re-establish itself, albeit accompanied by significantly lower overall returns, well below the minimum returns targeted by many pension fund portfolios.

Chart 15: Historic and Expected Frontiers for Mixed Equity and Bond Portfolios for the Time Periods of 1982–1999, 2000–2014 and 2015–2024



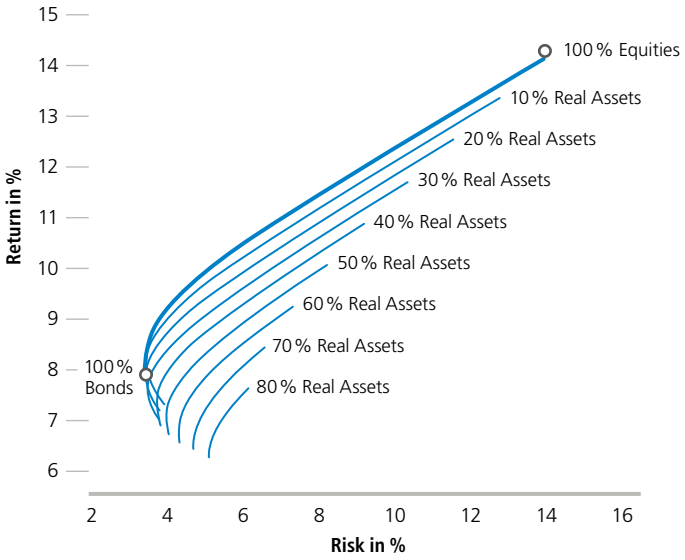
Source: Bloomberg, proprietary calculations

The calculation is based on historic data for 1982–2014 and on the following assumptions for 2015–2024: Return and annualised volatility for Equities (4% p.a., 15%), Bonds (1.5% p.a., 5.5%), Real Assets (6% p.a., 6%), Correlation Equities to Bonds: 0.5; Equities to Real Assets: 0.2, Bonds to Real Assets: 0.2)

How and to what extent could real assets pose a solution to this dilemma? Real assets have a balanced risk-return profile with a medium-to-low correlation with traditional asset classes. For consistency, we will assume for our analysis a constant real asset return and volatility of 6% per annum and a moderately positive correlation with equities and bonds of 0.2. Based on these assumptions, would an additional allocation to real assets have been advantageous?

For the time period 1982 to 1999 the answer was a clear no, as demonstrated by charts 16 and 17. The high returns and relatively low volatilities of equities and bonds made them significantly more attractive than real assets. Only minimum variance portfolios would have benefited from an (albeit low) allocation to real assets.

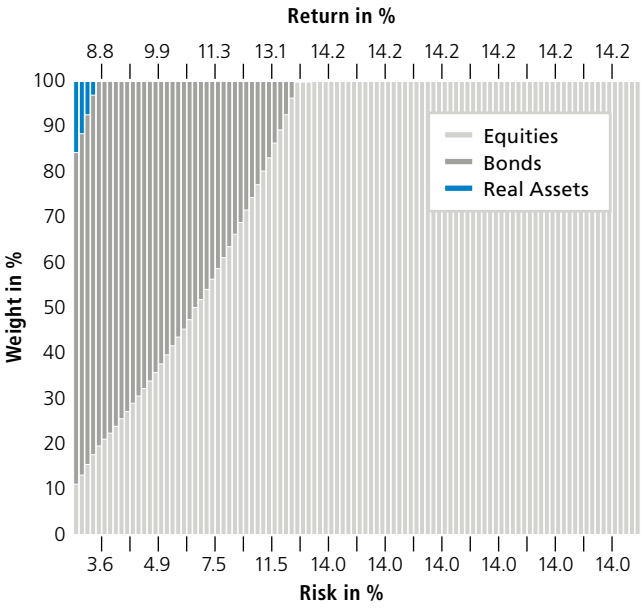
Chart 16: Efficient Frontiers of Mixed Equity and Bond Portfolios with Varying Real Asset Allocations for the Time Period 1982 to 1999



Source: Bloomberg, proprietary calculations

An increase in the real asset weighting reduces the attractiveness of the portfolio's risk-return profile.

Chart 17: Asset Allocation of Efficient Portfolios 1982 to 1999

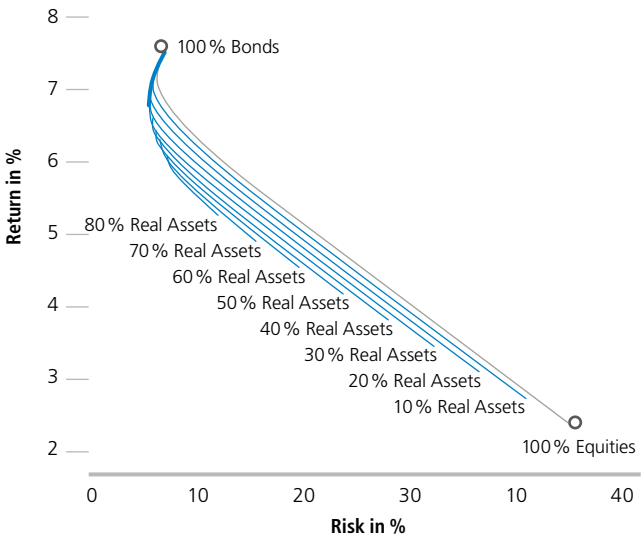


Source: Bloomberg, proprietary calculations

Only in the minimum volatility spectrum would a low allocation to real assets have been of value.

From the spring of 2000 onwards, the efficient frontier of equities and bonds changed significantly both its position and direction. Equities went through two bear phases, resulting in high volatility and low overall returns. Bonds, on the other hand, benefitted from an upward trend as interest rates declined and emerged as the optimal asset class between 2000 and 2014. While real assets outperformed equities significantly, they could not match bond returns, consequently adding value only in very risk-averse portfolios.

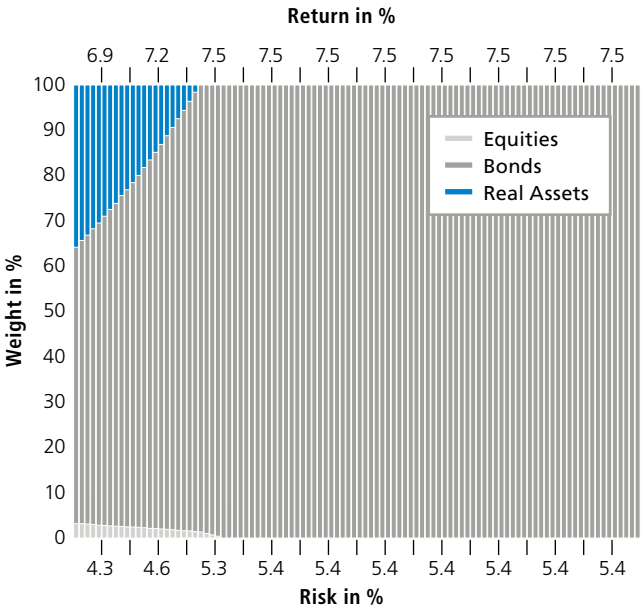
Chart 18: Efficient Frontiers of Mixed Equity and Bond Portfolios with Varying Real Asset Allocations for the Time Period 2000 to 2014



Source: Bloomberg, proprietary calculations

An increasing real asset allocation within the overall portfolio reduces the attractiveness of its risk-return profile, albeit significantly less than in the years 1982–1999.

Chart 19: Asset Allocation of Efficient Portfolios 2000 to 2014

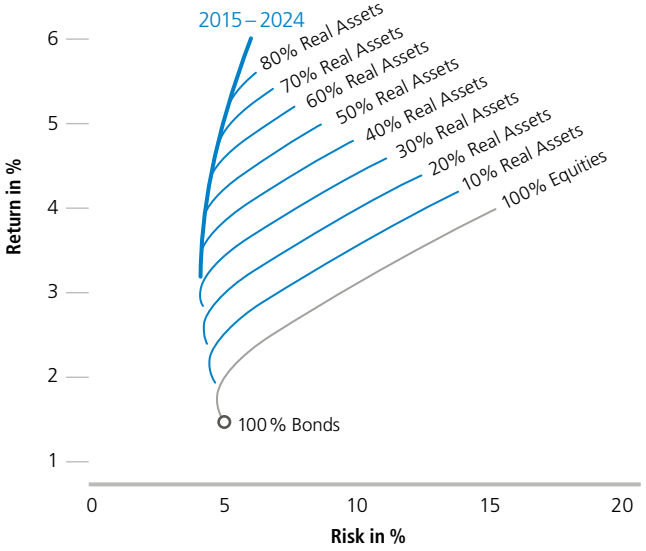


Source: Bloomberg, proprietary calculations

Only in the minimum volatility spectrum would a low allocation to real assets have been of value, a 100% allocation to bonds would have made the optimum portfolio allocation in the majority of cases.

While the previous analysis was based on historic data and, therefore, perfect forecast quality, the following analysis will concentrate on the next 10 years that are to come and is, therefore, based on our statistical return assumptions. These paint a significantly different picture for the coming 10 years. Our analysis indicates that the risk-return profile of real assets will be significantly better in the coming decade than that of bonds and equities, resulting in marked change in portfolio allocation along the efficient frontier: The minimum variance portfolio has a real asset allocation of 35%, with real assets being the key driver of returns. A 30% real asset allocation in portfolios with a volatility of 7% will increase the portfolios' overall return by more than 50% (from approximately 2.4% to 3.7%, as shown by chart 20), giving rise to the question of whether or not a sizeable allocation to traditional assets continues to make sense.

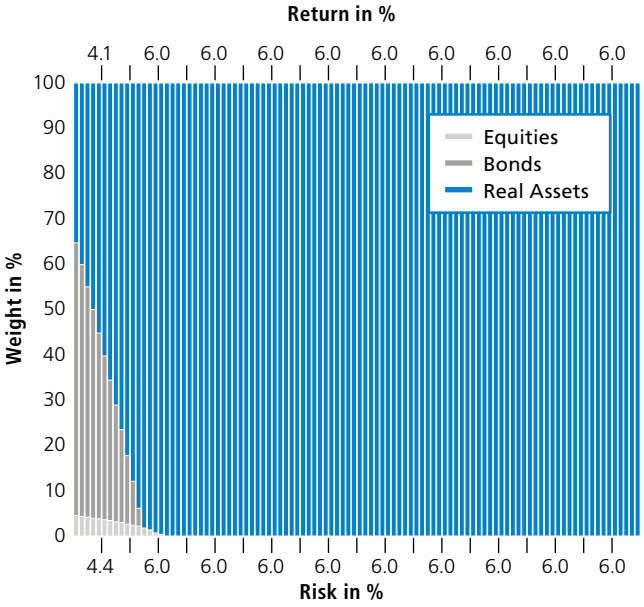
Chart 20: Efficient Frontiers of Mixed Equity and Bond Portfolios with Varying Real Asset Allocations for the Time Period 2015 to 2024



Source: Bloomberg, proprietary calculations

An increasing real asset allocation significantly improves the portfolio's risk-return profile.

Chart 21: Asset Allocation of Efficient Portfolios 2015 to 2024



Source: Bloomberg, proprietary calculations

Only in the minimum volatility spectrum would an allocation to bonds and equities be of value.

How accurate is our analysis? Much depends on the efficacy of our assumptions. Investors with different valuation approaches and methods may reach different conclusions and will regard other portfolio mixes as being optimal. It should be noted, however, that our return expectations for the bond sector are not based on any assumptions. Instead, they are forecast free calculations based on current interest rate levels and the premise that 10-year bonds will not have negative interest rates in the long-term. This theoretical top line valuation does not exist for equities. It is theoretically possible that currently high equity valuations will persist for some time to come which would increase their future return potential by a few percentage points. This, however, has not been the case for the past 114 years.

We do not expect that the returns we have described above will be realised in a smooth way over the next ten years. Market dislocations, which we have seen a number of times since the turn of the century, will intermittently increase the return potential of equities and bonds. From a theoretical portfolio perspective, it therefore makes sense to only allocate a part of the portfolio to illiquid real assets.

Complexity That Requires Significant Expertise

We illustrated earlier that there is a growing appreciation among institutional investors of the benefits of an allocation to real assets.

The term "real asset" refers to a wide range of potential investments that have a tangible value and includes renewable energies/infrastructure, agriculture, timber and real estate. Since real assets are capital-intensive, sizeable investments, significant access to capital is typically required in order to fund initial acquisitions as well as ongoing management over the lifetime of the asset.

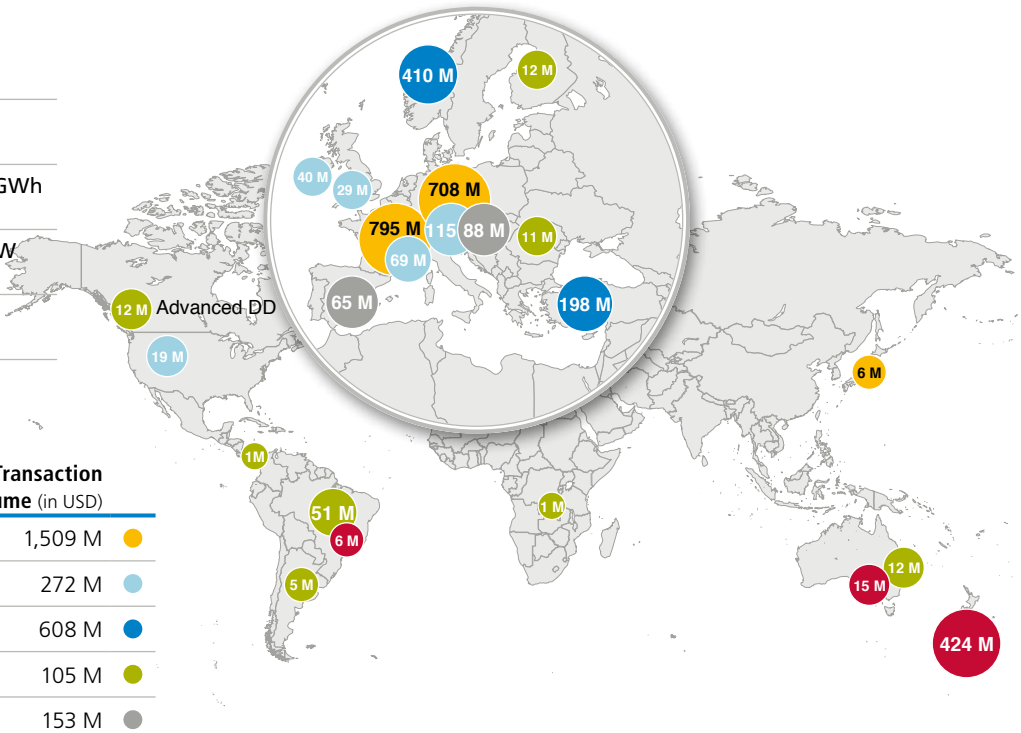
The diverse characteristics and risk-return profiles of the different categories comprised under the broad real assets umbrella mean that the asset quality, location, local regulatory & political environment lease or concession structure, ownership basis and assessment of growth potential must all be considered when evaluating a potential investment. As real assets are tangible, long-term assets, projects must be managed over their lifetime to fully realise the value of an investment. Sophisticated real asset investments therefore require significant resources and expertise in deal sourcing, valuation, controlling and risk management.

Drawing on its dedicated team of over 75 asset experts from the Aquila Group's structuring, development, modeling, fund management and risk management teams, Aquila Capital has been providing institutional investors with real asset investment solutions since 2006 and has transacted investments worth USD 3.1 billion across the various asset classes.

Aquila Capital's Real Asset Expertise

- **39,000 cows / 17,700 ha** (Agriculture)
- **360,000 ha** (Timber)
- **57 hydropower plants / 922 GWh** (Hydropower)
- **90+ wind turbines / 300.6 MW** (Wind Power)
- **355.7 MWp** (Photovoltaics)
- **85,113 sqm** (Real Estate)

Asset Class	Funds	Trans-actions	Transaction Volume (in USD)
Photovoltaics	8	20	1,509 M
Wind Power	3	9	272 M
Hydropower	5	5	608 M
Timber	4	14	105 M
Real Estate	2	10	153 M
Agriculture	5	58	445 M
Total	**27**	**116**	**3,092 M**



Source: Aquila Capital Investment GmbH, as at September 2014

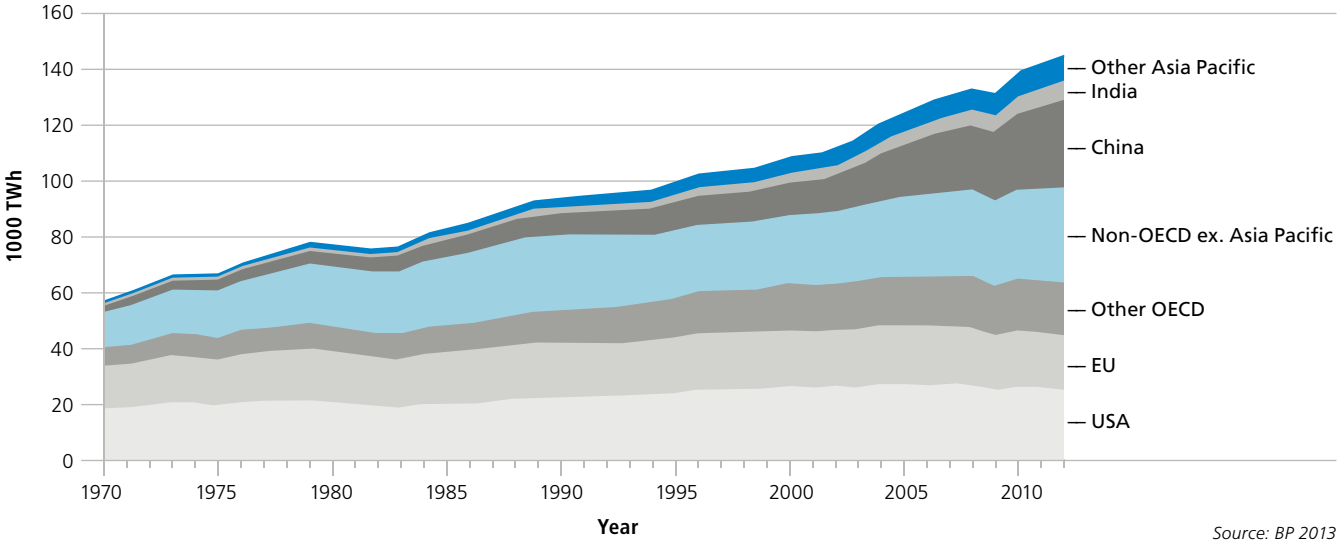
The following section provides an overview of the asset classes that Aquila Capital has been active in since 2006. Our extensive combined experience has enabled us to gain a deep understanding of the value drivers and risks associated with each asset class. Whilst the list of asset classes addressed is reasonably comprehensive, it is not all-encompassing and provides only an exemplary overview of the most important aspects of real asset investments.

Renewable Infrastructure

Anticipated growth in the world's population to 9.6 billion by 2050[1] means a global revolution is needed in our utilisation of natural resources, particularly in relation to the way that we produce, distribute and consume energy.

Already, the world is seeing an unprecedented expansion in the demand of energy, with global energy use growing more than 50% since 1990.

Chart 22: Global Primary Energy Consumption by Region 1970 - 2012



Source: BP 2013

Global electricity demand will grow by over 70% by 2035 and an additional capacity of 5,890 GW will be needed, more than today's total installed capacity[2].

Given that the wind, water and sun are infinite sources of clean energy, it is hardly surprising that, of the total investment in generating capacity, more than 60% is accounted for by renewables, principally wind (22%); hydro (16%) and solar photovoltaic (13%). It is estimated that renewable energy generation will triple between 2010 and 2035, by which time it will account for almost a third (31%) of the global energy mix.[2]

There are a number of key drivers behind this growth. A major driving source has been political incentives, with governments supporting the sector via a range of measures including capital subsidies, feed-in tariffs, tax credits and tradable green electricity certificates. The EU's target to derive 20% of its own final energy consumption from renewable energy sources by 2020 is currently on track to be met. Outside of Europe, there are a number of other substantial political incentives that have been a significant driver of renewable infrastructure investment, such as ambitious government targets and cheap credit provisions in China, Production Tax Credits (PTC) in the US and feed-in tariffs in Australia.

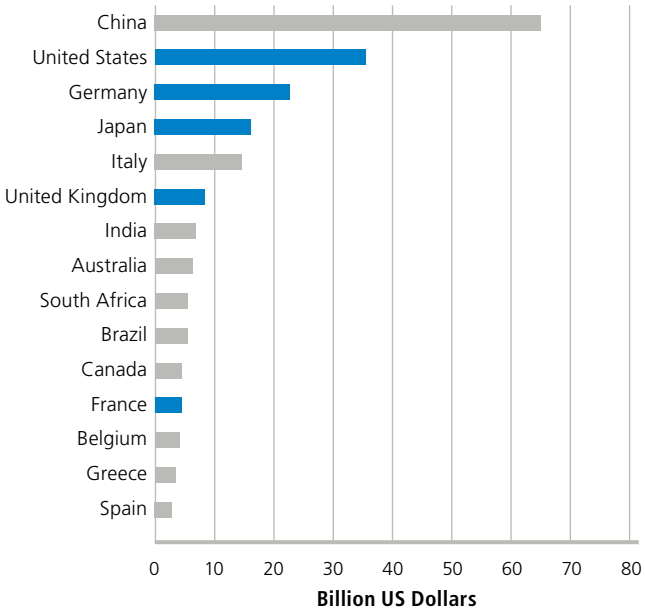
The market environment is characterised by declining dependence on state funding, as well as increasing market and regulatory complexity. While investments in renewable energy are driven largely by political schemes, the decreasing cost and increasing efficiency of renewable energy technology leads to basic economics replacing policy as the main driver of growth in the sector.

[1] UN World Population Prospects: the 2012 Revision
[2] Bloomberg Energy New Finance

Renewable infrastructure investments provide predictable cash flows, relatively low levels of risk and volatility, regulated revenue streams, relatively low maintenance compared to conventional power production, independence from fuel price volatility and a long-term investment horizon. With insurance companies and pension funds focused on liability management, this combination makes renewable infrastructure a highly attractive asset class.

Increasingly, investors are viewing renewable infrastructure as a growing opportunity within the infrastructure asset class, as highlighted by an Ernst & Young report[1], which found that, while 61% of pension and insurance funds, for example, had no renewable energy investments, almost a third of respondents expected their allocation to the sector to increase in the next three years. In addition, 15% of those looking to invest were expecting to do so heavily, with allocations set to increase by more than 10%. Investment in renewable infrastructure is a global phenomenon that is seeing a shift from developed to developing economies, with China being the dominant country in 2012 due to rapid growth in its solar sector.

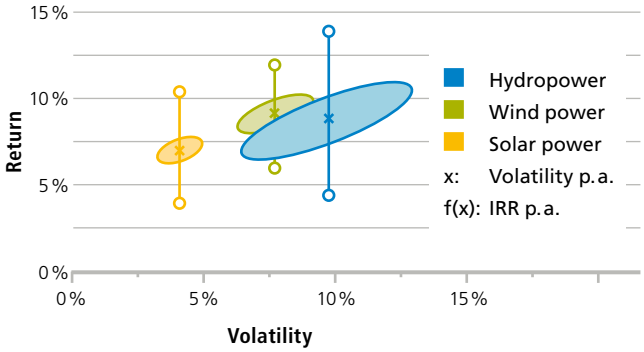
Chart 23: Renewable Infrastructure Investment, Top 15 Countries in 2012



Source: Bloomberg New Energy Finance. Countries in blue represent countries where the Aquila Group has been developing renewable energy projects.

While many tend to view renewable infrastructure as a homogenous whole, in reality it consists of various subsets, which exhibit very different characteristics in terms of costs, returns and risks.

Chart 24: Renewable Infrastructure Risk-Return Profiles



Source: Aquila Capital Investment GmbH

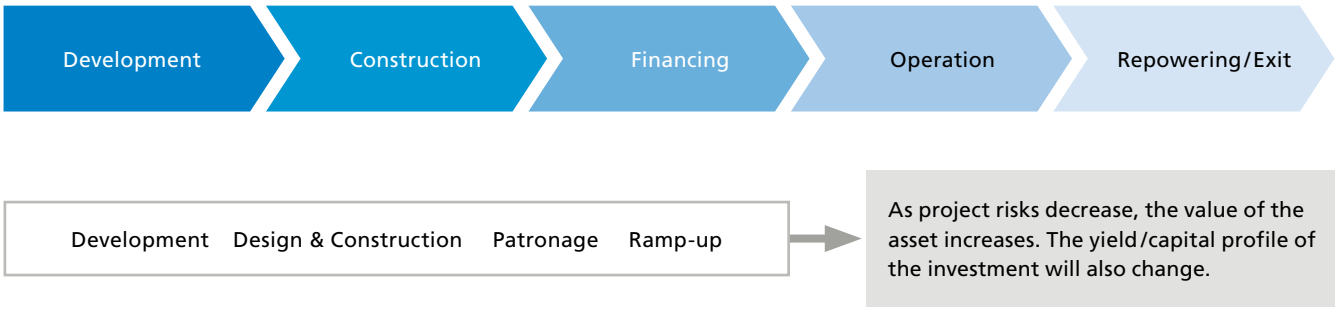
Investing in renewable energies requires an understanding not only of the benefits but of the risks too, several of which are very different from those that impact traditional capital market-oriented investments. For example, renewable energy investments offer a degree of inflation protection, as the price of electricity – provided it is sold via the market – factors in inflation.

Another advantage is that renewable energy plants are long-term assets and the same applies to the liabilities which are serviced by them. They are subject also to rigorous regulatory requirements. This makes it easier to prepare yield forecasts, as revenues can be calculated reliably. On the other hand, a clear dependence on a favourable regulatory framework and, by extension, continued political support, must be taken into account also.

Furthermore, the risk and return potentials of individual infrastructure renewable projects depend heavily on the stage of the value chain at which an investor becomes involved.

[1] *Ernst & Young Institutional Investor Survey, Pension and insurance fund attitudes toward investment in renewable energy infrastructure, November 2013*

Renewable Infrastructure Value Chain



Source: Aquila Capital Investment GmbH

The viability of individual projects should be assessed thoroughly, giving due consideration to a range of technical, economic and environmental risks. When valuing projects, investors should work together with experienced partners who can evaluate revenues on the basis of power production as well as the quality of the technology and the location.

Investors who wish to build a portfolio investing in alternative energy need to diversify across asset types, regulatory frameworks and electricity price structures. Building such a diversified portfolio is complex. Many factors need to be considered to ensure that investors have an exposure to a combination of projects that delivers attractive risk-adjusted, long term returns. As renewable energy develops, these factors change, thereby requiring a highly active asset management approach. It is therefore important to have an adviser who understands how best to buy and manage the assets, the relevant legal and regulatory frameworks and which geographic locations to focus on.

Photovoltaics

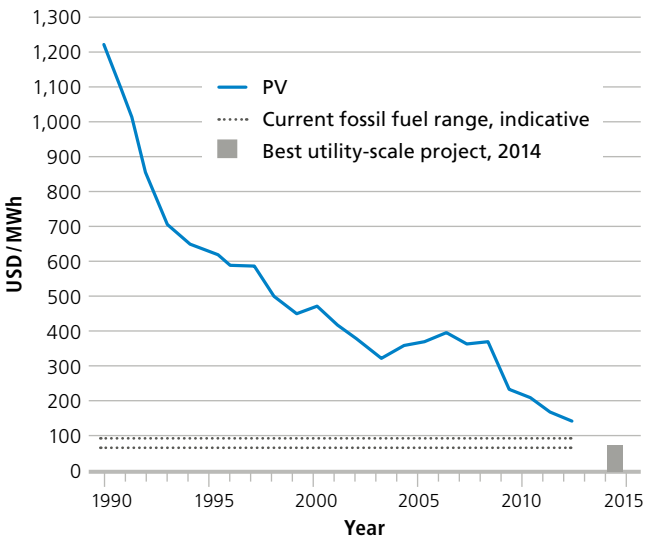
Table 5: Key Statistics

Typical lifetime of an investment		10 – 25 years
Cash return		150 – 300 %
IRR		Depends on the country: saturated markets approx. 6% IRR, new markets from approx 10% IRR (levered, before fees and taxes)
Correlation	Equities	Low
	Bonds	Low
	Inflation	Medium

Source: Aquila Capital Investment GmbH

In less than a decade, photovoltaics (PV) has emerged as a key technology in the infrastructure energy subset. It is increasingly becoming a large scale option, with deal values rising by a huge 80% to USD 30 billion in 2013 in Europe alone, despite a downward trend in subsidies. Driven by advances in technology and increases in manufacturing scale and sophistication, the cost of PV has declined steadily. The levelised cost of electricity from PV is competitive with conventional electricity sources in an expanding list of geographic regions.

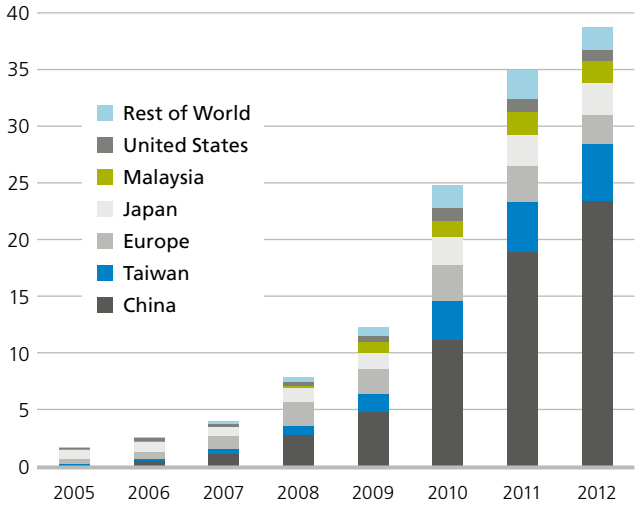
Chart 25: Significant Fall in PV Costs



Source: Historical PV costs: Channell et al., 2012, and Nemet, 2006; illustrative fossil fuel range based on US LCOE for conventional coal from US EIA, 2014 (upper range) and capital cost assumptions from IEA, 2014 (lower range).

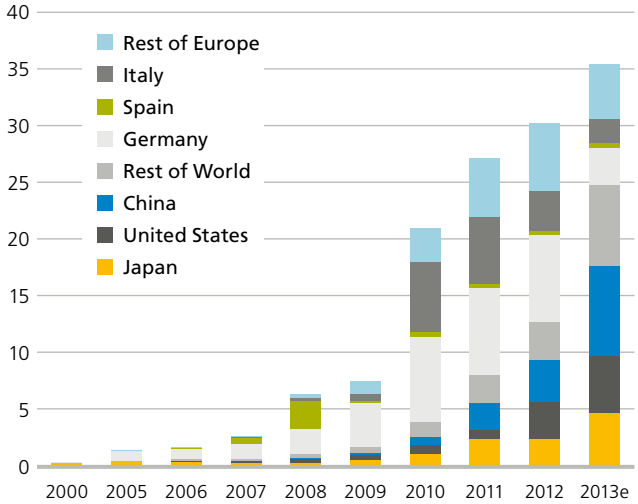
PV is now, after hydro and wind power, the third most important renewable energy source in terms of globally installed capacity, with China, followed by Japan and the United States, being the fastest growing market. Germany remains the world's largest producer, with PV satisfying almost 6% of its national electricity demands.[1]

Chart 26: Global PV Production (GWp) by Country and Region 2005 – 2012



Source: Jäger-Waldau, Renewable Energy Unit, Institute for Energy and Transport of the European Commission's Joint Research Centre

Chart 27: Installed PV Capacity (GWp) by Country and Region 2005 – 2012



Source: Jäger-Waldau, Renewable Energy Unit, Institute for Energy and Transport of the European Commission's Joint Research Centre

[1] *EPIA, Global market outlook for photovoltaics, 2014-2018*

Projections for global PV from the IEA (New Policies Scenario) estimate a cumulative 662 GW of PV will be installed from 2012 to 2035, meaning that PV could represent 11.2% of all new installed power generation capacity in that timeframe, requiring a total investment of USD 1.3 trillion.

Driven largely by policy, varying levels of maturity of PV across global markets means there are different levels of risk available. In Europe for example, declining political support for PV has led to a decrease in PV installations in Germany, Italy, Belgium, France and Spain while the implementation of new feed-in tariff policies has led to a dramatic increase in installations in Asian countries such as China and Japan, providing a robust and sustainable demand for PV going forward.

PV installations generate electricity by taking advantage of the photoelectric effect and require little maintenance or intervention after their initial set-up. Their modular nature means that defective parts tend to have less impact on overall revenues and can be replaced cheaply. After the initial capital cost of building a solar power plant, operating costs are extremely low compared to those of existing power technologies.

The key attractions of PV investments are their relatively low volatility of approximately 4% – which is in line with that of fixed income investments – and their stable and predictable cash flows.

Table 6: Typical Value Drivers

1. Political incentives
2. Growing demand for energy globally accompanied by diminishing fossil fuels
3. Decreasing cost and increasing efficiency of renewable energy technology
4. History and reliability of weather data
5. Market acceptance

Table 7: Return Expectations for Different Regions

Germany and France	approx. 7% for existing installations, levered
Japan	approx. 10% for greenfield, approx. 8.5% for brownfield, levered
UK	approx. 8%, levered, partly market price risk
Chile	approx. 12%, levered, mainly market price risk

Source: Aquila Capital Investment GmbH

Wind

Table 8: Key Statistics

Typical lifetime of an investment		10 – 25 years
Cash return		150 – 300 %
IRR		5 – 8 % (core)
Correlation	Equities	Low
	Fixed Income	Low
	Inflation	Medium

Source: Aquila Capital Investment GmbH

Wind power is one of the most economical forms of producing renewable energy, generating power at prices close to market prices. The wind industry is becoming mainstream and increasingly competitive in an ever-expanding number of markets. In the last 10 years, wind energy has converged almost towards grid parity.

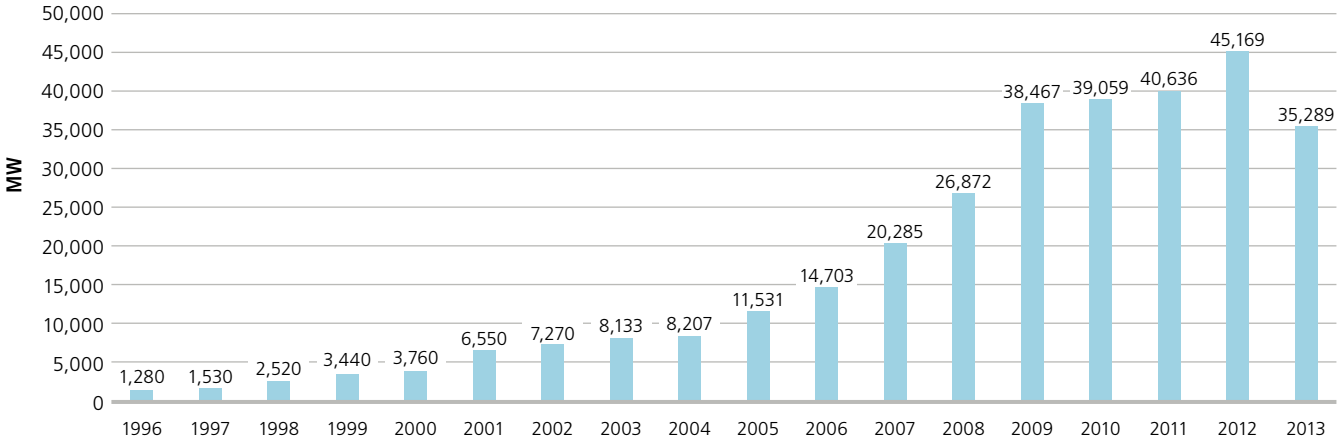
Technological advances within the sector in recent years have resulted in larger, more efficient and more reliable wind turbines, making wind power more cost-effective. In general, the specific energy costs per annual kWh decrease with the size of a turbine, notwithstanding existing supply difficulties.

Wind power is a maturing industry that continues to diversify geographically. Worldwide there were over 200,000 wind turbines operating, with a total capacity of 282,482 MW as of the end of 2012. The European Union alone passed some 100,000 MW of nameplate capacity in September 2012, while the United States surpassed 50,000 MW in August of the same year. China's grid-connected capacity passed 50,000 MW the same month.

For institutional investors, both existing installations and those under construction offer attractive investment opportunities. However, as wind energy demonstrates higher earnings volatility than photovoltaics for example, a careful evaluation of each wind project is key. The economic viability of a project is influenced heavily by the combination of purchase price and the actual wind returns.

Wind forecasts are often overoptimistic and imprecise, as wind farms can be exposed to very strong micro-climatic influences. The electricity generated from wind power can be highly variable over different timescales: hourly, daily, or seasonally. Annual variations exist also, but are not as significant. The quality of wind forecasts has risen considerably in recent years, but specialist expertise is imperative. Further key criteria for the success of a wind power investment are the professional evaluation of the wind location and the technical configuration as well as appropriate risk management.

Chart 28: Global Annual Installed Wind Capacity 1996 – 2013



Source: Global Wind Energy Council: Global Wind Statistics 2013

Table 9: Typical Value Drivers

1. Wind yield in kWh; wind surveys
2. Feed-in tariff kWh; investment duration
3. Legal stability
4. Country rating
5. Turbine quality

Table 10: Return Expectations for Different Regions

Germany	5 % – 7 %
Scandinavia	6 % – 9 %
UK	6 % – 9 %
Ireland	6 % – 9 %
France	6 % – 8 %

Source: Aquila Capital Investment GmbH

Hydropower

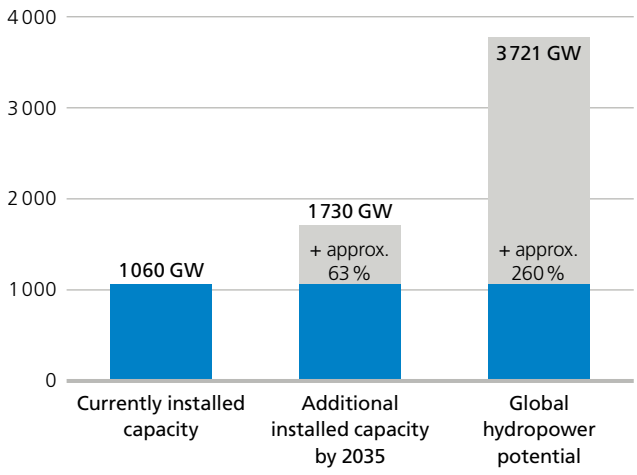
Table 11: Key Statistics

Typical lifetime of an investment		25+ years (up to ∞)
Cash return		Early cash returns typically around 4%
IRR		7 – 9% after fees and local taxes (assuming 50% leverage; core)
Correlation	Equities	Low
	Fixed Income	Low
	Inflation	Medium

Source: Aquila Capital Investment GmbH

Hydropower is a proven, mature and typically price–competitive technology. Accounting for 16.4% of global energy production as at the end of 2013[1], hydropower is the leading source of renewable energy. Against a backdrop of rising global energy demand and the finite nature of fossil fuels, the importance of hydropower is expected to continue to rise. By 2035, the International Energy Agency expects installed hydropower capacity to have grown by approximately 63%. But even if by 2035 – as predicted – 1,730 gigawatts (GW) of hydropower capacity has been installed, the world's existing hydropower potential of 3,721 GW will still have been far from exhausted.[2]

Chart 29: Installed Hydropower Capacity Globally (in GW)

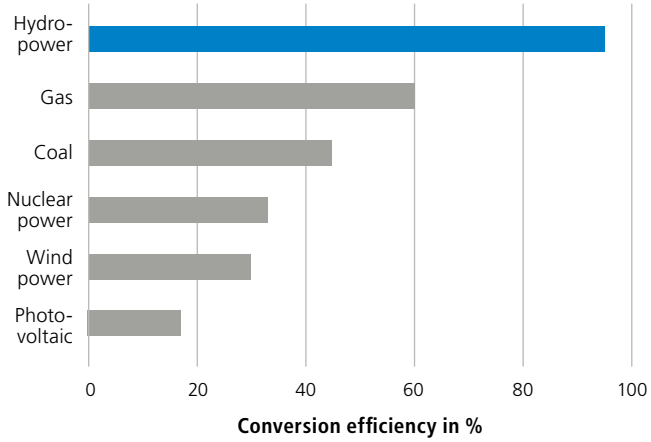


Source: International Energy Agency

The combined drivers of rising global energy demand and diminishing fossil fuels make hydropower an attractive investment opportunity for institutional investors seeking long-term investment solutions. In addition, hydropower investments can have a powerful diversification effect within a renewable energy portfolio.

A key attraction of hydropower is its conversion efficiency. Hydropower has among the best conversion efficiencies of all energy sources, with an efficiency factor of between 90 and 95%. This compares very favourably with the lower efficiencies of natural gas plants (58%) or coal-fired power stations (40 to 45%).

Chart 30: Conversion Efficiency of Different Energy Sources



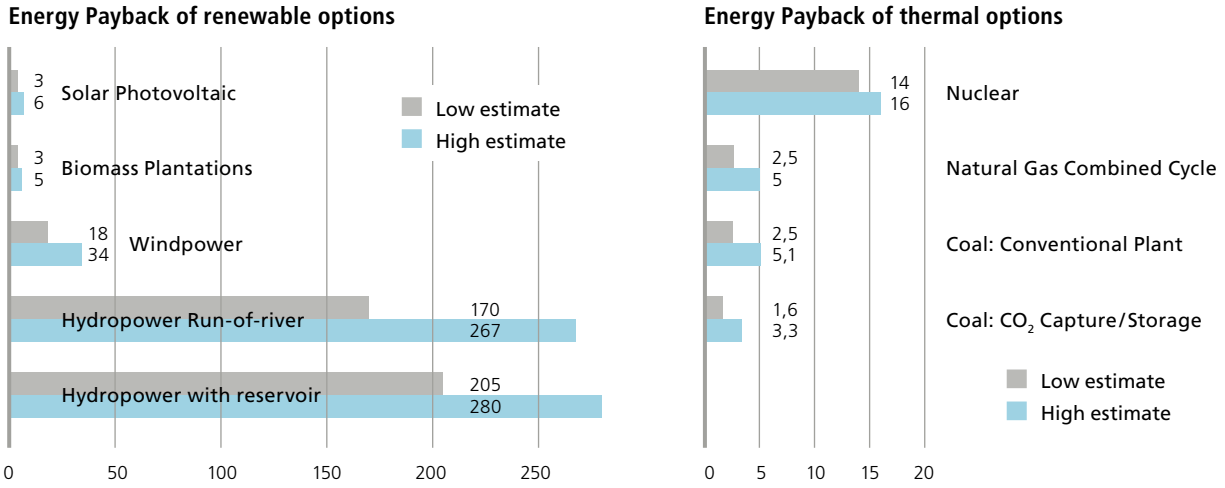
Source: Aquila Capital Investment GmbH

Hydropower plants can take a number of forms, such as run-of-river, reservoir based, pumped storage or in-stream technologies. Whilst hydropower plants require an initial higher investment and tend to have lengthy lead times in terms of planning, permitting and construction, they are economically self-sufficient and, if well maintained, can generate electricity for many decades and often for more than 100 years. In terms of life-cycle costs, hydropower makes a very convincing investment case, with annual operating costs being a fraction of the capital investment. Because of the longevity of the power plant components, the energy pay-back ratio is extremely favourable.

Energy payback is the ratio of total energy produced during a system's normal lifespan, divided by the energy required to build, maintain and fuel it. A high ratio indicates good environmental performance.

[1] *Source: Bloomberg New Energy Finance*
[2] *International Energy Agency*

Chart 31: Energy Payback Ratio



Source: Gagnon, 2008

The number of suitable and economically viable hydropower locations is limited. In Western Europe, most of the hydropower plants that will ever be built already exist. The potential for further hydropower locations in core Europe appears to have been exhausted, but interesting possibilities can be found in Scandinavia and southeast Europe. Investing in hydropower is not so much about building new plants as taking over those already established. Energy companies and state-owned operators are selling shares in established plants to institutional investors, to free up cash and enable them to concentrate on electricity distribution. This enables asset managers to bundle opportunities and create attractive opportunities for institutional investors from a transaction-volume perspective.

Table 12: Typical Value Drivers

1. Electricity prices
2. Hydrologic production
3. Active management/maintenance
4. Offtake management

Table 13: Return Expectations for Different Regions[1]

Nordics, Western Europe	6 – 8%
Scandinavia	6 – 9%
Eastern, Southeastern Europe	8 – 12%

Source: Aquila Capital Investment GmbH

[1]Assuming 50% leverage

Agriculture

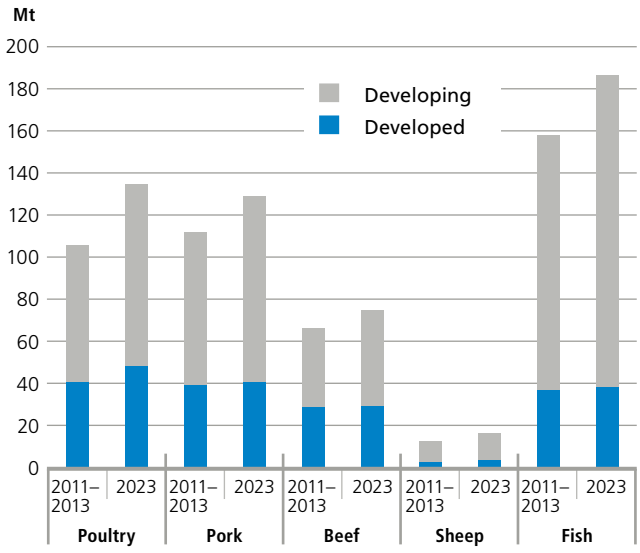
Table 14: Key Statistics

Typical lifetime of an investment		5 – 10 years
Cash return		4 – 8%
IRR		10 – 15% unleveraged pre tax (core)
Correlation	Equities	Low
	Fixed Income	Low
	Inflation	High

Source: Aquila Capital Investment GmbH

Global population growth and rising prosperity in developing markets are fuelling the demand for agricultural products. Meat consumption in China, the most heavily populated country in the world, has quadrupled from 15kg to 60kg in the past 25 years.[1] According to a joint study by the Food and Agriculture Organization of the United Nations (FAO) and the Organization for Economic Co-operation and Development (OECD) global meat consumption is expected to increase by 1.6% each year over the next decade, resulting in more than 58 million tonnes of additional meat being consumed by 2023. Developing countries will account for more than 80% of the additional consumption.

Chart 32: Growth in Meat and Fish Consumption



Source: OECD/FAO World Agricultural Outlook 2014

The report projects also that the demand for dairy products will continue to expand at a rapid rate through the next decade, with the majority of demand coming from developing countries, where the per capita consumption of dairy products is expected to increase by 1.9% per annum for cheese and butter and by 1.2% for milk powder.

According to the OECD, calorie production needs to increase by at least 60% in the next 40 years, if the growing demand for food is to be met. At the same time, there is a growing shortage of farmland due to the consequences of climate change and urbanisation and the growing prosperity of developing nations.

Agriculture investments provide investors with an opportunity to participate in sustainable food production to meet this growing demand. By investing in agriculture, investors can gain access to steady long-term cash flows, which are linked implicitly to inflation through food prices, while being supported by strong market fundamentals and the value of real assets such as farmland.

To penetrate and understand this asset class, which offers the potential for sustainable market outperformance, or "alpha generation", specialist investment management expertise is required. Investing in agricultural land can produce very attractive and competitive returns in comparison with other asset classes. Over the ten-year period 2000 – 2010, the benchmark HAIG Total Return Farmland Index produced annual average returns of 14.40%. This compares favourably with 1.41% for the S&P 500 Index on a total return basis, 4.87% for European government bonds and 1.77% for commodities.

Table 15: Typical Value Drivers

1. Increased agricultural production
2. Active farm management
3. On-site management/presence
4. Legal stability
5. Offtake agreements
6. Established transaction environment

Source: Aquila Capital Investment GmbH

[1] *Aquila Capital Investment GmbH, with calculations based on data from the OECD.*

Table 16: Return Expectations for Different Regions

5 year horizon		Top Quartile Return Potential		Return Risk (Price Vol. x Yield Vol.)	Execution Risk	Risk Total	Total Score
	Cash ROA	Capital Gains	IRR	(0 – 20)	(0 – 20)	(0 – 20)	(IRR – total risk)
Sheep & Beef NZ/AUS	5%	7%	12%	8	2	5	7
Pastoral Dairy AUS	7%	8%	15%	10	6	8	7
System 5 Dairy AUS	12%	8%	20%	10	8	9	11
Pastoral Dairy NZ	8%	0%	8%	10	2	6	2
Cropping AUS	6%	6%	12%	12	2	7	5
Northern Beef AUS	5%	10%	15%	14	6	10	5
Mixed Farming UY	5%	5%	10%	8	6	7	3

Source: Aquila Capital Investment GmbH

Timber

Table 17: Key Statistics[1]

Typical lifetime of an investment		10 – 25 years
Cash return		2 – 5%
IRR		5 – 7% (core)
Correlation	Equities	Low
	Bonds	Low
	Inflation	Medium

Source: Aquila Capital Investment GmbH

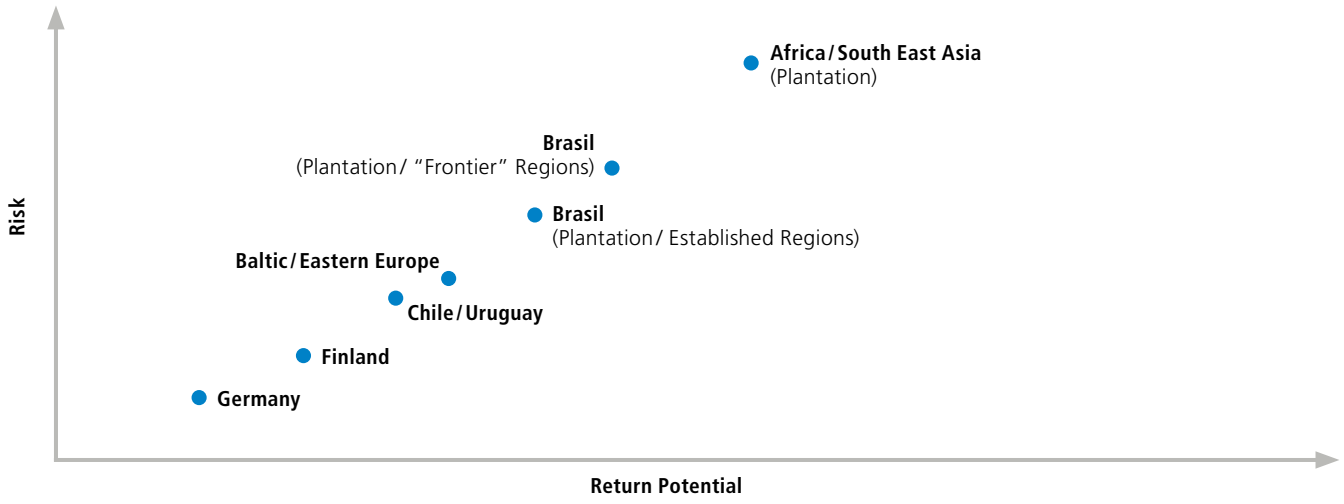
Institutional investors have long valued timber as a valuable addition to a diversified portfolio. In the United States, for example, timber investments have been a useful asset for the wealth management of pension funds since the 1980s.

Forests play an important role in the construction and paper industries and in many other industries too, with trees providing the raw materials for more than 5000 products we use in our daily lives. Globalisation has resulted in a significant increase in demand for timber products.

Timber investments are for the long-term: returns do not correlate with equity markets and can, if land is acquired, offer protection against inflation. The primary driver of returns is the biological growth of trees, which can account for 70% of the total return from a timber investment. That makes timber a highly stable asset class. The effects from biological growth on return are two-fold. Not only do trees grow in volume, but the older and larger the trees become, the more valuable they are. Timber is relatively unaffected by economic cycles, since trees grow irrespective of prevailing economic conditions. Thus timing is much more flexible. Changes in the price of timber products and changes in land values have additional impacts on timber returns.

Where timber differs from other agricultural products is that it does not have to be harvested annually, but instead, when the market is growing and demand is high.

Chart 33: Risk-Return Profile of Timber Investments



Source: Aquila Capital Investment GmbH

[1] *Illustrative data, for a pine plantation in the USA for example*

Table 18: Typical Value Drivers

1. Biological growth (positive carry)
2. Possible increase in land price
3. Increased demand due to reduction of space on offer
4. Active management/on-site and off-site
5. Stable legal system
6. Used for a broad range of products
7. Positive correlation with the GDP

Table 19: Return Expectations for Different Regions

Germany	1 – 3%
Finland	4 – 6%
USA	5 – 7%
Oceania	6 – 9%
Chile / Uruguay	6 – 10%
Baltic/ Eastern Europe	7 – 10%
Brasil – established regions	8 – 11%
Brasil – „frontier" regions	10 – 14%
Africa / South East Asia	>10 – 15%

Source: Aquila Capital Investment GmbH

Real Estate

Table 20: Key Statistics

Typical lifetime of an investment		5 – 10 years
Cash return		6.5 – 8.5%
IRR		7 – 10%
Correlation	Equities	Low
	Fixed Income	Low
	Inflation	High*

Exemplary data for a long-rented, new built logistics centre in the European Union; after tax and fees.
**Due to the typical indexation of institutional lease contracts.*

Source: Aquila Capital Investment GmbH

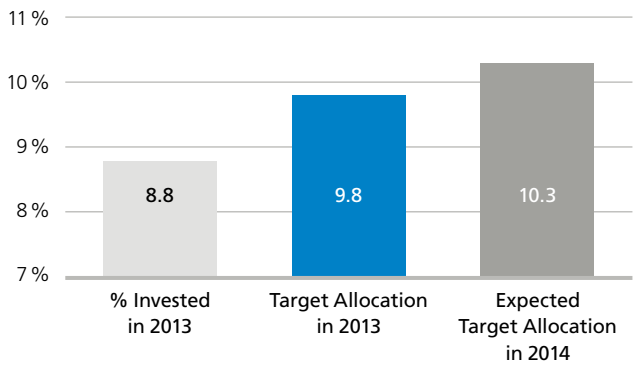
Real estate is the most established asset class and has increasingly become a core component in the multi-asset class portfolios of institutional investors. The term encompasses a range of investment opportunities, including commercial offices, retail and industrial (including logistics) properties and leased (rather than owner-occupied) residential properties.

According to the 2013 Institutional Real Estate Allocations Monitor, institutional allocations to real estate are increasing, indicating that the pace of annual investments will likely continue to accelerate well beyond 2014. Institutions expect to increase their target real-estate allocations by an average of 52 bps in 2014. This expectation is even more pronounced in the Asia-Pacific region, where institutions expect to increase their target allocations by an average of 146 bps.

According to the European Quarterly Commercial Property Outlook by Knight Frank, European commercial property investment volumes increased sharply in Q2 2014, reaching EUR 42.0 billion. The report notes that there is a growing wall of capital targeting European property, which has been created both by established investors increasing their allocations to real estate and by new market entrants from Asia, the Middle East and North America.

The strength of the competition among buyers for prime assets in London, Paris and the Tier-1 German cities is pushing increasing volumes of capital towards smaller, but higher yielding, markets such as those of the Benelux countries and parts of recovering Southern Europe.

Chart 34: Increasing Real Estate Allocation
% Invested in 2013, 2013 Target & 2014 Expected Target



Source: Institutional Real Estate Allocations Monitor 2013

Table 21: Typical Value Drivers

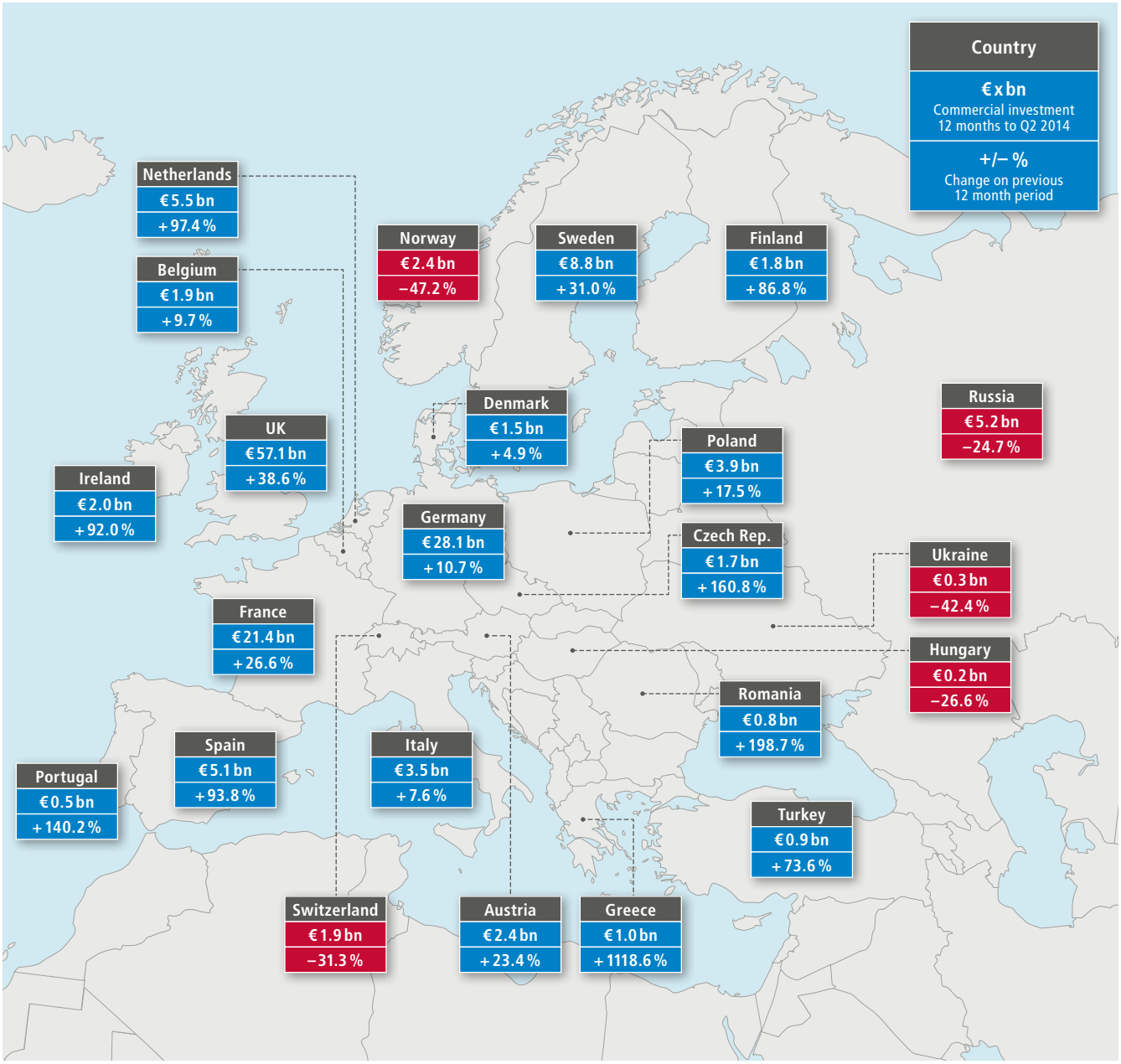
1. Increasing demand from tenants versus a simultaneous limited availability of modern logistic sites
2. Active professional management including an in-depth knowledge of the sector
3. Long-lasting lease contracts (10 years+) with prime tenants
4. Stable economic environment; logistics being a reflection of a diversified economy
5. Secure legal system
6. High third party usability and low re-rental costs result in high cash flow security
7. Significant increase in demand from institutional investors resulting in high entry prices
8. High annual growth rates in online sales increase the importance of well-located logistics sites

Table 22: IRR for Different Regions*

UK	6.5 – 7.5%
Germany/Scandinavia	7 – 8.3%
Benelux/France/Austria	7.5 – 9%
Spain/Portugal	9 – 11.5%

**After tax + fees* *Source: Aquila Capital Investment GmbH*

Chart 35: European Commercial Property Investment Volumes, 12 months to Q2 2014



Source: Knight Frank Research/Real Capital Analytics

A key feature of real estate that makes it particularly attractive to institutional investors is the relative consistency of the total returns that it offers. Real estate returns are a hybrid of income – the rent received – and capital growth – the value of the property itself.

Because of the diversity of investment opportunities (in terms of real estate type, development stage and geography) real estate can offer investors a broad range of risk-return levels. At the lower end of the risk spectrum are core real estate investments, which exhibit predictable income streams from high quality tenants; typically from properties that are already operational and generating income. Further up the risk scale are opportunistic or value-add strategies, which focus on improving existing properties with typically shorter lease lengths and less secure tenant covenants than those of core properties. The investment strategy with the highest risk profile is real estate development, which focuses on delivering new buildings to the market and on purchasing distressed property or debt at discounted valuations.

Conclusions

As indicated in this paper, real assets represent a diversified set of investment opportunities, offering exposure to a wide variety of underlying assets, geographies and value drivers/key performance factors. However, these opportunities share common investment characteristics such as stable cash flows, growth potential and risk mitigation and collectively provide investors with the opportunity to align their investment objectives and strategy, particularly if their investment time horizons stretch out decades rather than years.

Aquila Capital believes that the quest for new investment solutions by institutional investors seeking to future proof their portfolios will spark a prominent investor allocation shift towards real assets, which will become an indispensable necessity in a diversified investor portfolio.

As real assets are tangible, long-term assets, projects must be managed over their lifetime to fully realise the value of an investment. Sophisticated real asset investments therefore require significant resources and expertise not only in deal sourcing, valuation, controlling and risk management but also in the operational management of the assets over their lifetime.

As a leading European alternatives investment manager with a long-standing track record in real asset investments and a dedicated team of over 75 asset experts from the group's structuring, development, modeling, fund management and risk management teams, we believe that the unique combination of offered by real assets is unmatched by any other asset class.

Aquila Capital's Comprehensive Track Record in Real Assets

Exponential population growth	Demographic change	Climate change	Rising wealth in emerging markets	Lack of resources

	Agriculture	Timber	Renewable Energy			Real Estate
	■ Rising demand for agriculture products ■ Decrease in arable land	■ Main value driver is biological growth ■ Rising demand for timber ■ Land scarcity	■ Policy incentives have largely driven investments in renewable energy ■ Falling costs of renewable technology			■ Increase in world-wide integration is attractive for the logistics industry ■ Hotels in distressed Europe have high risk adjusted returns
			Hydropower	**Solar Power**	**Wind Power**	
	Active since 2008	Active since 2007	Active since 2008	Active since 2009	Active since 2010	Active since 2012
	Dairy, sheep and beef, cropping (cotton, grains etc.)	Globally diversified forestry projects	Run-of-river power stations and storage power stations	Ground and roof power plants, EUR 10 M+ project size	Onshore wind farms	Logistics properties, Hotel properties
	Detlef Schön	Carsten Herzog	J. E. Schulien/ O. Verloop	Boris Beltermann	Boris Beltermann	Rolf Zarnekow
	USD 345m AUM	USD 105m AUM	USD 610m AUM	USD 801m AUM	USD 272m AUM	USD 154m AUM

Aquila Capital
The combination of practical expertise with a financial and institutional dimension is supported by a strong operational infrastructure

Source: Aquila Capital Investment GmbH

Increasing regulatory oversight, such as the introduction of the Alternative Investment Fund Managers Directive (AIFMD) in 2013, presents substantial entry barriers to new investment managers seeking to access real asset opportunities. The costs and operational obligations associated with AIFMD compliance are significant. Requirements are complex and numerous and stipulate, for example, that Chinese walls must be in place between the origination of real asset opportunities and the portfolio management of real asset investments.

Aquila Group, which comprises Aquila Capital and the fully licensed alternative investment manager Alceda, offers attractive real asset investment opportunities that are embedded in a fully AIFMD compliant infrastructure. The results are real asset investment solutions, tailor-made to meet the diverse needs of our investors globally.

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