

Clean energy infrastructure: an exciting new investment thesis

Many investors in private equity are looking for additional ways to diversify their portfolios, especially in light of the post-crisis changes in the market. David Scaysbrook and Katharina Lichtner of Capital Dynamics explain why clean energy infrastructure investments make a compelling addition to both mature and developing private equity portfolios

Private equity continues to be an evolving equity class that is currently undergoing changes post crisis. The buyout segment that primarily covers traditional industries has developed over the last decade into the main private equity segment with respect to investment volume, and is currently undergoing a substantial change triggered by the financial market crisis and the reduced levels of leverage. Venture capital provides exposure to innovative technologies, yet remains a niche strategy that is not scalable. Other strategies are likewise niche strategies and more cyclical.

Consequently, investors are increasingly seeking additional strategies with a long-term investment spectrum to complement their existing private equity portfolios with investments of different cyclicity and different industry exposure. In addition, the investment policy statements of many investors, from sovereign wealth funds to pension funds and family offices, have been amended to incorporate

Socially Responsible Investment (SRI) and environmental, social and governance (ESG) principles with defined investment allocations to these areas.

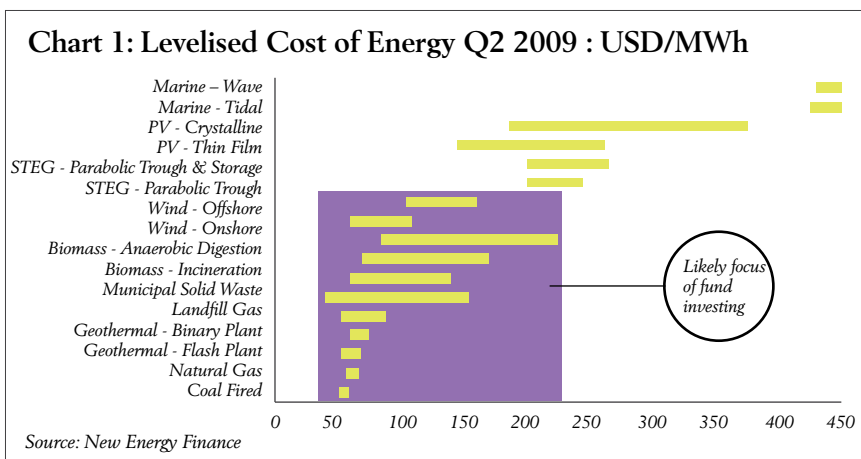
One exciting new area that fulfills these requirements is climate change investing. The evolving thesis of climate change investing spans several asset classes and comprises a large variety of long-term as well as short-term investment opportunities like carbon trading, green real estate, agri-business, forestry, long/short climate equity, 'cleantech' venture and clean energy infrastructure, to name a few. Many of these strategies are shorter-term and trading-oriented, such as carbon trading, long/short climate equity within the general public equities allocation, or higher risk, like 'cleantech' venture investing. However, within the overall

climate change investment thesis, clean energy infrastructure emerges as a compelling real asset class that is long-term in nature, cash generative and with an attractive risk/return profile.

What is clean energy infrastructure?

Clean energy infrastructure investments address climate change mitigation whilst enhancing a country's energy security and providing much-needed economic stimulus. Unlike more venture oriented 'cleantech', investments are made in real assets and infrastructure projects that generate and supply essential energy using well-proven equipment and technologies over periods often exceeding 20 years. These investments deliver energy in the form of clean and renewable electricity, gas, heat and steam

that are essential to the productivity of all economies. They also reduce carbon emissions and can earn significant financial benefits under a number of investment incentives being implemented by governments worldwide. Typical projects include investments in on-



and off-shore wind power, solar and geothermal energy, biomass gasification, waste-to-energy co-generation and distributed power (see chart 1).

Such projects can generate multiple revenue streams through the sale of clean and low-carbon energy in addition to the creation and sale of valuable renewable energy and emissions-linked financial credits.

Why is this an interesting opportunity?

The macro drivers underpinning increased demand for clean and low-carbon energy are unprecedented and perpetual. Increased demand for energy due to population and ongoing economic growth, increased scarcity and higher pricing of traditional fossil fuels and the need to dramatically reduce greenhouse gas (GHG) emissions in response to climate change all converge to make this an attractive sector for investment.

The world's population is expected to grow to over nine billion by 2050 according to the World Population Bureau. Most of this growth will come from developing countries and will be concomitant with the growth in energy consumption on a country and a per capita basis. The International Energy Agency forecasts that over the next 20 years, global energy demand will increase by over 40 percent. Over the next 20 years, new electric power capacity equal to five times the current capacity of the

United States will be constructed throughout the world. As a result, the IEA's Reference Scenario (the 'business as usual' case) sees a massive increase in GHG emissions towards a global average temperature increase of 6°C, way beyond the 2°C maximum increase recently acknowledged by world governments. Furthermore, the world's conventional

oil and gas reserves have become increasingly concentrated in a small group of countries, including Russia and the Middle East, with consequent concerns over market power, access and pricing. As a result, national governments are responding with strong domestic policy and regulatory frameworks to stimulate indigenous clean and low-carbon energy resources within their economies. This impetus is unlikely to abate, especially in energy-dependent, carbon-intensive Western economies.

This 'clean energy revolution' is already underway. In 2008, global carbon markets grew to over \$100 billion in transacted value and investments in renewable energy exceeded \$120 billion, almost double that of 2006. Global renewable energy capacity increased by over 16 percent in 2008 with more renewable energy capacity than conventional power built in the US and the EU for the first time ever.

Annual investment in clean energy is estimated to reach \$500 billion from 2020, according to New Energy Finance, Global Futures Base Scenario, 2009 (see chart 2).

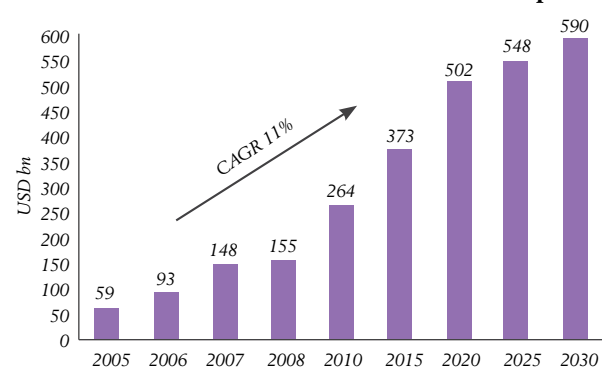
How is value in clean energy infrastructure funds generated for investors?

Clean energy infrastructure funds can be structured in closed-end limited partnerships like classic private equity, with similar terms, and generate value along multiple dimensions. The core revenue is typically generated by selling staple energy commodities into established, liquid energy markets to creditworthy buyers such as utilities. These energy commodities encompass electricity, recovered methane gas, industrial grade steam and heat that qualify for the production of renewable or emissions credits. Additional return potential can arise from: experienced management and origination of mid- to late-stage asset development opportunities, acquisition

of scalable low-carbon fuel resources, business and asset consolidation, negotiated terms of acquisition of undervalued operating and development assets, operational improvement or successful refinancing and asset restructuring. Furthermore, the accumulated renewable energy or emissions credits generated by the underlying projects can be monetised in a variety of ways, through bilateral sales and trading markets with

increasing degrees of depth and liquidity. With carbon trading markets to develop significantly over the next 10 years both nationally and regionally, this is expected to provide attractive value generation opportunities by monetising accumulated emissions credits. Lastly, assets within a portfolio or the entire portfolio itself can be exited to generate final value and return enhancement for investors in much the same way as traditional private equity.

Chart 2: Clean Energy Capital Requirement: Global Futures Base Scenario Investment per Annum



Source: World Energy Outlook 2009 by IEA

Performance: the result of long-term dedication



Awards issued to various Capital Dynamics affiliated companies. Not an offer to sell or a solicitation to purchase any security. Capital Dynamics Ltd. is authorized and regulated by the Financial Services Authority (FSA). Past performance is not indicative of future results.

2009 **Fund of Funds of the Year in Europe**
Private Equity International

2009 **Fund-of-Funds House of the Year**
European Venture Capital & Private Equity Journal

2009 **European Fund of Funds Firm of the Year**
Private Equity News

Capital Dynamics, an award-winning private equity asset manager, understands that dedication to uncompromising quality leads to superior performance.

To discover how our extensive experience and long-standing industry relationships can unlock the potential of private equity for you, please contact us at: info@capdyn.com

CapitalDynamics
Your bridge to the world of private equity



London | New York | Menlo Park | Hong Kong | Birmingham | Munich | Zug

What are the benefits of including clean energy infrastructure in a portfolio?

Clean energy infrastructure investments provide several strategic asset allocation benefits:

- ♦ current and long-term yield similar to mezzanine or income-driven fund products, often with a return range of 5 to 15 percent, smoothing distribution gaps created by more cyclical strategies
- ♦ capital appreciation through long asset lives, typical for these projects
- ♦ further return upside through direct linkage to the future value of emissions credits

The strategy is also particularly interesting for organizations that are in the initial phase of building a private equity portfolio as these investments can help smooth the J-curve. Moreover, clean energy investments exhibit other attractive features such as positive correlations to inflation and GDP given the fundamental role energy plays in all productive economies. Perhaps one of the most compelling features for investors, however, is the direct and positive correlation between the material impacts of:

- ♦ increasing emissions regulation and clean energy stimulus on the future pricing of conventional energy;
- ♦ increased demand for scarcer conventional fuels to address demand growth and energy security, future regulations

establishing regional or global emissions trading markets and a mandated demand for 'compliance credits' from large emitters; all providing a strong and ready buyer market for those asset owners generating clean and low-carbon energy. Finally, in portfolio structuring terms, clean energy infrastructure provides exposure to the clean energy and climate change sector whilst avoiding 'venture' style risks.

Summary

Clean energy infrastructure is an increasingly compelling investment theme with attractive growth prospects. Driven by demographics, climate change imperatives and national and supranational policy priorities, the development of an investment in clean energy supply will be a major driver of economic growth, energy security and indigenous industry stimulus. It also provides investors seeking to invest in the clean energy space with attractive opportunities at moderate risk levels, and can be used to further diversify existing private equity portfolios. Moreover, in classic asset allocation terms, it can serve as a partial hedge against inflation as asset returns can be indexed to annual inflation.

Clean energy infrastructure should be considered an important addition to developing or mature portfolios as a means to profit from the opportunities of one of the largest growth sectors of the coming decades. ■