



RENEWABLE ENERGY PROJECT EQUITY (REPE™)

A 21st CENTURY INVESTMENT OPPORTUNITY

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EXECUTIVE SUMMARY

As worldwide demand for energy increases¹ and concerns about energy security, fossil fuel dependency, and climate change drive governments to enact renewable energy production standards and other environmental regulations, developed and emerging economies are striving to meet energy demand through increased deployment of renewable energy resources. The build-out of these resources is creating a new investment opportunity for risk-averse institutional investors: ownership of renewable energy projects or Renewable Energy Project Equity (REPE). Encompassing the best characteristics of the fixed income, private equity and infrastructure asset classes, REPE offer investors the opportunity to achieve consistent, attractive investment returns based on predictable cash flows from renewable energy power generating projects, such as wind farms, solar installations, bio-energy plants, and geothermal and hydroelectric facilities.

In addition to providing attractive investment returns, REPE investments offer investors an opportunity to promote global environmental sustainability and national energy security.

Global Energy Investors, LLC (GEI) believes that a diversified portfolio of renewable energy projects can generate very attractive returns, with low volatility, resulting in very compelling risk/return characteristics. Investors in renewable energy projects realize returns in the form of net cash flow from operations, tax benefits from ownership, proceeds from project financing, and proceeds from the ultimate divestiture of projects to other investors. REPE investments are most appropriate for taxable investors with a low to moderate risk appetite, a medium to long-term investment horizon, a desire for consistent, stable investment returns, and a strong commitment to investing in a sustainable future.

REPE investments encompass the best characteristics of the fixed income, private equity and infrastructure asset classes

¹ Long term estimates for projected annual increases in worldwide energy demand range from 1.2% to 5% per year.



Renewable Energy Project Equity (REPE)

GEI defines Renewable Energy Project Equity (REPE) as equity investments in renewable energy infrastructure projects such as wind farms, solar installations, bio-energy plants, and geothermal and hydroelectric facilities. REPE returns are generated through sales of the project's electrical output to power purchasers (primarily utility companies), through generous state and federal tax benefits available to the original owners, through lease payments if a sale-leaseback structure is utilized, and through project divestitures.

Investing in REPEs can provide tangible benefits to investors including attractive, reliable cash flows, rapid repayment of capital from strong tax incentives, stable asset valuations from ownership of real assets, inflation protection, and upside potential from future incentives tied to their carbon-free power generation. Other benefits include competitive returns with low to moderate investment risk and the ability to participate in the movement toward a more healthy, sustainable environment and away from a dependency on foreign and domestic fossil fuels.

REPE has a number of defining characteristics. These include the project finance organizational form, a stable return profile similar to that of fixed income investments, and ownership of real, income producing assets similar to infrastructure investments.

The Project Finance Organizational Form

Project Finance is a well-established financing technique for funding the development of large, capital intensive infrastructure projects including electricity generation

facilities. Funds are raised on a limited recourse or non-recourse basis to finance an economically independent infrastructure investment whose lenders and equity investors look primarily to the cash flows generated by the project to provide investment returns.² Project finance is used across many industries, including oil and gas, power generation, telecom, transportation, petrochemical, mining, public-private partnership, and leisure and property.² Since 1996, over \$200 billion in energy projects have been built using a project finance structure.⁴ The benefits of project finance in the REPE context include (1) the limited duration of the investment commitment, (2) the ability of the investors to access the free cash flow generated by the project, and (3) the spreading of risk inherent in the model.

The project finance model spreads risk among the project developers, the debt investors, the equity investors, and various government entities. Historically, equity risk was further spread among tax equity investors and other equity investors. Traditionally, the tax equity investor took an interest in REPE investments to capture federal tax credits such as the Investment Tax Credit (ITC) or the Production Tax Credit (PTC), which could be used to offset income tax liabilities. Recently however, in order to accelerate the development of renewable energy infrastructure projects, the federal government enacted Section 1603 of the American Recovery and Reinvestment Act of 2009 (ARRA), which provides that federal tax grants can be used in lieu of tax credits to offset up to 30% of renewable energy project costs.⁵ Both the tax credits and the tax grants have the result of effectively shifting the risk for that percentage of the project cost that is covered by tax benefits onto the federal government. Additional

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² John D. Finnerty, *Project Financing: Asset Based Financial Engineering*, John Wiley & Sons, Inc., 2007, page 1.

³ *id.* p. 37.

⁴ *id.* Only the oil and gas sector surpasses the power sector in number of projects (116 compared to 67) and dollars spent (\$349 billion) over this time period.

⁵ Section 1603 of the American Recovery & Reinvestment Act of 2009 authorizes eligible taxpayers to take tax grants in lieu of certain tax credits for qualified projects placed in service prior to December 31, 2010. Alternatively, projects with later in service dates may take the tax grant if construction on them begins by December 31, 2010 and they are: large wind projects placed in service prior to December 31, 2013, or IRC section 48 property (property eligible for the investment tax credit, aka the "energy credit") placed in service prior to December 31, 2017.



federal and state programs such as USDA incentives, feed-in-tariffs, standard offer programs, renewable energy credits, and loan guarantees are available to encourage renewable energy infrastructure development and mitigate project risk. Consequently, the current capital structure for project finance in the renewable energy sector might include 50-55% debt, 15-20% equity, and 30% tax grants or other incentives.⁶

Risk is further spread by the collaborative nature of the project finance model. For example, due diligence risk is reduced because, in addition to the due diligence conducted by the REPE investor on each project prior to investment, the fund's equity investors can take comfort in the extensive due diligence performed by the other parties to the transaction, including the lenders, purchasers and guarantors of project debt, and any independent ratings agencies who provide credit ratings to the project.

The Stable Return Profile

Another unique characteristic of REPEs is their stable return profile. As a general proposition, the likelihood of achieving stable returns increases as investment uncertainty is reduced. REPE investments can be structured to maximize certainty and minimize uncertainty. For example, investing only in projects that utilize commercially proven technology and equipment reduces initial technology risk. Production risk can be reduced by purchasing equipment only from manufacturers that provide warranties and/or production guarantees. Production risk is further reduced by investing in sites with proven energy resources, such that the project's "capacity factor" (or average annual production) can be determined with great certainty. Finally, demand risk is reduced when the power purchase agreement ("PPA") and other contracts that define the project's economics, including the lending facility and operating costs, are executed with strong counterparties. Because all of these protec-

tions are secured prior to any investment, the project cash flows to investors can be predicted with a high level of certainty.

The stable returns result in part from the existence of PURPA, the Public Utility Regulatory Policy Act of 1978. PURPA requires electric utilities to purchase all of the electrical output produced by qualified independent power producers under long-term power purchase agreements. PURPA effectively creates a guaranteed market for renewable energy project output, which reduces uncertainty associated with the project's revenue stream.⁷ The recent enactment of renewable energy portfolio standards in 29 states ("RPS"), which require Utilities to purchase an increasing percentage of their electricity from renewable energy production facilities, further enhances the certainty of demand for REPE output, and, along with PURPA ensures that the market demand for renewable energy output will continue to grow over the next few decades.

Ownership of Energy Infrastructure

Renewable Energy Project Equity should not be confused with other "clean tech" venture capital and private equity investments. Four characteristics differentiate a REPE. First, the REPE investment is an operational (or soon-to-be operational) power generation facility. It is not an operating company. This point is fundamental to understanding Project Equity as the skills that enable an investor to successfully source, screen, structure, manage, and divest energy projects differ significantly from the skills that normally define successful private equity managers. Second, the REPE risk profile is much lower than that of private equity because returns do not rely on blockbuster exit strategies. Instead, returns are based on project revenue streams, which are quantified and known prior to investment. Third, the REPE investor receives regular income derived from the project's sale of electricity. The REPE's revenue stream

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⁶ All percentages are approximate. Appetite for debt capital may be strongest with the American arms of European banks for a number of reasons including increased familiarity of European banks with both project finance in general and renewable energy project finance in particular. Bank managers interviewed for this article indicated that investment in renewable energy infrastructure is one of the few areas where banks are seeking to increase lending in the near term.

⁷ The existence of PURPA does not eliminate all risk, merely the risk that output might go unsold.



is highly predictable and regular, based upon known energy resources, guaranteed equipment performance, and a long-term contract for the purchase of all power generated. This steady income return to investors creates liquidity for the REPE investor, a clear advantage for investors who value near-term liquidity over possible future returns. Fourth, this increased liquidity obviates the need for an exit strategy. However, should a particular investment require an exit, project sales and recapitalization or securitization of assets are possible.

Implications for REPE Manager Selection

The unique characteristics that define REPE investments have important implications for choosing an investment manager. Existing as it does at the nexus of three asset classes (infrastructure, fixed income, and traditional private equity), REPE investments are highly specialized requiring unique skills not typically found among traditional fixed income, private equity or infrastructure managers.

Renewable energy infrastructure projects involve complex and interrelated contractual relationships between project developers, power purchasers, equipment suppliers, land owners, and government entities. In depth knowledge of renewable energy projects and project finance is clearly necessary. Maintaining a project pipeline requires strong relationships with both developers and lenders who provide invaluable access to appropriate portfolio projects. Screening, due diligence review, and monitoring of renewable energy projects requires technical expertise in the fields of engineering, contract negotiation, and financial modeling. Project Equity also requires the knowledge and ability to structure the actual project investment itself. REPE investments may ultimately involve any number and combination of developers, manufacturers, lenders, equity investors, and tax equity investors, each of whom may or may not have an appetite for the various tax and cash flow benefits that the project provides. Finally, knowledge and

experience in accessing public incentives is critical to successfully structuring and financing renewable energy projects. These characteristics imply that the relevant areas of expertise for REPE managers include technical, legal, financial, tax, public policy, and sector-specific capabilities rather than broad experience with a specific asset class such as fixed income, or private equity.

In many ways, investment in the Renewable Energy Project Equity sector closely resembles investment in the infrastructure sector, which is characterized by first-time investment vehicles managed by professionals without attributable equity investment track records.⁸ In assessing manager capabilities in the infrastructure sector, industry consultants have noted that the pool of experienced managers in infrastructure investment is limited.⁹ After all, the infrastructure investment sector is fairly young, as is the renewable energy sector. However, the same consultants have found that the lack of experienced managers is not an insurmountable problem, and investors can turn to professionals with backgrounds in debt investing and with sector-specific operational and financial expertise in the absence of direct experience in the newer asset class.¹⁰

In sum, the successful REPE manager must bring a unique skill set to the process of assembling and managing a portfolio of renewable energy projects, a skill set not necessarily based on a narrow foundation of direct experience but rather on complementary skills built through closely related experience in the financial services and renewable energy sectors.

Socially Responsible Investing

In addition to offering an attractive return profile, investment diversification, and infrastructure project access, REPE investments provide investors with an opportunity to invest in the clean-tech, sustainable, and renewable energy sectors without the risk associated with venture funds. Investors desire access to renewable energy, but they

Project Equity is a highly specialized investment vehicle that requires a unique skill set not typically found among traditional private equity fund managers.

⁸ *Id.*


⁹ *Investing in Infrastructure Funds*, Probitas Partners, p.14, September 2007.

¹⁰ *Id.*



also seek prudent investment terms. REPE investors expect to achieve low to mid-teen investment returns. These are significantly higher than current yields on traditional fixed income investments, which currently range from 3% to 5% for corporate bonds and 8% for junk bonds. While REPE returns are lower than the returns private equity investors pursue, REPE does not have nearly the same risk profile and thus should be attractive to more risk-averse investors. The investment community has been waiting for a clear reason to jump into the renewable energy sector; we think the benefits of REPE investments provide that compelling reason.

Conclusion

In providing investors with current income, REPE investments function much like fixed income investments. However, by taking equity positions in energy projects, investors achieve the higher returns associated with equity investments. Pooling a number of such projects into a portfolio provides the additional benefits of investment diversification and potentially skilled investment management. Use of infrastructure project finance techniques enables the financing of large, capital intensive infrastructure projects and provides equity investors with access to these valuable operating assets. REPE investments represent a new investment opportunity that embodies the best aspects of fixed income, private equity, and infrastructure investing while contributing to a sustainable energy future. As such, they should be considered as part of a diversified investment portfolio. 

Global Energy Investors, LLC

welcomes your thoughts and questions. We may be reached at info@globalenergyinvestors.com

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Risks Relating to Project Equity Investments: Project equity investments are more illiquid than other types of investments and are intended for investors with longer time horizons. Returns are not guaranteed. Identifying and structuring project equity investments involves a high degree of uncertainty.

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