

# The rise of the renewable energy fund



Guest comment by **Eli Katz** and **Omar Nazif**

*As private equity funds increasingly target renewable energy assets, they will need a strong grasp of the financing structures as well as the opportunities*

Private equity and infrastructure funds are increasingly focusing on wind, solar and other renewable energy assets – an exciting and rapidly expanding new asset class that has the added advantage of furthering sustainability and green investing goals. Investing successfully in this sector requires an understanding of some of the unique financing and tax subsidy structures that underpin the industry, as well as a sense of how this sector has evolved and where it is trending.

Renewables are primarily composed of wind and solar power projects that range from a single project capable of generating hundreds of megawatts of power to vast pools of distributed power assets that serve single corporate or industrial customers, or even individual homeowners. Investment structures range from the outright purchase of an operating project or a development platform, to more complex forms of mezzanine capital – including debt or equity investments in projects that are in various stages of development.

Several trends have sparked fund sponsors' increased interest in the renewables sector. First, the asset class has matured to the point where the basic technology of generating power from wind turbines and solar panels has been widely proven.

Second, the de-carbonisation of the power sector continues to accelerate – a development that has been driven by federal and state climate policies favouring clean energy over fossil-fuelled power projects, as well as the greater cost efficiency of generating power from renewable sources. Lastly, fund LPs are demanding an increase in clean energy investments as a way to advance sustainability initiatives while deploying capital in a safe and growing asset class.

The first sustained wave of renewable power build in the US was largely spurred by European-sponsored power developers. These developers brought technical know-how to the US, where they were greeted with falling equipment prices, favourable tax and regulatory policies, and generous long-term fixed-price revenue contracts from utilities.

US-based independent power producers backed by major utilities or other sources of private investment capital quickly joined the

renewable power ramp-up. The capital for this initial wave of development was provided by a range of sources, including non-recourse project debt, private equity capital and public capital provided by “yieldcos”. Tax equity – a highly specialised form of capital provided by large US banks and insurance companies in exchange for the tax credits generated by operating renewable projects – also backed the initial wave of US renewable power projects.

## Unique financing structures

The US tax code heavily subsidises domestic renewables – a unique feature that has always shaped the US renewables investment landscape. Solar projects qualify for a federal tax credit equal to 30 percent of their cost, and wind projects qualify for tax credit worth approximately \$24 per MWh of power generated during the first 10 years of operations. Combined with depreciation tax deductions, these tax benefits are often worth more than 50 percent of the value of the project.

Project owners often sell these tax benefits to large US banks, insurance companies and other investors through tax equity arrangements, which invariably assume the most senior position in the capital structure. Construction lenders or other capital sources typically provide funding for construction to bridge the project through development to the tax equity investment, which is made



when the project is operational and generating tax credits and may be applied to “take out” the construction debt.

Raising capital for operating projects often requires subordinating a lender or other capital source to the tax equity investor. Commonly, an operating period lender provides a “back-leverage” loan secured only by the developer’s equity interest in the project. A growing number of project finance banks now provide back-leverage loans with terms and pricing comparable to senior secured, project level debt.

Funds in this sector need a strong grasp of the cost and structure of tax equity capital. Aside from the complexities of valuing tax credits, tax equity structures often provide for cash distributions that vary over time.

These distributions can be diverted to the tax equity investor in certain circumstances and require recourse indemnities from sponsors. A range of market practices have evolved to accommodate guaranties offered by short duration funds, based on NAV tests or uncommitted capital thresholds. Stronger sponsors continue to seek to reduce the scope and duration of these guaranties.

Another complexity is the gradual phase-out of tax credits, which is currently scheduled for wind projects and solar projects in late 2019 and 2023, respectively. Tax credits for renewables have expired and been renewed almost a dozen times since the 1960s. The tax credit phase-out rules employ a generous grandfathering test based on when construction begins, a standard that has spawned a variety of investment structures designed to extend the tax credit periods for tens of thousands of megawatts of future projects.

### Future trends

Meanwhile, the industry is expanding to other forms of technologies, revenue arrangements and investment structures. Large pools of individual, small-scale, distributed solar systems have raised billions in capital through securitisations, private placements, tax equity and other passive or controlling equity and debt investments. Funds continue to pursue joint ventures with capital-constrained developers to build out project pipelines, grandfather projects for expiring tax credits or build scale for future public exits.

Project offtake structures continue to evolve as well, with a rapidly expanding pool of large corporates now buying power from renewable energy projects to help reduce their carbon footprints. Capacity and energy



*“Funds investing in this sector should have a strong grasp of the cost and structure of tax equity capital”*

hedging structures based on those used in the gas-fired power sector are also proliferating.

On the technology front, energy storage systems primarily based on lithium ion batteries are rapidly scaling as developers seek to improve the renewable energy value proposition by shifting energy from times of high winds or bright sunshine to periods of higher demand (and therefore higher energy prices). The US offshore wind industry appears poised to ascend rapidly, with some estimates projecting that capital needs will exceed \$30 billion over the next two decades.

Many fund sponsors, seeing complexity as a barrier to entry for the competition, a clear political trend in favour of clean energy, and the transformation of power infrastructure, are jumping into the mix for a once-in-a-generation opportunity that’s too good to pass up. ■

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