NORTH AMERICA

All fired up

Starwood Energy Group Global's Brad Nordholm explains how his firm is looking to seize the moment in North America's evolving energy sector

Today's energy industry appears to have fallen victim to the old Chinese curse: "May you live in interesting times." Controversial projects like the Keystone XL, a pipeline to carry tar sands oil from Canada to refineries on the US Gulf Coast, grab headlines, while regulation remains in flux around the globe, as legislators juggle environmental concerns with sluggish economies and the insatiable demand for energy.

But according to US-based Starwood Energy Group, there are real opportunities for energy infrastructure plays amidst this upheaval, particularly in North America. The continued retirement of coal-powered plants, an uptick in demand from the economic recovery, increasingly affordable renewable energy sources and a vibrant secondary market are all feeding deal activity. However, making the most of those opportunities requires specific industry expertise – along with the ability to mitigate regulatory risk and the natural volatility of energy prices.

"These days, I'm seeing some of the most dynamic, interesting opportunities of my career," says Starwood Energy chief executive officer Brad Nordholm. "There's been a real collapse in the buffer between the supply and demand of electrical capacity and energy. And that generates a number of infrastructure deals in the sector."

On the supply side, Nordholm cites the retirement of a massive amount of the coal power generation slate, amounting to nearly 75 gigawatts of power over the next four years. Coal isn't the only casualty either; new standards on cooling water intake systems in California are prompting the close of a number of natural gas power plants as well.

On the demand side, the resumption of economic growth in the US and Canada is increasing energy needs on the retail side. There's even been an upswing in industrial growth as manufacturing and refinery facilities are being relocated to the US because of the country's current boom in oil and natural gas. "What this means is there is growing value in both new and existing power generation resources," says Nordholm.

Natural gas might seem best suited to meet those energy demands. But Nordholm notes that the price of natural gas has doubled in the last twelve months from under $2 per MMBtu (million metric British thermal units, the standard unit of measurement for natural gas) to just under $4 per MMBtu. "Natural gas is still historically very cheap, but the comparative advantage over coal has diminished and the presumed impact that cheap natural gas would have on renewable power resources has been grossly overstated," says Nordholm.

Starwood also sees enormous potential in renewable energy resources these days. The firm says that renewable energy projects, particularly solar and wind, have been plummeting in cost in certain parts of the country.

"In the High Plains and Rocky Mountain states, we're seeing 20-year power purchase agreements from newly-built wind generation projects priced at under three cents a kilowatt hour. On a completely unsubsidised basis, that's around five cents a kilowatt-hour," says Nordholm. "And that's very competitive with wholesale power market prices and the price of energy from natural gas power plants."

Nordholm: *looking to add operational value*

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For solar, the sweet spot appears to be the desert Southwest, stretching as far north as southern Colorado and as far west as California. Solar power projects in the region are priced at fewer than six cents per kilowatt an hour. Unsubsidised, that amounts to roughly eight or nine cents per kilowatt-hour. "Those prices are continuing to go down, ten to twenty percent a year. So we're fast approaching grid parity on a wholesale price basis," says Nordholm ('Grid parity' refers to when renewable energy can produce electricity at less than, or equal to, the price of purchasing power from the electricity grid).

Rooftop solar projects are accelerating at a particularly fast clip in Southwestern states from California to New Mexico, and even a few spots in the East, as pricing nears a tipping point towards grid parity as well. He explains one reason is that rooftop solar photovoltaic power stations (solar PVs) have no distribution cost, which constitutes a large portion of wholesale energy prices.

Starwood believes the demand for such new renewable power generation resources and natural gas-fired power resources to be in the range of $30 billion to $60 billion, especially since the secondary market is booming. "We see that there are about $30 billion worth of power assets for sale. That includes assets being sold by independent power producers, private equity firms and utilities looking to rationalize their portfolio," says Nordholm. "And that's not projected. That's today." He thinks that the expected restructuring of Energy Future Holdings could put another $30 billion worth of assets up for grabs as well.

Given the vast size of the market opportunity, how does a middle-market firm like Starwood discern which deal is worth its time?

Nordholm explains the firm is looking for situations where the assets or projects require its expertise as much as its capital.

"We've built our team with a high concentration of engineering degrees coupled with MBAs," says Nordholm. "Every senior member of the team has energy industry experience, so we look for opportunities that would flourish under our operational, development and general management skill-set."

For 'brown-field' acquisitions, that means assets and small portfolios that are responsive to the kinds of commercial optimisation and restructuring talent that Starwood has in-house. For 'green-field' opportunities, that means projects with identifiable commercial revenue contracts, or power purchase agreements that may be struggling to reach a timely financial close.

"Our ideal situation is an independent developer who's brought a project to a certain point, but now they need technical assistance and capital to make it the rest of the way," says Nordholm.

But Starwood appreciates that even in this favourable deal environment, regulatory risk is still a concern. The firm expects the Environmental Protection Agency to tighten regulations of thermo power generation plants, particularly coal plants. "From an environmental and regulatory standpoint, we prefer to avoid coal," says Nordholm.

To further insulate the firm, Starwood focuses on projects where it has bilateral contracts with commercial entities, where it thinks the law is well respected and where the contractual rights are perfectly clear.

In the case of subsidies for renewable energy projects, Starwood doesn't take anything for granted. "We want projects where subsidies are fully realised at the time of close, or where any subsequent change doesn't undermine our economics," says Nordholm.

Starwood is also sensitive to the volatility of electricity prices, which can fluctuate wildly. As a result, the firm has a strong bias towards intermediate and long-term revenue contracts for the sale of energy or for providing capacity from power generation transmission projects.

"On a capital investment weighted basis, our average revenue contract is about 17 years," says Nordholm. "A number of state utility commissions direct utilities to secure long-term energy resources through bilateral contracts for capacity and energy. It's a unique situation in the US where we can create these highly structured cash flows that effectively isolate our firm and our investors from the price risk."

The firm's approach suggests that while it's key to take advantage of the moment, it's also vital to plan for long-term developments. This is, after all, the energy sector – where change is the one constant. ■

COMPANY PROFILE: STARWOOD ENERGY GROUP GLOBAL

OVERVIEW

Starwood Energy Group Global, L.L.C. ("Starwood Energy" or the "Firm") is a value-add and opportunistic energy infrastructure investment firm located in Greenwich, Connecticut focused on power generation and transmission in the U.S. and Canada. Since the inception of its first fund, Starwood Energy Infrastructure Fund I, LP, Starwood Energy has made sixteen investments with enterprise value in excess of $3.2 billion.

Starwood Energy is an affiliate of Starwood Capital Group Global, L.P. ("Starwood Capital"), a leading global private investment group founded and led by Barry Sternlicht with over 270 professionals located across ten offices in five countries. Starwood Capital has raised nearly $19 billion of equity capital since it was founded in 1991. For more information, please visit www.starwoodenergygroup.com

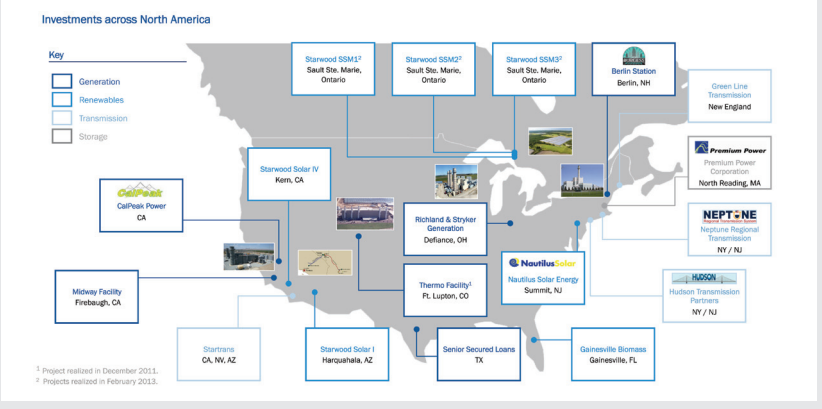
PRINCIPAL AREAS OF FOCUS

- **Natural gas-fired power generation assets** supported by margin-certain, medium- or long-term contracts with credit-worthy counterparties. Starwood Energy investments include: Thermo Facility, Midway, Richland-Stryker
- **Renewable power generation assets** supported by long-term contracts of 20–30 years with credit-worthy counterparties. Starwood Energy investments include: Starwood SSM 1, 2 & 3, Berlin, Gainesville
- **High-voltage transmission assets** supported by long-term contracts of 20-30 years with credit-worthy counterparties or supported by a tariff regime. Starwood Energy investments include: Neptune RTS and Hudson Transmission Partners

CORE AREAS OF VALUE CREATION

- **Off-Market Investment Origination:** All STARWOOD ENERGY's investments to date have been sourced outside of agent-led auctions
- **Development and Construction Management:** When investing in development projects, STARWOOD ENERGY principally focuses on late-stage development projects with few major hurdles to successful completion and commercial operation and typically works with leading, credit-worthy contractors who are subject to liquidated damages. To date, all of STARWOOD ENERGY's construction projects have been on or under-budget;
- **Energy and Operations and Management:** STARWOOD ENERGY minimizes exposure to commodity price fluctuations by entering into long-term tolling agreements, hedges or fixed-price capacity or other off-take agreements. In addition, STARWOOD ENERGY actively manages its investments, optimizing their value across the asset life-cycle through processes such as re-contracting, refinancing or implementing operational improvements. credit-worthy counterparties

STARWOOD ENERGY INVESTMENTS ACROSS NORTH AMERICA



LEADING PLATFORM & MANAGEMENT

STARWOOD ENERGY benefits from the established investment platform of Starwood Capital, which provides administrative resources and access to its significant real assets investment and financing experience. Barry Sternlicht, Founder of both STARWOOD ENERGY and Starwood Capital, is the Chairman of Starwood Energy, and contributes his decades of investment experience and thought-leadership.

- **Bradford T. Nordholm, CEO & Managing Director:** Mr. Nordholm is responsible for leadership of STARWOOD ENERGY including strategic direction, tactical execution, organizational development and investor relations. During his career, Mr. Nordholm has developed, acquired and managed equity investments in power generation, transmission, gas transportation and storage valued in excess of $8 billion
- **Madison F. Grose, Vice Chairman & Senior Managing Director:** Mr. Grose has led the legal negotiations for many of Starwood Capital's transactions during his 20-year tenure at the firm. Mr. Grose led the structuring and underwriting for STARWOOD ENERGY's first investment, Neptune, a 660 MW undersea power cable that now connects the New Jersey, Long Island, and New York power grids