

sustainable

HEROES

green leaders in focus



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Catching the First Wind

Bryan Martin is the Founder and CEO of D.E. Shaw Renewable Investments (DESRI), which owns and operates renewable energy facilities in North America, and Head of the D.E. Shaw group's US Private Equity business, where he helped found and lead Deepwater Wind.

You started investing in renewable energy projects for the D.E. Shaw group back in 2005, and since then have been a very successful investor in renewable energy. What's your investment thesis?

My overarching theme has always been technology change. I started my career investing in public oil and gas companies at Fidelity. At the time, 3-D seismic was changing the way smaller entrepreneurial companies could find oil and gas and compete against the major oil companies. New desktop computing allowed you to see what's underneath the earth's crust and visualize it. This was a time of significant technology change in the industry, which fundamentally shifted the economics of finding oil and gas. What we're seeing in renewables is very similar – a technology shift in which renewables have become cheaper than large centralized thermal power plants. Big utilities have had to embrace new technologies to stay competitive. Since 2005, we've focused on investing in renewables.

A replacement cycle is going on in North America. Many of the power plants in the U.S. were built in the 1950s, '60s and '70s, with a 40-year expected life. These now have to be replaced, and renewable power is an excellent, cost-competitive alternative even to nuclear power. In certain markets, renewables have been the cheapest power, even going back to 2005. For example, when we started investing in Hawaii that year, wind was much cheaper than coal or natural gas. We also started working on offshore wind in certain East Coast markets. In each market, our strategy has been to identify the appropriate and cheapest technology to replace the power source that is going offline.



Bryan Martin



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Is renewable investing by big oil and gas companies just green marketing or are we seeing a real shift in their diversification strategies?

The large oil and gas companies have struggled because they seek scale and speed at the same time. Offshore wind does offer scale, and their interest there is genuine. To be effective and competitive in renewables they need to learn more about project financing and be open to utilizing it. The major oil companies have not had to use cheap financing very often because they have such big balance sheets. But at the heart of driving power prices down is driving capital cost down, and the cheapest capital you can get is often project finance. Without that it's very hard. The oil companies have not been very tolerant of building their projects in a way that supports project financing. Therefore I don't think it is greenwashing, but a genuine learning curve they're going through that many independent power producers have already mastered.

You were instrumental in the success of Deep-water Wind, the catalyst for offshore wind to take off in the U.S. What did you learn about managing stakeholders - governmental and advocacy constituents, as well as private sector opponents?

Stakeholder management and permitting matter! And the biggest factor driving success is paying attention to the needs of the markets that we're serving. We were fortunate to be early in the development of the offshore business in the U.S., thereby solving for the replacement cycle needs. New England had some of the oldest power plants in the country, and some of the hardest power plants to replace because of population density. The only way to solve for demand in these markets was to utilize offshore wind.

Our strategy was to build as far from shore as possible to serve our stakeholders. The reality is that people don't want to see the wind farms, and the good thing is that the economics are roughly the same building them close to shore or farther out. Block Island was a bit different; the siting decision there was driven by permitting. It is much easier to permit an offshore wind farm in state waters than in federal waters. Block Island happened to be more than 10 miles offshore, and still in state waters. Unfortunately, it still had to be built much closer to shore than we would like, hence we made it as small as possible and worked closely with the community to gain their support. We achieved 80% local approval, which is huge. But that was

a unique situation; in the future the industry should refrain from building wind farms that close to shore.

Offshore wind in Europe is a relatively mature market and Europeans have been trying for years to build projects in the U.S. Yet Deepwater continues to be one of a very few that has won multiple U.S. contracts. What has been their competitive advantage?

The U.S. and Europe are completely different markets. The European market tends to benefit more from central planning, so a country can mandate that a project will get built and make sure all the resources required will be there to support the company. Much of their offshore business got built when the technology was less mature, and they needed large utilities to be successful.

The U.S. is much more cost-sensitive, and here the renewable market is actually very large, mature, and more successful than any market in the world in driving down the cost of power. To succeed, one needs to embrace all the local stakeholders, meet the requirement to be cost-competitive, and avoid the tendency to believe that engineering is the most important part. Here, often a better project for the customers is a smaller project that doesn't require the utility or state to buy more power than they need – even though this costs slightly more and isn't the optimal engineering solution. In Europe, one would choose the larger, optimally engineered project.

The sale of Deepwater to Ørsted sought to accomplish the best of both worlds: applying Ørsted's engineering expertise and capability in getting projects built to smaller projects that have been so successful in offshore U.S. development.

I can't stress the importance of stakeholder groups enough. In the U.S., the fishermen, or the local permitting authority, or coastal zone management can stop a project. That doesn't happen in Europe. To us, stakeholder management is central to the way we do business, which is why we've been successful on complex projects. For example, we are hyperfocused on the types of grass we plant at solar projects, and doing innovative things beyond what's required, to make sure that we don't have storm water runoff to our neighbors' soil. And because we've

tried to take that approach for many years, we're finding more people come to us because they believe that our projects will get done.

● What are the similarities to onshore wind?

The onshore renewable business takes more time because you need to learn to work in 30-35 different submarkets and states. But they all share several things: price matters; selling the power and the size the utility wants matters; and active stakeholder management, whether it's neighbors, birds, or bats, matters. And project delays make your customers unhappy because producing the power that was promised is critical to utilities: they need it for their replacement cycle.

● So if you go back to 2005, did the future pan out the way you expected back then?

It has taken a lot longer, and there were definitely more ups and downs than I expected. But the thesis we wrote up in 2005 is remarkably close to what happened: the first offshore wind farms are happening in states that we identified then. Their size is roughly consistent with what we thought, and stakeholders we thought we'd need to be sensitive to are actually the most concerned. Most importantly, our fundamental belief – that good projects do end up getting built – came to pass.

● GTM predicts that 2 GW of offshore wind will be built over the next five years in the U.S. Is that a good estimate?

It's very hard to predict the timing, but I think there's potential to double that capacity number. It could get close to 5GW. I do not believe that a lot of offshore wind will be built elsewhere in the U.S. It will be highly concentrated in the Northeast.

● What is the biggest impediment for offshore wind growth in the Northeast?

The biggest impediment is cheaper renewable energy alternatives, but they can never achieve the scale that is needed in the Northeast. In the Southeast, you can settle for other alternatives that are easier to implement and far lower cost, so you don't need to go offshore. The only place in the U.S. you really need to go offshore is New England, and parts of the West Coast; however, from a regulatory standpoint, that's



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a very difficult place.

Do you see floating offshore playing a big role in places like California and Japan, with dense populations but deep continental shelves, where drilling and traditional turbines are cost-prohibitive?

Ironically, floating offshore wind technology could become popular in shallower waters but current technology doesn't allow that yet. One of the things that would make offshore wind cheaper is to reduce the cost of foundations, so I'm very hopeful. But within current leases, floating doesn't work now. In the East, we can build an awful lot within about 30 miles of shore and fairly shallow water. In California, you get two miles offshore and you're in much deeper water, which is why floating wind works great out there. They also don't have a lot of hurricanes.

Who is your sustainable hero and why?

The first would be Gov. Gina Raimondo in Rhode Island, who embraced the benefits to a local economy of innovating a very large-scale industry, and provided leadership when there were a number of other states better situated to be first movers. She was a real catalyst for launching the whole industry, and it's hard to find that kind of leadership in politics.

The second one is George W. Bush as governor of Texas, who rarely gets credit for starting the

first successful state renewable energy credit system. It was the Texas wind boom that kicked off falling power prices. And his motivator wasn't necessarily green energy. He was way ahead of his time in understanding that renewable energy drives down the price of power in a market. Texas has some of the lowest power prices in the country, and it's due to the work he initiated in the late 1990s.

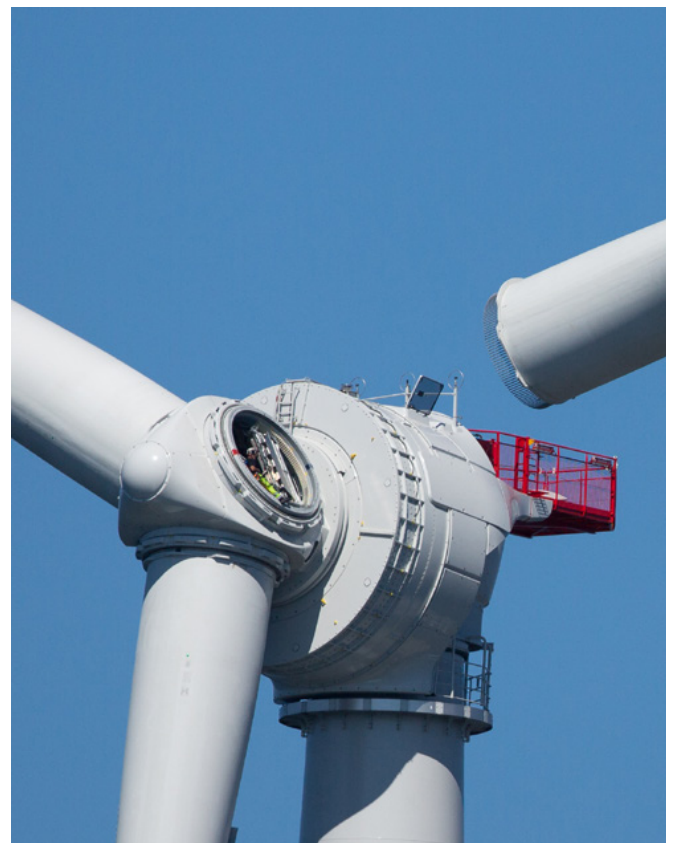


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