



**Christopher P. Skroupa** Contributor

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## Institutional Investor Appetite For Renewable Energy

Richard Rankin joined Ardsley Partners in March 2012. Prior to joining Ardsley Partners, Richard was the Partner of Atheneum Capital LLC, a Private Equity firm he founded in 2005. Atheneum invests in life science, technology, cleantech and alternative companies. Prior to Atheneum, he was a Managing Director of Morgan Stanley in New York. He was head of Morgan Stanley's institutional equity division in Toronto, Canada from 1998-2002. Richard has also worked as a Vice President at UBS in New York and started his career as a Credit Analyst at the Federal Business Development Bank, a division of the Bank of Canada. Richard studied Economics and Political Science at the University of Western Ontario and Accounting at the University of Calgary, in Canada. His summer intern, Brooke Carrobis, Babson Class of '17, contributed research to support the content of his responses.

**Christopher P. Skroupa:** What is one thing that most people do not know about renewable energy?

**Richard Rankin:** Most people do not know how substantial renewable energy is or that, in a global context, renewable energy is competitive with and can replace conventional energy entirely. In the Great Plains and Southwest USA, several companies have signed contracts, known as power purchase agreements, for solar and wind energy at prices lower than that of natural gas. Renewable energy can be a cheaper alternative to fossil fuels because of the ability to harness sources of energy that are prevalent to certain locations. It is a young industry with room for growth and improvement. However, globally, it is already as big as the apparel and fashion industry worldwide and four times the size of the semi-conductor industry. Navigant Research, in their Advanced Energy Now 2015 Market report, observed that in the US, the market for advanced energy is bigger than the airline industry, equal to pharmaceuticals and four times the size of the semi-conductor industry. With newly available forms of financing such as YieldCos which lower the cost of capital, and policies in place that would put the industry on par with traditional carbon energy producers, there appears to be no limit to renewable energy. Demand is

strengthening for renewables at a faster pace than ever before and I cannot wait to see where it takes us.

**Skroupa:** What sector of renewable energy is the most promising?

**Rankin:** Electricity generation from solar looks to me to be one of the most promising segments. In 2014, electricity generation was the largest sector of renewable energy with \$426 billion in revenue worldwide, representing a 16% increase from 2013. In the United States alone, electricity generated from solar accounted for \$45.8 billion in revenue, up 48% from 2013. Nearly half of the United States' electricity generation revenue came from solar photovoltaics. In the United States, solar revenue has continued to grow 39% year on year since 2011, capping a four-year growth of 173%. The price of solar energy is continuing to drop as well. Since 2006, the cost to install solar energy has dropped by more than 73%. As the solar industry grows, so does the economy. There are now nearly 174,000 solar workers in the United States.

**Skroupa:** What benefits will renewable energy have on the economy?

**Rankin:** The recent Advanced Energy Now 2015 Market report, by Navigant Research, highlighted that the \$1.3 trillion advanced energy global market grew 12% in 2014 globally and 14% in the US, five times the rate of the national economy! In addition to lifestyle and health-related benefits, there are numerous economic benefits to investing in clean energy including job creation, cost advantages and national security. Renewable energy creates three times more jobs than fossil fuels. According to Clean Technica, "a national study showed that job creation in clean energy outdoes fossil fuels by a margin of 3-to-1 — every dollar put into clean energy creates three times as many jobs as putting that same dollar into oil and gas." Fossil fuel technologies are often mechanized and capital intensive, while the renewable energy sector is more labor intensive, which equates to more jobs per unit of electricity generated. In addition to creating new jobs, local governments collect property and income taxes from renewable energy project owners which help support essential public services. The economic, social impact and environmental risk associated with fracking is another consideration, as is reducing the US dependence on imported oil.

**Skroupa:** Is renewable energy causing electricity rates to increase?

**Rankin:** No, diversifying the energy mix actually lowers energy costs. In Germany and Australia, wind and solar energy have cut the cost of wholesale electricity for years. A study done by Germany's institute for Future Energy Systems (IZES) found that solar power reduced the price of electricity by 10%. The infrastructure, or electrical grid, in the US is in need of major investment for maintenance and upgrading. That is where a substantial portion of a consumer's monthly energy bill is directed. As distributed solar power becomes more prevalent, along with wind and hydro, we will be able to lower the cost of electricity. Several states have caught on to this and view it as an opportunity, while others view it as a threat. The wind and the sun are raw forms of energy that are free and infinite; common sense and economics will rule the day....eventually.

**Skroupa:** Why should someone invest in renewable energy?

**Rankin:** The returns from renewable energy production are stable and long term.

One of the major problems with fossil fuels is price volatility. Fossil fuels are a finite resource, so a dwindling supply equates to an increase in price. The 'easy' oil has already been extracted. New oil finds are in oil sands, deep-water or geologically more challenging, thus more expensive, areas. Since the sun and wind are infinite resources there will not be supply side pressure on price as long as there are sufficient turbines and panels relative to the people on Earth. Renewable energy investments appear attractive worldwide despite the relatively recent dip in oil prices. The US Government is pushing for a more diversified base of energy supplies. Global energy production from renewable sources is approximately 10% of global energy produced. It is improbable that you will find any investor who has 10% of the energy weighing in his or her portfolio in renewables. Just to balance one's energy exposure to the amount of energy produced would create a huge surge in demand for renewable energy investments. The widening of the market will bode well for investors and instill confidence in the industry over the long term.