DISCLIPLINED EQUITY

LargeCap Clean Energy

GREAT LAKES ADVISORS
A WINTRUST WEALTH MANAGEMENT COMPANY

Climate change is having an increasing impact on companies by creating new and magnifying existing risks and by generating opportunities to expand competitive advantages through improving operating efficiencies, reducing costs, and creating new products and services. Prudent investors should consider how managers are incorporating climate change issues into their investment decision making.

WHAT ARE THE TRENDS?

Environmental: The climate is changing, and the rate of change is accelerating.

- Temperatures are rising. The average global temperature has increased by about 1.4° Fahrenheit since 1880. Almost 1.0° F of the change has occured in just the past four decades.[1]
- Precipitation is increasingly concentrated in very heavy events. In the U.S. between 1958 and 2012, very heavy precipitation events have increased by 27% in the Southeast, 37% in the Midwest, and 71% in the Northeast.[2]
- Droughts are lengthening and becoming more severe in some regions. The past 15 years in the U.S. Southwest have witnessed the most prolonged prevalence of severe drought since records began in 1895.[3]

Some of the resulting impacts of these trends include changes to water availability and quality, shifting agricultural patterns, more frequent and severe flooding, and increasing coastal erosion.

Technological: Renewable energy, most commonly that generated from wind and solar, does not produce greenhouse gases that contribute to climate change. Technological developments are making renewable energy more affordable and, in several places, cheaper than fossil fuel energy. Indeed, from 2008 to 2016 the median levelized cost of utility-scale photovoltaic energy decreased from around $110 to $50 per MWh.[4] In 2016, 55% of all new global generating capacity was from renewables, the second year in a row that it was a majority.[5]

Smarter grid technology and improving battery technology are mitigating the effects of intermittency of renewable electricity generation. The cost of electric vehicle batteries has declined from $1000 per kWh in 2010 to $350 per kWh in 2016; by 2023, electric vehicles could displace two million barrels of oil demand a day.[6]

WHAT ARE THE CONCERNS?

There are business implications resulting from climate change. Extreme weather events can damage fixed assets including production facilities and inventory, interrupt supply chains and distribution networks, increase the cost of goods, and increase the cost of operations. Climate change can also affect companies' employees and customers through higher food prices, more expensive insurance, and declining air quality which impacts health. Companies with significant overseas markets may face regulatory risks related to natural resources and greenhouse gas emissions.

With the transition to more renewable energy, companies with large amounts of fossil fuel reserves may find that some of those reserves are no longer profitable to produce and may be forced to write them off, impairing the book value of the firm.

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There is a moral dimension to climate change in that its effects are felt disproportionately by the poor and vulnerable around the world, and many argue that we have a responsibility to reduce the rate of further climate change and to support adaptation efforts in order to protect others including future generations.

WHAT ARE COMPANIES DOING?

In response to the changing climate, many companies are taking proactive steps to manage climate change risk. Done effectively, companies can derive competitive advantages over their peers and be rewarded with additional profits and market share. Some actions include reducing greenhouse gas emissions, improving operating efficiencies such as the fuel efficiency of transportation fleets, reducing required inputs affected by climate change such as water, and reducing the energy footprint of products during their use. Some companies are making significant long-term commitments to purchasing renewable energy in order to lock in energy costs and avoid the unpredictability of fossil fuel energy prices, which makes corporate financial planning more difficult.

THE GREAT LAKES ADVISORS LARGECAP CLEAN ENERGY STRATEGY

The Great Lakes Advisors LargeCap Clean Energy strategy takes a number of steps to reduce investors' risk exposure resulting from climate change and the shift to renewable energy. The strategy avoids those companies most at risk of having to write off significant carbon assets because they are no longer profitable to produce. It also excludes producers of coal and nuclear energy as well as oil refiners and service companies. Those companies taking proactive steps to insulate themselves from climate change risks are overweighted in the portfolio; conversely, companies lagging their peers are underweighted.

The resulting LargeCap Clean Energy portfolio provides investors additional protection against downside risks resulting from climate change and additional exposure to companies positioned to perform better than their peers pursuing climate change-related opportunities.

1. NASA's Goddard Institute for Space Studies, 2017.
2. Karl, Thomas R. et al, Global Climate Change Impacts in the United States, 2009, updated.
3. NOAA, 2016.
4. *Levelized Cost of Energy Analysis*, Lazard, 2008 and 2016.
5. *Global Trends in Renewable Energy Investment 2017*, United Nations Environment Programme and Bloomberg New Energy Finance.
6. Randall, Tom, *Here's How Electric Cars Will Cause the Next Oil Crisis*, Bloomberg, 2016.