

# How insurers might implement ESG into their investment portfolios

Insurers have taken into account many of the risks resulting from the increasing frequency and intensity of extreme weather events in underwriting, but have failed to address physical climate risk to the same degree when making their investment decisions. Given our background with incorporating climate risk into the portfolio management process coupled with our experience working with insurance companies globally, in this article we explore the solutions that can be considered from a listed equity perspective with the potential of these investment solutions spreading into other asset classes.

**T**hus far, investors' approach to boosting climate resilience has typically involved measuring the carbon emissions of issuers in their investment portfolios. This carbon foot-printing exercise helps assess the transition risk, (i.e. the transition risk to a low carbon economy) to a portfolio as global efforts to limit temperature rise below two degrees Celsius gather momentum. Indeed, since the decline in global coal equity valuations from their 2011 highs, investors are acutely aware of abrupt changes in asset pricing and that this may become a more frequent occurrence in the event of tightening carbon regulations.

However, this foot-printing strategy fails to take into account the physical

risks of climate change, such as sea level rise, droughts, flooding and cyclones and the effects these events have on companies' facilities, their operations and supply chains. Inevitably, different industries and sectors will experience different impacts. For example, extreme heat can hamper energy and industrial production, and lower productivity of employees across the economy. Meanwhile sea level rise could bring more flood damage and disruption to low-lying energy infrastructure and manufacturing, such as in the U.S. Gulf Coast or China's Pearl River Delta.

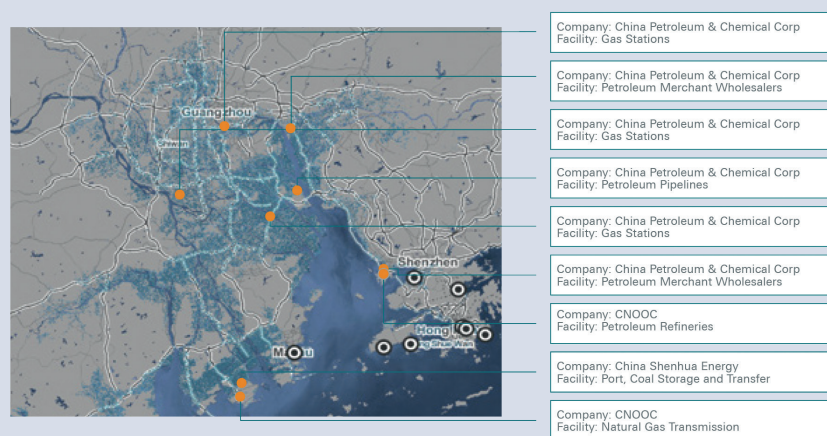
Even more worrying are the findings from a 2017 study<sup>1</sup> which stated that we probably only have a 5%

chance of limiting the rise in global temperatures to no more than two degrees Celsius by 2100. As a result, investors need to be cognizant of the ongoing risks that companies face around the world from the increasing frequency and intensity of extreme weather events not least since physical climate risks pose a far more immediate threat to investment portfolios than the transition to a low carbon economy.

Addressing this risk, however, is far from easy. To do so, investors first need to identify the physical locations of the companies they invest in, a task made tricky by the generally poor corporate disclosure around these topics. Investors then need to master the increasingly complex science around climate change to understand the vulnerability of corporate production and retail sites as well as their associated supply chains. And finally, investors would need to account for the nature of the business activity being carried out in these locations to gauge the sensitivity to specific climate hazards. For example, a water-intensive facility in a drought-prone region will be more vulnerable than a similar facility in the same region that does not rely as heavily on fresh water.

Data analytics from Four Twenty Seven, a California-based market-intelligence company that specializes in the economic risk of climate change maps the physical locations of corporate facilities around the world alongside climate models. Four Twenty Seven's scoring methodology

**Figure 1: Oil infrastructure in China's southern Guangzhou region and its exposure to sea level rise and flood risk**



Source: Climate Central and Four Twenty Seven, Inc. All Rights Reserved (November 2017); Measuring Physical Climate Risk in Equity Portfolios, Four Twenty Seven and Deutsche Asset Management (November 2017)

identifies both the geographic exposure to climate hazards of individual companies, as well as the business sensitivity of facilities or companies to those hazards. This powerful data-set has identified over one million corporate sites and the risks to each site from heat stress, extreme rainfall, water stress and sea level rise.

While Asia is probably the most exposed region of the world, since five out of six people in the region live in areas vulnerable to extreme weather events, the past year has revealed how developed markets are equally susceptible. Recent data released by the National Oceanic and Atmospheric Administration reveal that there were 16 weather and climate-related natural disasters in the U.S. last year, with a cumulative loss of USD306.2 billion. This marks a new all-time high, surpassing the previous peak of USD214.8 billion hit in 2005 and largely in response to the impacts of hurricane Dennis, Katrina, Rita and Wilma. This brings the number of weather and climate-related disasters since 1980 to 219 in the U.S., with cumulative losses in excess of USD 1.5 trillion and tropical cyclones alone representing 55% of the combined losses<sup>2</sup>.

Of extreme concern in Asia is the region's vulnerability to flooding and sea level rise. For example, floods in Thailand in 2011 revealed the exposure many South Korean electronics' companies faced from their Thai supply chains. For future risks, China leads the world in terms of coastal risk with 145 million people and economic assets living on land ultimately threatened by rising seas as seen in Figure 1. Not surprisingly, given the environmental impact of rapid industrialization in the country, but, also the likely liberalization of Chinese capital markets over the years ahead, the Chinese authorities are relentlessly focusing on measures to address the poor levels of air quality, contamination of surface groundwater and significant land degradation. Strong political will and incentives have therefore allowed China to maintain and extend its position as the world's largest renewable energy investor. In 2017, Chinese clean energy investment hit USD132.6 billion, more than double the investment of the U.S. its nearest rival, and representing 40% of global clean energy investment<sup>3</sup>.

The major opportunities of this

“Investors need to be cognizant of the ongoing risks that companies face around the world from the increasing frequency and intensity of extreme weather events”

transformation are taking place across the clean energy sectors such as solar, wind, biofuels, compressed natural gas technologies, power storage and electric vehicles. In addition, efforts to improve energy efficiency and reduce energy and carbon intensity are delivering investment opportunities for the lighting, power distribution and building materials sector, as well as real estate assets. Meanwhile environmental resource management will affect the water, waste management, soil reclamation and clean agricultural sectors.

These investment opportunities are not just confined to parts of Asia. In the U.S., a significant transformation is also underway in the power generating sector and specifically in the distributed utility-scale solar and wind sectors. These investment opportunities are occurring at a time when an increasing number of global asset owners are establishing low carbon investment targets. This includes not just divesting out of certain fossil fuels holdings, but, also substantially increasing investments in clean technology, green infrastructure and green bonds. To that end, incorporating physical climate risk to build more climate-resilient portfolios can be the next frontier of the ESG investment landscape.

## References

- <sup>1</sup> Raftery A., Zimmer A. et al (July 2017). Less than 2°C warming by 2100 unlikely
- <sup>2</sup> National Centers for Environmental Information, NOAA. Billion-Dollar Weather and Climate Disasters: Overview (April 2018)
- <sup>3</sup> Clean Energy Investment Trends, 2017 (January 2018). Bloomberg New Energy Finance

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