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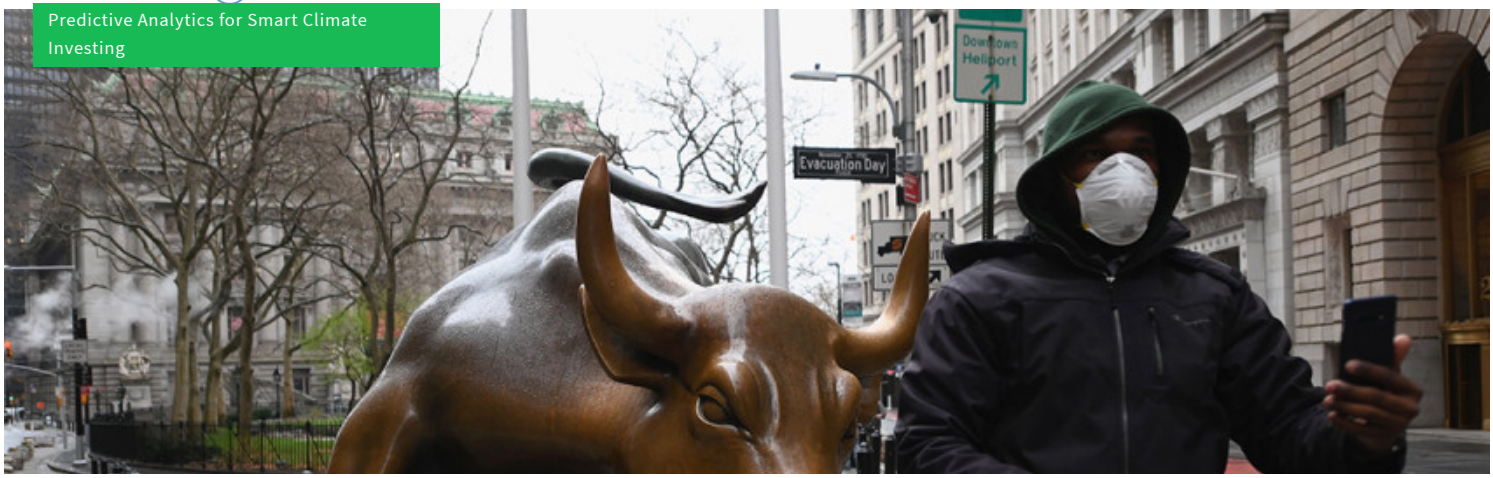
Predictive Analytics for Smart Climate Investing



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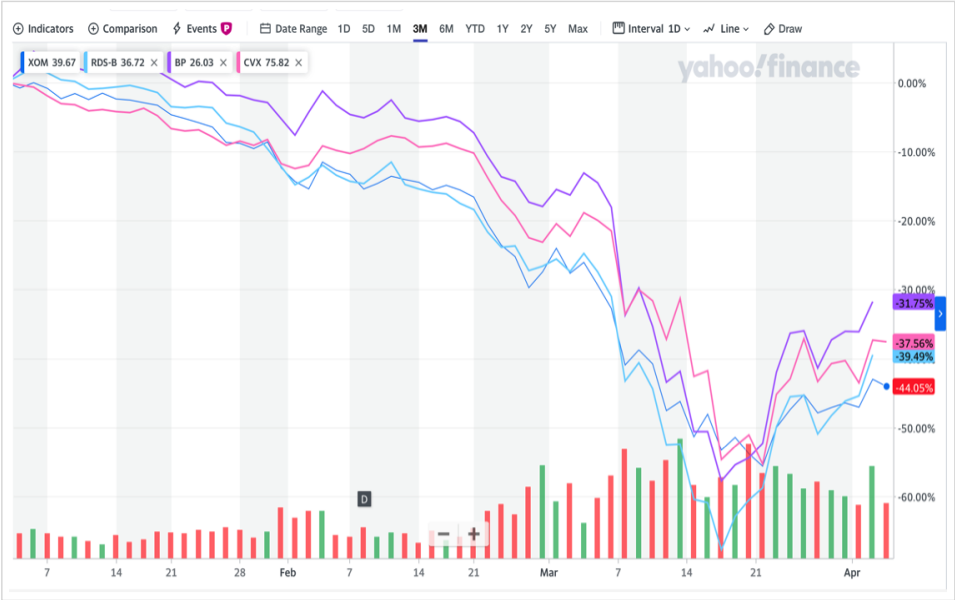
Is it time for ESG to pack up and go home? by Dr. Pooja Khosla and Seann Stoner

by Dr. Pooja Khosla

This is Part 1 of a 3-Part series of articles that will review the ongoing market reaction to Covid-19 and the oil price wars. We will explore in real-time the data and opportunities that can help reshape the recovery for a better climate future.

As all of us do our part to ease the burden on our healthcare system by sheltering at home, declining energy demand due to the Coronavirus and the oil price war between Saudi Arabia and Russia continues to send oil prices tumbling. Brent crude is now at its lowest price in nearly two decades with many major oil stocks nearly halving in value since January, even with the recent minor rebound.

A 3-Month comparison of Exxon Mobil, Royal Dutch Shell, British Petroleum, and Chevron. Source: Yahoo Finance



Rick Perry, former US Secretary of Energy and governor of Texas, recently stated that the oil industry is "on the verge of a massive collapse." Mr. Perry's predictions proved true for Whiting Petroleum (NYSE: WLL) on April 1st when they announced that they were filing for bankruptcy.

Environmentalists and proponents of divestment investment strategies as a market solution to climate change will undoubtably hail this as good news for the climate crisis, believing that markets will continue to experience global transitions in consumption, production and energy mix and keep moving towards greater reductions of hydrocarbons.

If this trend continues, is it time for fund managers who use energy divestment as a selling point for their climate strategies to pay out their assets under management and declare mission accomplished? Have Russia, Saudi Arabia, and the Coronavirus inadvertently solved climate change?

Obviously, the answer to both of these questions is no.

In fact, the Coronavirus and the price war won't destroy the oil and gas industry and certainly neither will solve the climate crisis, but maybe this is an opportunity for investors to rethink and redefine climate change investing. Current market signals present an opportunity to integrate data points and measurement metrices that are able to capture climate volatility in investments.

Entelligent has recently run a series of tests on public equity funds that have divested from the oil and gas sector. Based on the results, we believe that a paradigm shift in the imagination of investment professionals is needed. To date, asset managers have used a divestment strategy of taking available self-reported Scope 1 and Scope 2 emissions data and removing the top emitters, generally those companies whose main lines of business are exploration, production, and burning of hydrocarbons. As a result, sectors such as energy and utility are generally completely excluded or are minimally exposed in these funds.

Entelligent has found that when this strategy is implemented, the absolute CO_2 footprint of a particular portfolio may be lowered relative to its benchmark. Yet these tests also suggest that this strategy does little to funnel additional capital to companies actively addressing climate change risk via changes in their capital and operating expenditure strategies towards more resilient

supply chains or efficient energy and resource use. To be even more explicit, these funds are tilted towards companies who already have realized a low carbon footprint, while decreasing exposure to companies that have a high absolute carbon footprint and thus, the highest potential for carbon reductions. From Entelligent's perspective, this strategy does not demonstrate impact.

Rather, Entelligent has found that there is a dire need for asset managers to identify companies that are leaders in managing climate change transition risk and preparing for the future by measuring their sensitivity to multiple climate change scenarios. Portfolios integrating such a risk factor are showing an increasing percentage of emissions avoided over time compared to a benchmark. Despite having a high absolute carbon footprint, such portfolios also reveal greatly increased annual averages of future carbon reductions. In simple terms, investors should focus on finding and holding securities of companies that are actively lowering emissions rather than optimizing portfolios to have low absolute emissions.

In today's world, the portfolio manager seeking to address climate change risk will need to think outside the box and use datasets that are not simply aggregated company-reported data or data generated by a controlled research model that relies on causal arguments. Investors need data that is predictive and able to capture signals from scenario analysis that is built on the most probabilistic energy, technology and policy transformations.

It is important to understand here that *scenario analysis* looks into multiple future possibilities and shocks that cause the market to diverge from business-as-usual. The result of these divergences is more data points that provide more possible signals – warning alarms or prompts indicating an opportunity rather than causal statistical interpolations. It is also important to understand that while dealing with uncertainty, a well-in-advance signal is more valuable than a late well-laid strategy.

Datasets capturing these projected signals rely on assumptions, associations and correlations of relationships such as increased capital expenditures on energy efficiency that will lead to lower carbon emissions and greater profitability. Understanding the lead and lag time-series relationship and factoring this relationship into multiple climate shocks and uncertainties is therefore critical to the portfolio manager's ability to manage such risks.

Tests show that integrating climate signals into a portfolio is more likely to be successful in lowering sensitivity to extreme climate scenarios, as well providing a meaningful measurement of the reduction of a portfolio's total risk. Thus, impact should be measured by the probability of companies lowering their emissions over time rather than the absolute amount of emissions associated with a portfolio.

At Entelligent, we see this as a paradigm shift in how public equity investors that care about their climate impact might think about deploying their capital. Rather than feeling good about not investing in an entire sector that they disagree with on the basis of their product, investors should focus on finding companies that are actively cleaning up their act and include those stocks into passive strategies that play for long-term value creation.

It is time to change the math of minimizing the tons of CO_2 per dollar of earning to the math of maximizing tons of CO_2 avoided over a benchmark. This requires new modeling and new ways of thinking.

If the investment community can accept this new view, Entelligent believes real impact can be achieved by climate focused strategies and financial markets can really begin to have impact by lowering the amount of CO_2 that is emitted into our collective atmosphere.

As the world begins to move forward in picking up the pieces from this terrible event, market participants want to know whether to expect a V shape recovery or something that looks like an L, where recovery is in some far-off future. Much likely depends upon how we re-invest in our energy economy. Are we going to bail out oil or actively invest with an eye toward sustainability?

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Response to Short Run Market Corrections and Entelligent Smart Climate® by Dr. Pooja Khosla

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