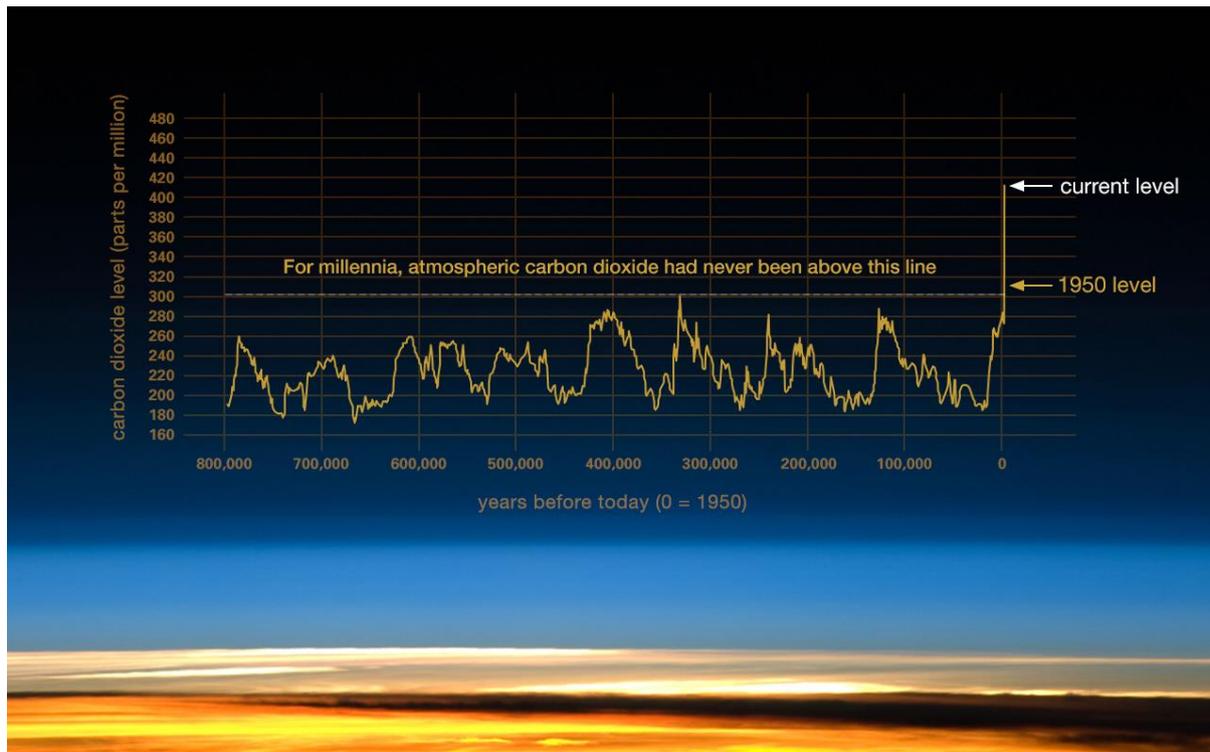


Assessing Portfolio Carbon Risk

Over the last 400,000 years, atmospheric carbon dioxide levels have fluctuated between 200 part per million (PPM) in the Ice ages, and 280ppm in the warmer periods between Ice ages. Scientists can measure historic CO₂ levels very accurately, by measuring the CO₂ levels in atmospheric gas trapped in ice cores sampled from Antarctica.

Since the Industrial revolution, CO₂ levels have risen steadily - surpassing 400ppm in 2013, and the average for May 2019 reaching 414.7ppm.



The physics of why CO₂ causes atmospheric warming is well understood and not controversial - it is a quantifiable physical phenomenon, not an opinion. What is legitimate to debate is how society and investors should manage what we believe will be an undeniable need to transition to a low carbon economy.

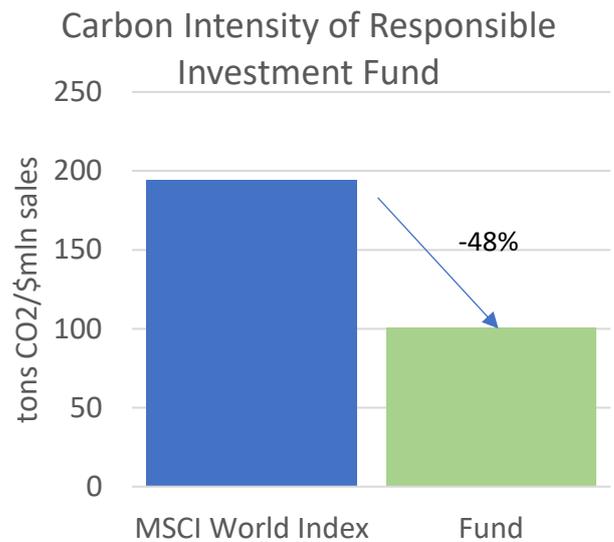
There are two clear trends occurring - consumers are demanding a move toward better environmental practices, and regulators are instructing companies to plan for a transitioning economy. These trends mean that companies who ignore the risks created by a lower carbon economy could experience higher levels of risk than companies that do actively plan.

As an investor, we look at carbon risk in two ways. The first Involves measuring the carbon Intensity of our portfolio on a consistent basis across all companies. The standard measure for this is tons of carbon dioxide (CO₂) emitted per million dollars of sales. Most companies now report their carbon emissions under a common protocol published by the Greenhouse Gas Protocol, a partnership between the World Resources Institute and the World Business Council for Sustainable Development. This categorizes emissions into 3 classes (Scope 1, 2 and 3).

Scope 1 emissions are generally those produced directly by a company when they burn carbon based fuel for energy, power, heating, transportation or as an input or by-product of an industrial process. Scope 2 emissions measure the indirect emissions that a company is responsible for. Primarily, this is a company's share of the carbon used to produce electricity that the company purchases. Scope 3 emissions are classified as indirect emissions caused by the company, but owned and controlled by a different emitter. Suppliers, distributors and retailers who have inputs or outputs to the company would be categorised as Scope 3. A key point about scope 3 emissions is that they should be reported by a different company as Scope 1 or Scope 2 emissions.

The standard measurement for carbon intensity is the sum of Scope 1 and 2 Emissions divided by the dollar value of company sales. The only good reason for a company to report on a different basis is generally because that other basis makes them look better (more on this form of greenwashing in a later update).

The Responsible Investment Fund is the first portfolio that we will report. Currently it has a weighted average carbon intensity of 100.5 tons of CO₂ per \$million sales. This compares to the carbon footprint of the MSCI World Index of 194.1 tons of CO₂ per \$million sales. Our carbon footprint is 48% lower than the wider universe of stocks. Just 5 stocks in our portfolio account for more than one third of our carbon exposure - we are looking closely at them.....



The second way we look at carbon is to identify how effectively companies are managing the transition to a low carbon economy. We do this by looking at how much risk a company has due to the industry it is in plus company specific factors. We then judge how much of that risk is being effectively managed. It is possible for a company in a high carbon intensity business to be doing a great job of adapting (for instance a utility company migrating from thermal coal to renewables). We have ranked all of the companies in our portfolio and compared these to the universe of companies.

From the graph below you can see our fund has significantly less unmanaged risk than the wider universe.

