

Is climate change creating a new asset class?

John Woods | Deputy CIO | September 2023



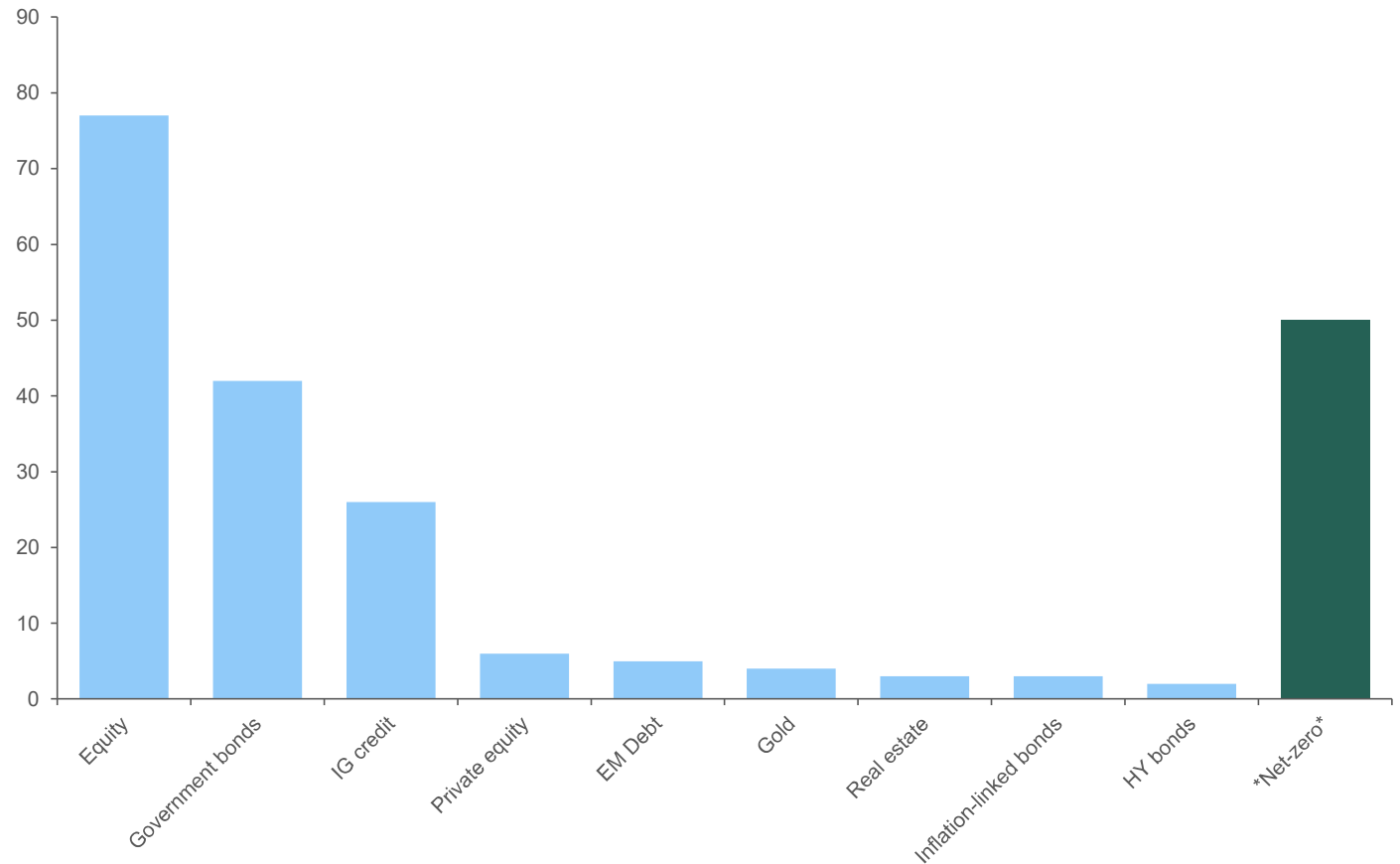
‘Climate change’ is big enough to be an asset class

Asset class

A grouping of investments that exhibit similar characteristics and are subject to the same laws and regulations.

Source: Investopedia

\$US trillion assets

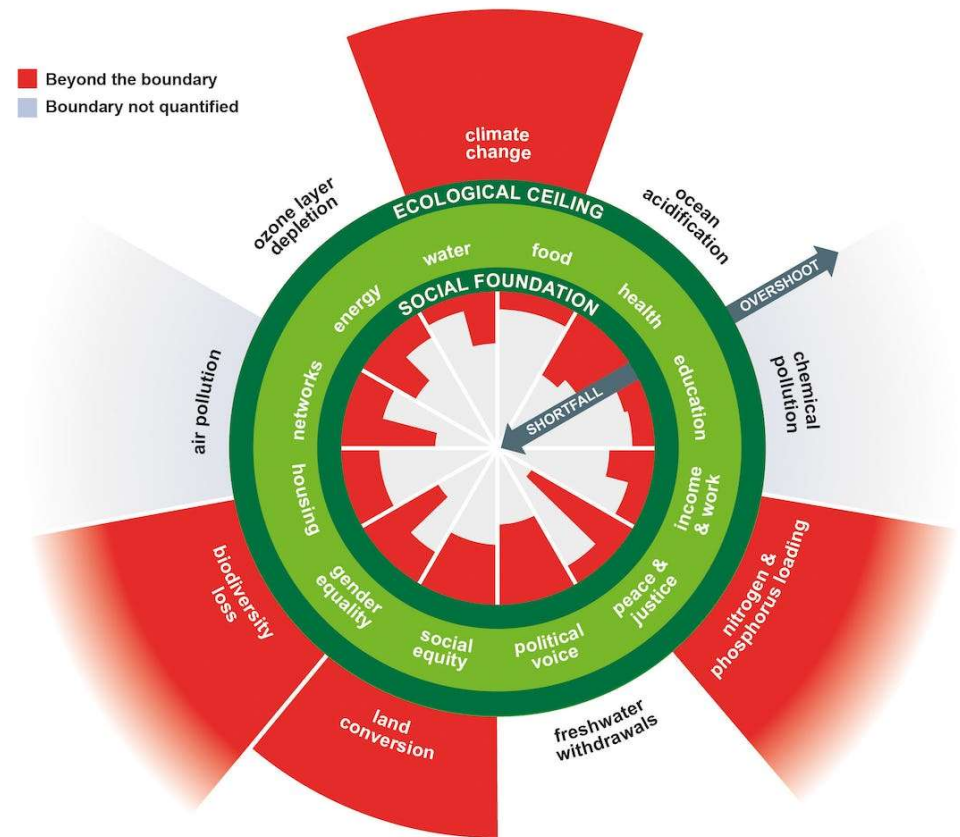
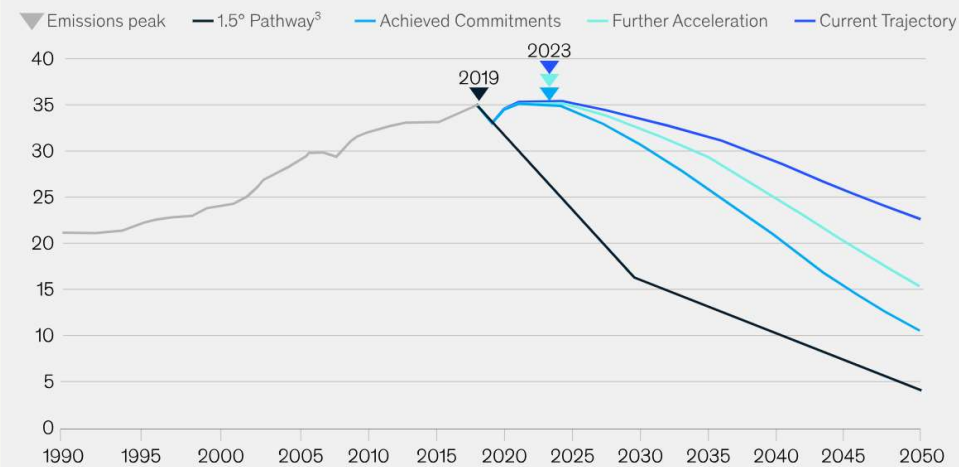


Source: State Street, Global Market Portfolio

‘Climate change’ is bigger than a single asset class – it impacts all

Think of it like monetary policy – just like inflation, the planet is “running too hot”, and we have to “tighten” policy to return to equilibrium.

Global net-energy related CO₂ emissions,¹ CO₂ per annum



Climate risk & making the transition



Despite many of the world's largest companies committing to net zero targets by 2050.

Projected CAPEX in the energy sector is not aligned to net zero targets.*



To reach net zero emissions by 2050, annual clean energy investment worldwide will need to more than triple by 2030 to around \$4 trillion pa.*



Not all green is good and not all ethical companies are financially viable.

Advisers and investors will need to navigate greenwashing, mispricing risks and valuation bubbles.

*<https://www.iea.org/reports/net-zero-by-2050>

Impact of climate change on capital market assumptions

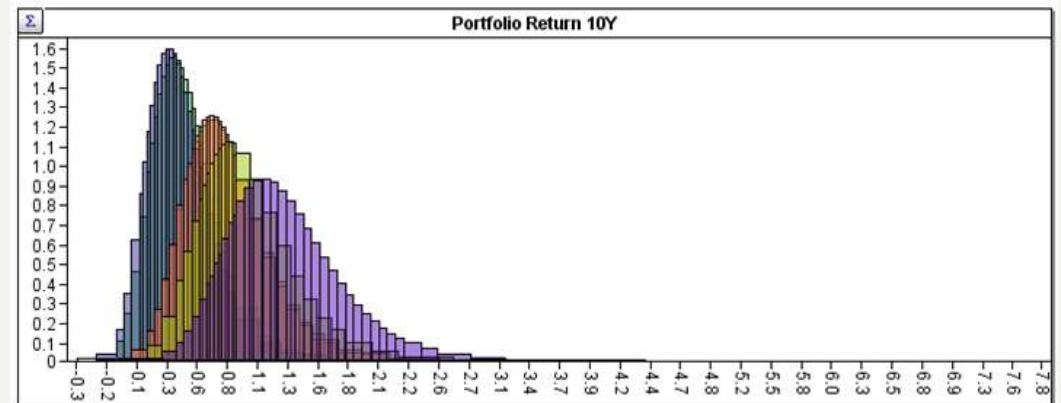
The breadth of outcomes changes the extremes of the distributions – the toughest parts to work with as an investor.

Negative scenarios

- Climate change, significant resource scarcity and recurring pandemic - 10%
- Labour force challenges – tailwind of demographic trends that pose significant hurdles for growth – 10%
- Central Bank policy failure – the uncertain consequences of central bank policies in the last decade – 10%
- Elevated conflict – possibilities of both internal (ie within a country) and geopolitical conflict have been increasing and require attention – 10%

Positive scenarios

- Maintaining humanity's progress in modernity – that of the last 150 years, encapsulating progress of industrial revolution, the scientific age, the development of systems and institutions, globalisation and the digital age. - 50%
- Maintaining humanity's success in recent decades – above, but specifically the exceptional progress in humanity in the last 60 years, showing excellent aptitude for adaptation and improvement. In particular, optimal outcomes for energy transition which lead to high availability and low friction supply of energy, much like with the 'information age'. - 10%



Source: Australian Ethical, March 2023

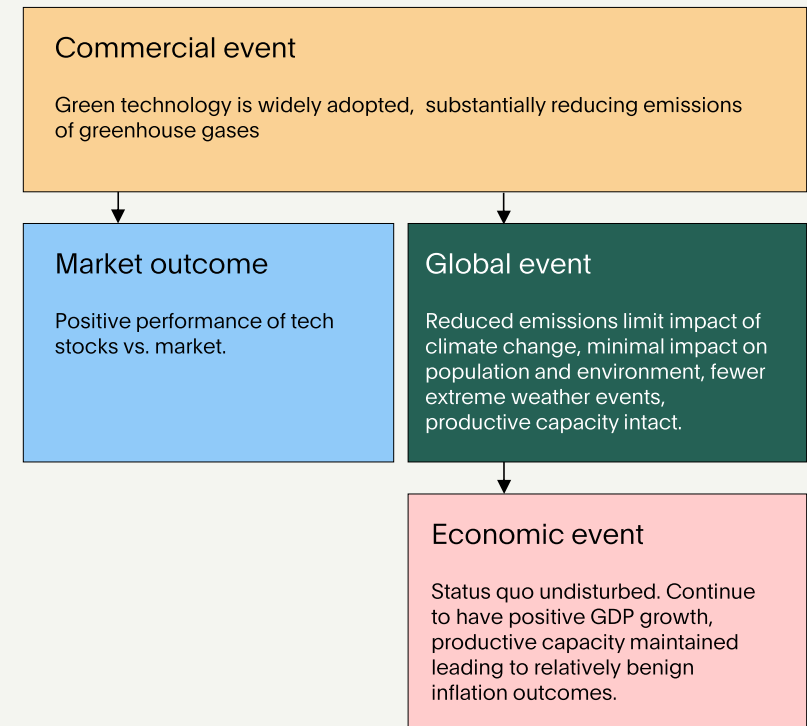
Historical framework

Benign economic environment a pre-condition for tech sector success.



Future framework

Green tech success a pre-condition for a benign economic environment?



'Climate change' touches all asset classes & ranges of sectors

A full spectrum of risks exposures are investable for 'net-zero'.

- All the way from VC funding for new types of battery chemistry, alternatives proteins and sequestering carbon
- Through to small cap companies in emerging technologies like hydrogen.
- And on to a range of industrial companies including EV, wind power and solar equities.
- All the way to corporate bonds of debt for largescale wind and solar projects.
- Across emerging and developed markets.



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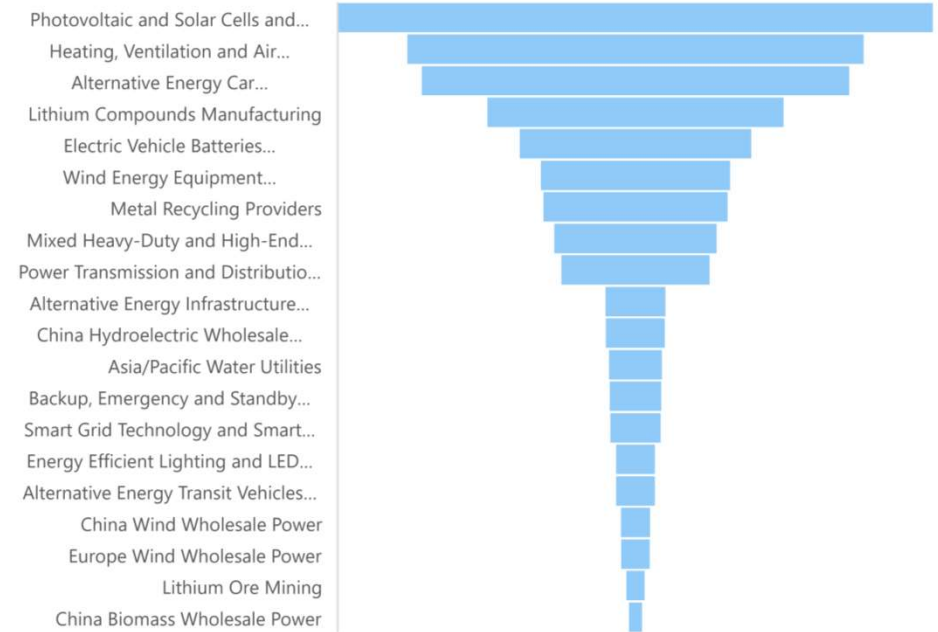


Vestas



Over \$2 trillion (AUD) of Revenue in listed markets is directed at activates to address climate change.

Climate Revenue (Listed Markets) - \$USm



Closer to home: Conviction in the NZ Energy sector

Significant levels of renewable generation in the form of hydro, geothermal, wind:

- ~85% for NZ vs. 35% for Australia
- Meridian: 100%
- Mercury: 100%
- Contact: 85-90%

Strong business fundamentals:

- High-quality assets, long-life
- Strong balance sheets
- Strong cash generation

Long pipeline of growth projects as the NZ economy decarbonises.



Investing in 'carbon' is still in its infancy

Alternatives assets include emerging areas such as carbon

Carbon assets: Not yet a commodity

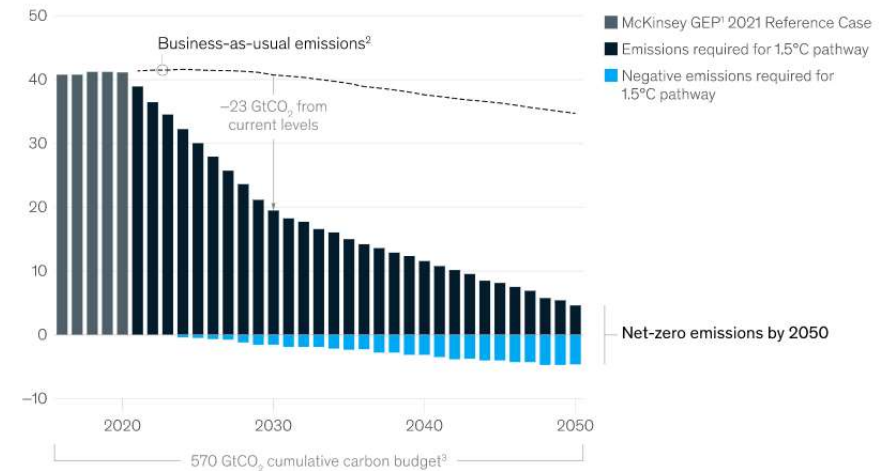
Negatives:

- Disparate Regulatory regimes
- Opaque Pricing
- Difficult to custody
- Links to CO2 reduction not always clear

Positives:

- Offers opportunity for diversification
- Reasons to believe some carbon assets don't reflect intrinsic value

Global carbon-dioxide emissions, gigatons (GtCO₂) per year



¹Global Energy Perspective.

²While emissions fell by a quarter at the peak of COVID-19-related lockdowns, daily emissions have rebounded to be only 5% lower than 2019 levels. Scenarios to 2050 remain the same. Forster et al., "Current and future global climate impacts resulting from COVID-19," *Nature Climate Change*, August 7, 2020, nature.com.

³Budget of 570 GtCO₂, emissions from 2018 onward offers a 66% chance of limiting global warming to 1.5°C, when assessing historical temperature increases from a blend of air and sea-surface temperatures.

Source: Corinne Le Quéré et al., "Global Carbon Budget 2018," *Earth Systems Science Data*, 2018, Volume 10, Number 4, pp. 2141–94, doi.org/10.5194/essd-10-2141-2018; IPCC; McKinsey Global Energy Perspective 2021; McKinsey analysis

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Thank you

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