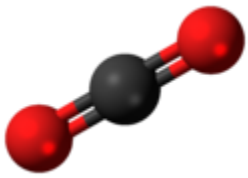

Climate solvency and investment management actions

Neil Dissanayake

Neil Dissanayake *is a qualified actuary, financial risk manager and green & sustainable finance professional. He has a wealth of experience in managing financial risk for insurance guarantees and retirement income products. He is also helping to drive new product innovation for the retirement market, including aligning this with the urgent need to accelerate the transition to a net zero economy. He is a regular speaker for the European Actuarial Academy on the topic of investing for the net zero transition.*

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Introduction

In ACC's discussion paper 2, we introduced the idea of climate solvency. In this paper we draw a comparison with insurer solvency which highlights the urgency of the situation and the need for credible committed actions to address it. We suggest some practical actions that insurers and investors can take to help in tackling the climate emergency.

Capital and emissions buffers

Solvency management of an insurance company requires a capital buffer to be set based upon a highly prudent view of the risks faced by the business, to keep probability of a failure at an acceptably remote level. In many countries insurers must perform regular ORSAs – Own Risk and Solvency Assessments. Applying these concepts to climate risk for the planet presents an alarming picture.

Global consensus has settled on a target of **1.5°C** in additional warming due to human activity, as leading to an acceptable level for society to be able to manage the planetary impacts. Beyond **1.5°C**, the IPCC[1] has set out the potential for dangerous climate-related tipping points to which we may be

[1] Global Warming of 1.5 ºC — (ipcc.ch)

exposed, and which could lead to an unacceptable planetary outcome. Today we are somewhere just over **1.0°C** warming above pre-industrial levels[2].

A recent research study[3] estimates total CO_2 emissions of **500 billion** tonnes from 2020, or **421 billion** from the start of 2022, would give a **50%** probability of not exceeding the global warming target. To put this in context, if we continue at the current rate of emissions then we will have used up this budget by the start of 2032. A 50% probability would be equivalent to just covering the "best estimate liabilities" in the context of an insurance company and would be completely unacceptable in terms of solvency.

Reducing the emissions budget to **400 billion** CO_2 tonnes from 2020, or **321 billion** from the start of 2022, increases the estimated probability of success to 67%. In an insurance company context this probability might be equivalent to matching the best estimate liabilities plus a "risk margin", but it would still fall far short of the required solvency capital (which is required to achieve a 99.5% solvency probability over a 1 year time horizon). And at current emission rates this budget will only last till the start of 2029.

These figures are summarised in the table below and demonstrate the magnitude and urgency of the position.

Climate Temperature Goal	Solvency II Analogy for Planet Earth	Projection based on current actual emissions rate
1.5°C warming – **50%** probability	BEL coverage	Until **2032**
1.5°C warming – **67%** probability	BEL + Risk Margin coverage	Until **2029**
1.5°C warming – highly confident	Fully solvent (including SCR)	Before **2029**

Another way of looking at this is that even to achieve a 50% probability of not exceeding the target we must collectively halve our emissions every 5 years. And if we delay the start of this process by another, say, 4 years (in fact global emissions are currently *increasing*) then meeting the target means halving emissions every 3 years. Our climate ORSA is exposing a major risk that we will fail to meet our target.

But…, as per the latest IPCC report[4], we still have hope, and a small window of opportunity. We now consider what this could mean in practical terms.

Management actions

Insurance companies carry out regular assessments of their solvency. Management actions are a common tool used to reduce the likelihood of insolvency under stress. In other words, managements decide what they will do in future if certain conditions prevail. These plans must be credible and companies must be committed to carrying them out, otherwise regulators will not allow credit for the impact of the actions when assessing solvency.

Similarly, assessments of "climate solvency" could allow for credible committed future actions. The challenge here is that current commitments are not enough to meet the target and there are questions over the credibility of some of the commitments, in other words whether it is realistic to expect them to be achieved.

[2] Chapter 1 — Global Warming of 1.5 ºC (ipcc.ch)
[3] Tyndall_Production_Phaseout_Report_final_text_3_.pdf (manchester.ac.uk)
[4] IPCC report April 2022 - chapterzero

In these circumstances, the key action required to improve climate solvency is to **accelerate** the Net Zero transition. Any organisation making commitments on climate change needs to consider whether their strategies are aligned with an **acceleration** of action. There are two aspects to consider:

1) **Scale** – most major economies now have a decarbonisation plan in place. However, as we are aware, although progress has been made, the sum of all Nationally Determined Contributions (NDCs) as of COP26 is still considered insufficient to collectively hit **1.5°C**. Therefore, if your corporate strategy is aligned with for example the UK's Build Back Greener strategy – then this is not enough. Climate solvency management would require greater ambition. The most recent IPCC report and Project Drawdown are two alternative benchmarks to consider.
2) **Timing** – consistent with our climate ORSA exercise, the key message from the IPCC report is essentially that it's now or never. For any strategic decision, is implementation of impact as early as it could feasibly be?

Under insurance solvency, credit for management actions cannot be taken in the capital model unless they are credible, realistic and embedded in existing governance and management frameworks. Now that many organisations have declared climate change commitments, and have a more detailed view on their climate change risk, should we now be focusing on applying the same rigour to our decarbonisation plans, to ensure consistency with our preferred scenario path?

Actuaries have the power to influence important decisions on investment, product and business strategy for insurers. All companies should be concerned about achieving net zero as quickly as possible, but insurance companies have additional reasons to consider climate risk, namely the potential impact on future claims and viability of the business model. Insurance regulators are interested in the potential implications for firms themselves, but it is not their role to consider what those firms might do to influence the future more widely. So what specific actions might firms take?

A focus on production

One possibility is clear investment guidelines that exclude fossil fuels or focus on reducing their production.

A key message from the Tyndall report on the Phase Pathways for Fossil Fuel Production is to consider focusing on production, instead of consumption. What isn't produced, can't be consumed, and so can't be emitted. By limiting supply, this will accelerate the demand for a transition to alternatives. Now that coal is on the way out, the focus also turns to oil and gas.

Their analysis understands the need for a globally just transition. Different countries have different capacities for economic change, and so will necessarily be on different pathways for the timing of phasing out all production of hydrocarbons.

Their analysis highlights **19** countries accounting for **35%** of global production with the highest capacity for rapid transition. The need for action prior to **2029** implies that these countries should be the primary focus for ceasing production in the next handful of years.

Thermal coal exclusion has now become a standard exclusion for responsible investors. So for the next step, what can we do to encourage industry standard measures to support full cessation for hydro-carbon production in these countries? From an insurance underwriting perspective, do providers put a time-limit on underwriting carbon intense activities in these countries? From an investment perspective, could enhanced investor engagement be used to accelerate a policy of asset

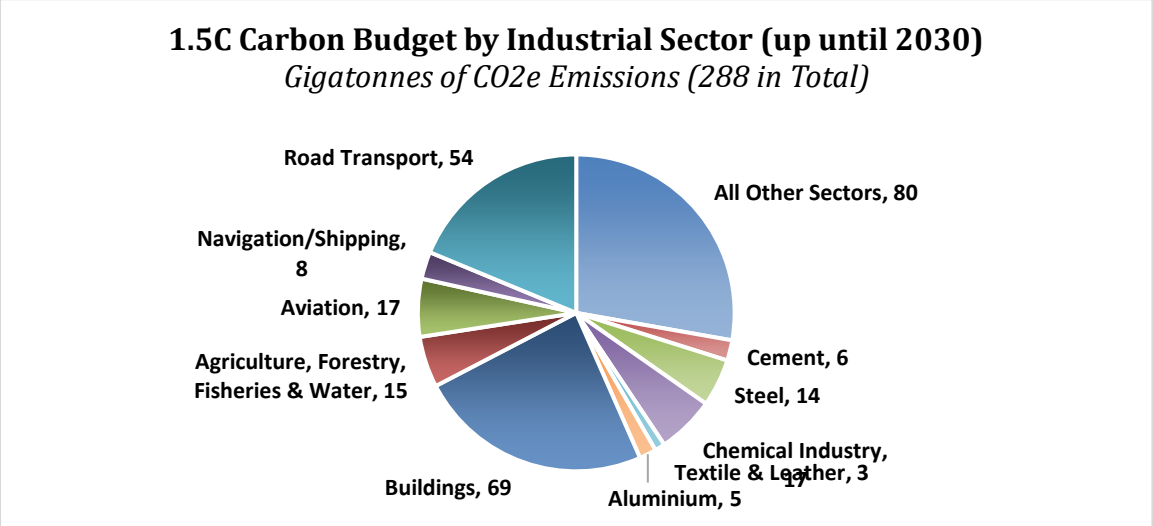
write-downs, funded by recent uplifts to oil and gas revenues? Potentially, could governments or central banks be encouraged to absorb written-down stranded assets to some extent, with the aim of helping to manage long-term financial stability?

Insurance companies are amongst the most incentivised to ensure these write-downs happen – a faster decline in production could lead to a slower rate of increase in future extreme-weather related claims. However, as noted in a recent article[5] a large proportion of these assets currently sit with large-scale passive asset managers, where the incentive is to reduce management cost rather than excel at corporate stewardship. Could there be potential for collaboration here, with the assistance of investment bank intermediation? One example might be a structure to pass legal ownership to insurers willing to bear the cost of enhanced stewardship, whilst retaining economic interest with the asset manager to continue to closely track the index.

A focus on end users

Different industry sectors will have different capacities for change. Sectoral pathway studies are useful to help allocate global planetary budgets for carbon emissions to various industry sectors.

The UN Net Zero Asset Owner Alliance and the European Climate Foundation have commissioned an interesting recent research piece[6] which was undertaken by University of Technology Sydney. This research study has helped to break down the global carbon budget into 12 specific industrial sectors. Their numbers focus on 2020 as a starting point and allocate **286 billion tonnes** to these sectors in the period up to 2030, as shown by the following pie chart.



Furthermore, these budget pathways have been translated into useful metrics that could be used for industry benchmarking purposes. These results include the following reductions needed by 2030, from 2019 levels:

- Carbon Intensity of passenger aviation needing to fall by **29%** from **426** to **302** $gCO_2/p.km$
- Carbon intensity of cement production needing to fall by **29%** from **0.95** to **0.67** tCO_2/t
- Emissions Intensity of commercial buildings needing to fall by **64%** from **19.9** to **7.1** kg CO_2/kWh

[5] Passive funds could threaten UK climate transition, warns think-tank | Financial Times (ft.com)

[6] One Earth Climate Model: Sectoral Pathways to Net-Zero Emissions – United Nations Environment – Finance Initiative (unepfi.org)

Do your investee companies produce these metrics? How do their current values compare, and have they got credible decarbonisation plans to achieve similar reductions? Benchmarking portfolio investments against these metrics could help in identifying outliers on which to focus on prioritising action and investee engagement.

Climate Action 100+ net zero benchmarking

The Climate Action 100+ (CA100+) is the key global initiative focused on guiding investor engagement for decarbonisation. It coordinates investor collaboration on **~160** companies that are estimated to be responsible for **80%** of global emissions. The Climate Action 100+ Net Zero Company Benchmark is their gold standard for corporate action on decarbonisation.

In its most recent industry progress report[7], it is encouraging to see that most corporates now have some form of 2050 Net Zero plan in place, but given our planetary urgency this is now simply not enough. The report highlights that very few of the companies of focus have a credible near-term plan for 2030 – only **17%** have medium-term targets aligned with the IEA's **1.5°C** scenario on all material emissions. Could and should investors demand more?

The recent review of CA100+ undertaken by Share Action concludes that they should[8]. CA100+ has had some success stories, such as enforcing HSBC to set a deadline on the phase out of coal, but overall Share Action highlighted a lack of the ambition, transparency and accountability needed to drive the net zero transition at the pace required.

Key recommendations for the next five years include strengthening CA100+ signatory requirements, setting minimum escalation expectations on engagements and requiring commitment to these, as well as other measures on transparency. For credible management action on decarbonisation, these measures point to where more commitment and rigour is required.

Conclusion

Using ideas from an insurance company solvency perspective highlights the scale and urgency of the climate emergency. This necessitates serious and urgent action. There is no planetary regulator to intervene, but the pressure of no Planet B should be enough to focus minds. We have highlighted some recent research studies that provide useful pointers to immediate actions that actuaries and others might take. Let's work together to push this forward even further, starting today.

[7] Climate Action 100+ Net Zero Company Benchmark shows an increase in company net zero commitments, but much more urgent action is needed to align with a 1.5°C future | Climate Action 100+

[8] ShareAction | Greater ambition and transparency needed to revive…