

**Thinking Ahead Institute**

# Investment beliefs to change the climate trajectory

Part of a series of articles from the investing for tomorrow working group



## Investing for tomorrow | climate beliefs sub-group

This document has been written by members of the Thinking Ahead Group (Tim Hodgson and Samar Khanna) following the research and discussion conducted by a sub-group of the Thinking Ahead Institute's investing for tomorrow (IFT) working group. The authors are very grateful to the members of the climate beliefs sub-group for their input and guidance but stress that the authors alone are responsible for any errors of omission or commission in this paper.

The key objective of the investing for tomorrow working group is to produce research outputs that can usefully guide investors to establish and set a pathway to achieve their climate ambitions. Beyond this, we hope the outputs help them to become a driving force in transforming the global economy to be compatible with the 1.5C climate target.

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# Contents

- The six climate beliefs .....4**
- Our process | getting from the need for beliefs to the final output.....5**
- Our process | operating as a superteam.....7**
- Some questions for the climate beliefs journey.....9**
  - Question 1 | does your organisation see itself as an interconnected part of the global economic and climate system? .....9*
  - Question 2 | how does your organisation view climate change? ..... 10*
  - Question 3 | what does ‘decarbonising’ mean to you?..... 11*
  - Question 4 | could there be any unintended consequences of solely focusing on climate change?..... 11*
  - Question 5 | do you think fiduciary duty allows us to do anything about climate? ..... 12*
- Preamble to our climate beliefs ..... 14**
- Belief 1 | we believe climate change is an emergency and we are part of the economic system that must address this..... 15**
- Belief 2 | we have all the evidence we need to act..... 16**
- Belief 3 | acting ambitiously now will incur costs, but these will be materially less than those arising from a late transition or no transition at all..... 17**
- Belief 4 | we believe the only way to change the climate trajectory is to adopt the stop, substitute and siphon framework ..... 18**
- Belief 5 | we will invest to create the future we all need which requires following new investment conventions ..... 19**
- Belief 6 | we will actively participate in the collective action required to address climate change ..... 21**
- Climate actions which emerge from our beliefs..... 22**
- Conclusion ..... 24**

# The six climate beliefs

1. **We believe climate change is an emergency and we are part of the economic system that must address this** (we must act)
2. **We have all the evidence we need to act** (we will act now)
3. **Acting ambitiously now will incur costs, but these will be materially less than those arising from a late transition or no transition at all** (acting now, while costly, will be cheaper)
4. **We believe the only way to change the climate trajectory is to adopt the stop, substitute and siphon framework** (we will invest differently)
5. **We will invest to create the future we all need which requires establishing new investment conventions** (we will think differently)
6. **We will actively participate in the collective action required to address climate change** (we must collaborate)

# Our process | getting from the need for beliefs to the final output

## The need for climate beliefs

Climate change mitigation is, of course, primarily about reducing carbon emissions; with the interim milestone of halving emissions by 2030. For the investment industry, this is not just about managing the scale and pace of the required transformation, but also acknowledging that the transition will be costly, and potentially messy. Along with this come a host of other considerations i) the environmental and social repercussions of the transition, ii) manoeuvring the evolving legal landscape, and iii) an increased role of ethics, particularly as it relates to a just transition. These factors bring additional complexity to an already challenging journey.

We suggest that a well-thought-through set of climate beliefs will help an organisation manage the inevitable uncertainty ahead. Beliefs form the foundation for successful climate action. As you settle your beliefs, you will engage in honest dialogue on what the climate change challenge means for your organisation. Biases will surface and will be corrected. You will evolve your own thinking as well as influence your colleagues' views. This richer understanding will enable you to align your strategies more closely to your climate ambitions. Establishing climate beliefs will create the right mindset and set up guardrails for effective decision-making.

## The process is as powerful as the result

The extensive negotiations we witnessed at COP26 made one thing pretty clear, that process and politics are deeply intertwined. If the process set up to facilitate negotiations is inclusive, democratic and respectful, then the politics will be conducive in reaching a desired agreement. However, if there is little trust in the process, then the political dynamics will work against you. You can only have influence and drive change if the process and politics are properly managed. There is little point in establishing climate beliefs which don't have a buy-in from all key stakeholders.

Investment is fundamentally a human-talent endeavour. The right processes champion both the humanistic and cognitive qualities of the group. We mention humanistic qualities here because beliefs can be deeply personal and heavily influenced by one's values. Which is why navigating a discussion on beliefs can be a delicate affair. But beliefs are also adaptive - they can evolve through active discussions, rational thinking and fresh perspectives. The right processes create safe spaces where these discussions can thrive.

## Process guidelines

The climate beliefs group offers the below guidelines to help you build the right process to progress constructive dialogue.

- **Identify key stakeholders:** bring the right people to the negotiating table. Strategies created at the top will better align with actions taken in the trenches if there is general agreement amongst key stakeholders. Manage expectations around time commitments at the outset to ensure better engagement. Consider the cognitive diversity of your team to check groupthink.
- **Set boundaries:** have a clear goal on what you wish to achieve and establish timelines to keep the discussions from stalling. Having an agenda before a call is good discipline. Our group met for an hour a week for sixteen weeks to produce the climate beliefs. We also continued our discussions via email between calls.
- **Build democracy in:** a transparent process with clear voting procedures ensures that stakeholders have an equal voice. Our working group voted on each belief, implication and action before they were approved. The most contentious items went through multiple votes. We believe that cognitive diversity plus sensitive aggregation will get us to a better result than loudest-voice-wins. We outline our voting methodology in the box below.
- **Document the discussion:** record the process and progress whilst building out the straw model, including how disagreements are settled and why.
- **Set up an executive team:** developing climate beliefs can be time and resource intensive. A support team helps the group progress the discussions at an appropriate pace.
- **Create a good culture:** the right culture enables cognitive diversity to thrive. It helps create faster, better decisions. A constructive dialogue flows when parties approach the negotiating table with respect and open minds to consider different opinions and interests.

**Voting methodology**

The voting system we employed had 3 options for a given statement:

Option	Weight
I agree with this	100%
I can live with this	50%
I cannot live with this	0%

It was pre-agreed that:

- a weighted average score of 75% would be the threshold for approval with no further changes
- a score between 50% and 75% would suggest further edits and more consideration
- a score under 50% would lead to the statement being dropped

# Our process | operating as a superteam

We think it is useful to document the group's experience as a case study. We hope it provides a practical slant to the guidelines mentioned above.

The group was formed of nine self-selected individuals from different organisations, time zones and areas of expertise. We planned to meet for one hour every week for sixteen weeks (with one week off, half-way through). Between the nine of us, we spent approaching 300 hours on these climate beliefs. None of us 'knew it all' at the outset, and all of us evolved our thinking over this time.

We took our cue from another emerging work stream in the Thinking Ahead Institute, and decided to operate as a superteam. Superteams build frameworks, practices and the right culture to best utilise the cognitive diversity of the team to drive exceptional performance. The group recognised the importance of setting up the right scaffolding to ensure the very best interactions. We spent the first meeting laying down some ground rules for how we would operate. These were:

- We will run our calls on time
- We will have a pre-call ask, an in-call run-sheet (detailed agenda) and post-call summary
- We will spend five minutes each on check-ins and check-outs to see how members are doing. We will encourage, celebrate and reinforce authenticity and honesty
- The social chair will ensure that the team remains engaged, sticks to its agenda and follows ground rules<sup>1</sup>
- We will employ a 'Yes, and' rather than a 'Yes, but' approach<sup>2</sup>
- To foster inclusion, we will raise a virtual hand to 'book' our turn to contribute
- We will respect that everyone has an equal voice at the table, and we will maintain this by ensuring that all points raised are given due consideration
- Our process will be democratic. We will vote anonymously on all crucial decisions before moving on to the next stage, and we will operate a vote-discuss-vote process where necessary

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<sup>1</sup> We took as given that we would operate a 'dual-chair' approach, with separate people responsible for the social and content aspects of each call. Please see [Better decision-making: a toolkit](#) for further ideas.

<sup>2</sup> 'Yes, and' conveys "I have heard what you just said, and I would like to build on it", whereas 'Yes, but' conveys "I reject what you have just said – and I probably didn't hear it anyway, because I was planning what I am about to say". We see the former as a simple but powerful culture-building practice.

- Any disagreements will be documented, and a resolution will be provided where possible
- We will reflect on us as a superteam every few weeks and discuss what works and what doesn't.

We choose to highlight one principle from the above which appeared to have the most positive impact on team culture – that of check-ins and check-outs. Allocating 10 minutes out of a 60-minute call (17% of our time budget) might appear a misallocation at first glance, but this simple practice yielded powerful results – it enabled us to engage with each other's humanity. In these ten minutes, we learned about individuals' hopes and fears, concerns over sick pets and children, challenges and joys. We grew to trust each other and in turn create a culture of empathy and understanding. With this came a clarity in our purpose, pride in our work and a sense of personal accountability which allowed our creativity and productivity to flourish. Each conversation pushed our thinking forward. We encountered some difficult conversations along the way as ideologies and viewpoints clashed. The cadence of weekly meetings proved demanding for members at times. But we, as a superteam, overcame these challenges by supporting and coaching each other. In the end, we all reflected on how rewarding this experience had been for each one of us. Some members even applied this practice within their own organisations. We hope that this example encourages you to do the same.

# Some questions for the climate beliefs journey

When the working group came together to create a set of climate beliefs, we acknowledged that climate change is a tragedy of the horizons<sup>1</sup>. So we chose to approach this task by thinking right to left<sup>2</sup> ie we started by projecting ourselves into a net-zero/low carbon future and asked ourselves what climate beliefs would be needed to get there.

Some of the following climate beliefs might appear quite ambitious at first sight, but we deem them necessary to change the climate trajectory. We ask you to approach these beliefs with an open mind. This is as much an opportunity to advance your understanding of the climate change challenge as it is for you to establish your own set of beliefs. Climate change is a multi-faceted issue and will require you to adopt a systems-thinking mindset. Reviewing investment conventions deeply embedded in the industry psyche, interrogating the limits of fiduciary duty, and grappling with overlapping considerations of biodiversity, just transition and inequality are all big asks. These are understandably complex topics to discuss and certain organisations might require additional expertise and/or training before they can fully engage with these beliefs. The questions we present below are designed to introduce you to some of these concepts, manage your expectations and get you thinking along similar lines to our working group. We don't expect you to adopt our beliefs blindly. Instead, we ask you to actively debate them and go on your own journey of discovery and co-creation.

## Question 1 | does your organisation see itself as an interconnected part of the global economic and climate system?

Systems thinking is starting to emerge as a powerful new tool to analyse our world. Systems thinking is a holistic approach that focuses on the way systems work, over time and within the context of larger systems. The focus is far less on understanding the component parts of a system, and far more on understanding how a system's constituent parts interrelate. An important part of that understanding is how system behaviour results from the effects of reinforcing and balancing processes.

This is a very different approach to how almost all of us were educated and trained. The emphasis was more likely to have been on reductionism, where we break the whole into its components, seek to understand those components, and then build back up. We are likely to have been encouraged to 'hold all other things constant' or 'ceteris paribus' in Latin.

As a consequence, the investment conventions we operate under encourage us to think about discrete entities rather than inter-related wholes; to think about diversifiable idiosyncratic risk and hedgable systematic risk, but not to think about unhedgable systemic risk (like climate) where the whole system is brought down.

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<sup>1</sup> [Breaking the tragedy of the horizon – climate change and financial stability](#), a speech by Mark Carney, 29 September 2015

<sup>2</sup> Thinking Ahead Institute forum post, [The power of thinking right to left](#), 30 August 2017

## Question 2 | how does your organisation view climate change?

There is a wide spread of opinion out there regarding climate change. We could bookend the spread with 'climate denier' as a label for one end and 'de-growther' as a label for the other end. This is a moving feast, of course. Not so long ago, 'climate denier' meant someone who questioned whether the planet's climate was in fact changing. As this position has become increasingly indefensible, the definition of climate denier has shifted to mean something closer to 'it isn't proven that humans are causing the climate to change – something else could be doing it'. This end of the spectrum generally seeks to avoid taking action as the 'something else' could reverse itself without human interference. At the other end 'de-growthers' have moved beyond thinking that climate change is an emergency to their conclusion that human activity must contract in order to save the planet. Most people, and hence most organisations, would fall somewhere in the middle.

So where do you fall and where collectively do the people in your organisation fall within this range? Do you see climate change as inconvenient? As a real risk to be managed, alongside all other risks? Or as an emergency that should be prioritised? If you haven't yet determined your stance, you may like to consider the following evidence:

- The Intergovernmental Panel on Climate Change (IPCC) is the leading body for pronouncements on climate change. It is endorsed by the United Nations General Assembly (195 countries), and draws on around 6,000 climate scientist volunteers. The IPCC's assessment reports released in [2007](#) and [2014](#) formed the foundation of the Paris agreement. They provided scientific evidence that that the world should not breach 2 degrees of warming above pre-industrial levels. Pre-Paris, the world was on a path to reach somewhere between 4C and 6C of warming by 2100. The Paris COP agreement set a limit for global warming of 2C and preferably no higher than 1.5C. The subsequent nationally determined contributions (NDCs) suggested a path to a rise of 3C.
- The IPCC issued a [special report in 2018](#), which stated that a 2C world would be significantly more dangerous than previously thought and we should aim to limit temperature rise to 1.5C by 2050. IPCC's sixth assessment report released in 2021 noted a higher probability of crossing tipping points even at 1 – 2C of warming, and it invoked the phrase "code red for humanity". This report set the context for Glasgow COP. Post-Glasgow the implied temperature rise is somewhere between 1.8C and 2.7C, depending on whether new commitments are fully and immediately implemented.
- The [IPCC report](#) summarises that a 1.5C world is likely to become a reality sometime between 6 years from now (worst case) and 11 years from now (best case). In a 1.5C world:
  - Once-in-a-decade heatwaves would happen 4.1x a decade, rising to 5.6x a decade in a 2C world
  - Once-in-a-decade heavy precipitation events would happen 1.5x a decade, rising to 1.7x a decade in a 2C world
  - Once-in-a-decade crop drought events would happen 2.0x a decade, rising to 2.4x a decade in a 2C world
  - If nothing is done to slow climate change, 3.5 billion people risk becoming climate refugees (Source: [Tim Lenton, Chi Xu, Timothy Kohler](#))
  - It is clear that climate-related litigation is increasing across jurisdictions and is a fast-moving target. [NGFS Climate-related litigation](#)
  - Under a no climate mitigation scenario, the number of people living in areas with a non-zero chance of lethal heat waves would rise to between 700 million and 1.2 billion by 2050: [Mckinsey: Climate risk](#)

### Question 3 | what does 'decarbonising' mean to you?

At the risk of stating the obvious, climate change will continue to get worse for as long as more carbon is put into the atmosphere than is removed. It therefore follows that the only 'decarbonising' that matters is the decarbonising of real-world activity. However, because we control our portfolios and do not control real-world activity, there will be a constant temptation to decarbonise our portfolio and believe we are making a difference. The uncomfortable truth is that if we fully decarbonise our portfolio but the economy does not, then our decarbonised portfolio will still be exposed to the systemic risk of climate change. The continued emitting of greenhouse gases by the economy will trigger consequences which will still affect our portfolio even if indirectly. These indirect impacts could arise from a fall in consumption, a rise in taxation, problems with food supply arising from crop failures, social unrest, climate-induced migration, and/or other consequences.

It follows that our decarbonised portfolio will still be exposed to the financial risks of climate change, and our beneficiaries even more so (they will also be exposed to the physical consequences, and those of working age will need to earn a living in more volatile conditions). The collectively-best path is therefore to pursue a higher level of ambition than merely managing the risk of climate change on our own portfolios. It will be better if we all seek to have a broader real-world impact through our investment decisions in order to play our part in reducing the systemic risk of climate change. These investment decisions include engagement / active ownership as well as capital allocation.

### Question 4 | could there be any unintended consequences of solely focusing on climate change?

It is tempting to view climate change as a technical problem (ie emitting greenhouse gases) as that yields a straightforward technical solution (ie deal with the emissions). The reality is that climate change is a multi-stranded problem, and the solution(s) may not be as straightforward as we hoped. For example, climate change is also about our relationship with nature (deforestation, changing land use etc) and about our relationships with each other (inequality). The linkage between inequality and climate change is perhaps not as obvious as the link between nature and climate. An obvious example is to contrast developed and emerging economies. How are the smaller budgets of emerging economies meant to be divided between adapting against physical risk, transitioning their energy infrastructure and developing their economy? A less obvious example was highlighted by a National Geographic article on Los Angeles<sup>1</sup>, which considered different neighbourhoods along a single road. Rich areas (high real estate prices) have high tree cover and experience lower summer temperatures. Residents in poor areas have low tree cover and so, if they can afford it, need to pay for cooling.

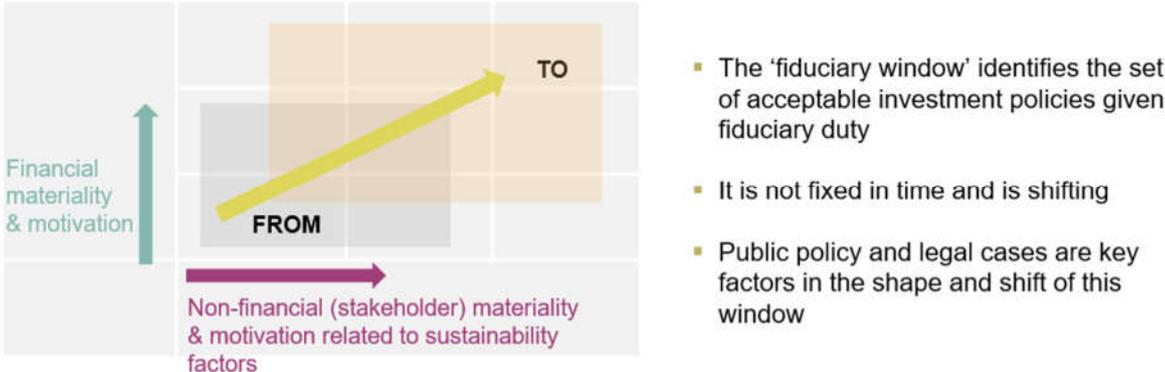
The risk of biodiversity loss is quickly becoming a conversation within the investment industry, but much work will be required to deepen understanding in order to uncover the implications and necessary actions. It is similar for inequality, which includes the concept of a just transition. The beliefs that follow allow room for development in both these areas.

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<sup>1</sup> *Los Angeles Confronts its Shady Divide*, National Geographic, June 2021

### Question 5 | do you think fiduciary duty allows us to do anything about climate?

We introduce the concept of the fiduciary window to describe the set of investment strategies that are deemed to satisfy the requirements of fiduciary duty. The vertical axis of the window describes the financial materiality and motivation regarding climate (or sustainability more broadly), and the horizontal axis describes the non-financial materiality and motivation. Those of us more advanced in years will consider “arrow slit” windows to be quite normal, in that the historic interpretation of fiduciary duty was all about the financial materiality and largely precluded non-financial considerations. However, interpretations shift through time and so we must consider whether the window has stretched, or even shifted. This is illustrated in the figure below.



We observe that society has shifted in its attitudes to climate change. The whole rise of ESG within investment is connected with this underlying shift. There are louder calls and dedicated campaign groups to shift how the pension assets of individuals are invested. These individuals are calling for their assets to assist with the creation of a sustainable world and the addressing of climate change. These calls have historically been dismissed as naïve and with “we know best”, because the individuals don’t realise that what they really want are high returns and a large pension pot. We suggest these dismissals are no longer appropriate. Individuals know exactly what they want – decent investment returns AND a world worth spending their pension in. And so we conclude that the investment industry finds itself in a currently difficult space, caught between the progressive views of society (its customers) and the lagging interpretations of fiduciary duty.

In addition, the industry is further caught between new regulatory requirements and expectations (eg TCFD<sup>1</sup> reporting for UK pension schemes, and the EU’s SFDR<sup>2</sup>) and the more archaic definitions of fiduciary duty. A further problem is global fragmentation, as the reinterpretation of fiduciary duty is moving at different rates in different geographies.

We believe the direction of change is already clear. An Australian judge has described the climate change “inaction of this generation of adults” as “the greatest inter-generational injustice ever inflicted by one generation of humans upon the next”<sup>3</sup>. The risk of legal actions adversely affecting portfolio values is increasing. Case law is accumulating and affecting companies (Shell), governments (Australia) and investment organisations (McVeigh vs REST). More anecdotally, the

<sup>1</sup> Task Force on Climate Related Disclosures  
<sup>2</sup> The Sustainable Finance Disclosure Regulation came into force within the EU in March 2021  
<sup>3</sup> From *Sharma and others v. Minister for the Environment*, see <http://climatecasechart.com/climate-change-litigation/non-us-case/raj-seppings-v-ley/> for a concise summary of the case. The quote comes from paragraph 293, page 90, of the judgement filed on 27 May 2021

threat of legal action against financial services companies – for providing the financing to emitting companies – is growing.

2021 saw the publication of a major report, [\*A legal framework for impact\*](#) from Freshfields. The aim of the report was to establish whether the law in 11 jurisdictions currently requires or permits “investing for sustainability impact” (IFSI) and, if not, to identify options for policymakers in these jurisdictions wishing to facilitate IFSI. The central idea in the report is to think of sustainability impact in two parts:

- **Instrumental IFSI:** where achieving the relevant sustainability impact goal is ‘instrumental’ in realising the investor’s financial return goals.
- **Ultimate ends IFSI:** where achieving the relevant sustainability impact goal, and the associated overarching sustainability outcome, is a distinct goal, pursued alongside the investor’s financial return goals, but not wholly as a means of achieving them.

Asset owners will generally have a legal obligation to consider what they can do to mitigate sustainability related risks if one or more sustainability factors poses a material risk to their ability to achieve the financial investment objectives. This is instrumental IFSI and could be linked with AOs’ net-zero commitments. This Freshfields legal framing encourages a more impact-friendly interpretation of existing fiduciary laws, thus stretching the fiduciary window sideways and shifting it to the right. We believe it is clear that climate change is a direct threat to the achievement of financial objectives and so must be a direct influence on our investment activities.

Now that we have set the stage, we next present the text the group created as if they were an asset owner communicating to the outside world. The text includes a preamble to the beliefs – how an asset owner might introduce the beliefs – and the six climate beliefs themselves. The beliefs are deliberately stretching (we hope) and are aimed at changing the climate trajectory. We discuss the actions that emerge from them at the end of this paper.

# Preamble to our climate beliefs

The climate beliefs that follow describe how we think of climate change, and how we will act as a consequence.

As an organisation we will aim to manage our beneficiaries' capital in a way that aids the transition of the economic system. Our strong preference is an economy that is compatible with a maximum temperature rise of +1.5C. This sentiment is commonly expressed as 'net-zero emissions by 2050'. Given our current state of knowledge we are happy to support this consensus, but we suspect that it will become necessary to act more quickly, and to be more ambitious. In other words, it is likely that we will need to reduce emissions at a faster pace and achieve net-negative emissions before 2050.

Systems-wide perspectives are evolving and challenging traditional economic thinking around optimising individual investment outcomes, moving to managing the risks presented by exposure to economic systems as a whole from factors like climate. As stewards of diversified portfolios we must consider the broader impact of invested companies on the system and other investments held. For example, where the business model of one company (eg selling fossil fuels) threatens the returns from our other investments, we must act to reduce the impact of that business model.

We know that climate change is an economic problem. But it is imperative to reflect on the social, political and ethical dimensions of our consumption, production and investment decisions if we are to successfully change the climate trajectory/build the net-zero economy. Employing such a multi-faceted approach will assist with the complexities associated with a just transition. It is our duty not just to consider current pricing mechanisms in our decision-making, but also to take into account the potential unintended consequences the decision could inflict.

The consequences of climate change will be negative for all or substantially all of our beneficiaries, however our younger beneficiaries will suffer greater harm from inadequate action. The clear differences among beneficiaries, combined with a riskier future, implies special attention to the interests of younger beneficiaries is necessary when making investment decisions today.

All of these considerations lead us to conclude that we cannot continue to manage our portfolio as we have in the past. We must manage it through a period of highly significant change. This provides the context for our climate beliefs that follow.

# Belief 1 | we believe climate change is an emergency and we are part of the economic system that must address this

(we must act)

We believe climate change is an emergency and we need transformational change in the actions of all sectors of the economy including ours, to urgently create a carbon-free economy.

Climate change is a market and policy failure. We participated in a financial and economic system that pursued the objective of maximising risk-adjusted returns whilst failing to adequately incorporate the consideration of systematic factors, and allocated costs to other stakeholders instead.

We believe that financial risks and cost of transition will increase exponentially for every 0.1°C rise in temperature and recognise that successfully limiting the global temperature rise to +1.5°C will still mean that our portfolio(s) will be fully exposed to the material financial risks of a +1.5C world.

We will actively learn from the past and redefine our financial and decision-making frameworks, as well as employ collaborative action to ensure that this unsustainable system does not persist.

## Implications

- Climate change is an investment risk. Developing strategies for climate change mitigation and transition to a low carbon world will safeguard the global economy, protect the financial system and ensure better market outcomes, which will ultimately be in the client's and beneficiaries' best interests over the long term. Taking action to protect investment returns over the long term is in line with our fiduciary duty.
- Developing systems-aligned practices calls for a refresh of organisational purpose, mission and vision and prompts organisations to transcend narrow mandates they have operated in, and acknowledge the broader, more interconnected ecosystems within which they operate
- Developing stronger leadership, emphasising culture and diversity, championing technological solutions, building more efficient and agile processes, and increased collaboration will help drive transformation in investors' business models.
- The build-up in systemic risk as a by-product of economic activity shows that risk-adjusted returns are not a true measure of value add. Risk metrics, in their current state, don't fully incorporate costs of systemic risks (problems of risks being exponential in nature in a system which is complex, adaptive and reflexive).
- Governments, businesses, financial organisations and citizens all need to work together to address climate change.

## Belief 2 | we have all the evidence we need to act

(we will act now)

The scientific evidence on climate change is irrefutable. The idea of tipping points within the climate system was established by Lenton et al in 2008<sup>1</sup>. Triggering tipping points could lead to runaway temperature rise which, in turn, would pose an existential risk for humans and other species. It is the overwhelming consensus among climate scientists (and more broadly) that it is in the best interest of humans to limit temperature increases to 1.5C.

The most severe financial consequences of a rising temperature still lie ahead of us (see belief #1). It therefore follows that historic financial data contains very little impact from climate change. Markets however are forward looking mechanisms and so the key question is whether current prices now fully anticipate the future financial consequences. There are no comparable examples of forced economic transitions of the scale and speed that the non-linear/exponential nature of climate change will cause. For this reason we believe that current estimations of future cash flows, and therefore prices, do not capture the considerable negative consequences of climate change accurately at this stage.

We will not let a lack of decision-useful data, of climate impact frameworks / reporting, nor of quantitative analysis be an impediment for us in adopting systems-level thinking and action. We will use the scientific evidence, deduction and inference to build our assumptions, scenarios and beliefs about the likely financial consequences of climate change for our portfolio, including our understanding of left-tail risks

### Implications

- Impacts are difficult to measure and quantify in a complex, adaptive system.
- There is an abundance of data, but scarce decision useful and value-adding intellectual capital
- Searching for a perfect solution should not impede taking the first step. 'Perfect' is the enemy of 'good', and so we should act with incomplete knowledge.
- Outsourcing engagement and stewardship does not absolve an organisation of responsibility. It is crucial to create policies and processes to track activities and drive positive change.

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<sup>1</sup> *Tipping elements in the Earth's climate system*, Proceedings of The National Academy of Sciences of the USA (PNAS), February 12, 2008

## Belief 3 | acting ambitiously now will incur costs, but these will be materially less than those arising from a late transition or no transition at all

(acting now, while costly, will be cheaper)

The window of opportunity to prevent catastrophic human and financial loss from climate change is still open, but is rapidly closing. We need to take action now

Repairing the system will incur costs. Some of those expenditures will be productive investments that pay an attractive return. Other expenditures will be repair costs. Some of the repair costs will be paid by companies we already own. The build-up in externalities (here, greenhouse gases) means that companies were not paying the full cost of production (if they had paid to dispose of their waste safely, their operating costs would have been higher). Consequently, past profits were overstated by this amount. If, going forward, we pay the true costs of production then profits will be lower. If we wish to clean up any of the existing waste, then costs will be higher again.

We must persuade any organisations attempting to deny or delay this logic that their denial and delay are acts of self- and collective-harm. Multiple studies from scientists and government bodies have consistently demonstrated that acting early is the cheapest option

### Implications

- Paying the full cost of production means it is likely that corporate profits and our future returns will be lower than in the past
- Not engaging with the transition exposes our portfolio to significant future losses
- Building investment strategies to manage and create an orderly transition will ensure more sustainable returns.
- The transition to a low-carbon economy needs to be front-loaded given the non-linear impacts of climate change
- Front-loading climate action and building requisite resources will also spread cost of adaption over a longer-period.
- Pensions are worth more in a world worth living in.

# Belief 4 | we believe the only way to change the climate trajectory is to adopt the stop, substitute and siphon framework

(we will invest differently)

**Stop** | means shutting down financially-productive but emitting assets before their natural end of life, implying a likely loss in capital value. We consider this likely loss in capital value an insurance premium that we are willing to pay in order to protect the rest of our portfolio. If emissions are allowed to continue, the rise in global temperatures is likely to exceed 3C, and we estimate that our portfolio will be significantly and permanently impaired.

**Substitute** | means investing in assets / business models (new or scale up) that substitute for the emitting activities that must stop. Examples of substitutes include renewable electricity and batteries instead of fossil fuels, building with wood rather than concrete and steel where possible (and with climate-neutral cement and steel where not possible), natural shading and ventilation instead of air conditioning etc.

**Siphon** | means investing in negative emissions technologies now if we wish to see impact at scale in 20 years' time. These negative emissions technologies can be nature-based solutions as well as new technologies such as carbon capture.

## Implications

- We will be a more deliberate, engaged and assertive owner. Our 'stop' actions mainly apply to our secondary investments (listed securities). Here we see assertive engagement, as a minimum requirement to change the behaviour of investee companies, and therefore change the climate trajectory. Selective risk-based divestment can be appropriate but engagement for change is essential in order to move to a low carbon economy. Our 'substitute' and 'siphon' actions mainly apply to our primary investments (where we have handed over cash in exchange for new assets).
- Focus on only a linear decarbonisation path of 7% per year should be considered with caution: there are a range of acceptable pathways to eventually reach a carbon neutral/net negative economy. The funding gap for developing new technologies and helping emerging markets transition are considerable; organisations should not shy away from these activities for fear of making carbon headline figures look bad over the short term.
- Reporting frameworks should capture 'stop', 'substitute' and 'siphon' activities along with a narrative to build a more cohesive story around efforts made. Whilst lack of data should not be an impediment to act, financial data quality, consistency and methodology is growing increasingly richer by the day. Refreshing risk management and portfolio allocation frameworks to reflect higher quality data will enhance investment outcomes.

# Belief 5 | we will invest to create the future we all need which requires following new investment conventions

(we will think differently)

There are two notable respects in which existing investment conventions are no longer fit for purpose. The first is that modern portfolio theory posits that there are two types of risk, idiosyncratic and systematic. Climate change is a systemic risk in that, unmanaged, it could cause the whole system to stop working. Our beliefs up to this point have been addressing this systemic issue. The second current convention that we believe now needs to be challenged is that “all growth is good”. It is our belief that we need a much more nuanced position regarding growth. To explain:

**Is all growth good?** | It was the pursuit of unlimited growth that brought us to this emergency; it's clear that this approach is not aligned with our ambitions for a sustainable system that delivers increasing human prosperity and returns far into the future. Climate change is a systems (top-down) problem. Business and investment are bottom-up (individual entity) activities. As an illustration, consider electric vehicles (EVs). Bottom-up, it is rational for us to want “our” automaker, or “our” battery start-up, to produce as many units as possible. Top-down, given the embedded carbon footprint of each vehicle, and of the renewable energy generator we must also build, this is a potential disaster. Top-down, we want the minimum number of EVs. This would most likely be achieved through a fleet-owned, transport-as-a-service solution. This is likely to be significantly less profitable than the private ownership model. The profit motive alone cannot deliver the climate-optimal solution.

**There will be new sources of systematic risk (beta)** | Economies are always in transition. Historically it has been extremely difficult to out-guess the market regarding the speed and scale of the transition, and so it made sense to invest fairly close to the market portfolio. In truth, there have always been two markets – a dying economy market and a new economy market. Climate change will force an acceleration in the rate of economic transition widening the return dispersion between the dying economy market (risks) and the new economy market (return opportunities).

**Our climate journey faces notable risk** | The history of bubbles and busts shows that we have a recurring tendency to over-invest and create excess capacity. To-date this has tended to be good for consumers as, often after a delay, prices fall in the area of over-investment (eg transport by canal and railroad, and communications). Going forward, if investment remains mis-directed and produces greenhouse gas emissions, then over investment (eg too many EVs or battery factories) will increase systemic risk. This idea can be generalised to all economic activity that produces any greenhouse gas emission. It follows that green growth may be tougher to achieve than currently thought.

**A just transition, biodiversity and circular economy are all important factors in reaching net-zero goals** | Whilst a carbon-free economy is better than a carbon emitting economy, a linear carbon-free economy (take-make-use-throw) will create further sustainability problems and undershoot the potential to rethink sustainability. Therefore, in addition to investing so as to influence the climate, we will also invest, so far as we are able, to encourage the shift to a circular economy, the protection of biodiversity and the promotion of a just transition.

## Implications

- The implications of this belief are far-reaching and profound. The definition of growth and the sources of growth are highly likely to change. Consequently, the way we provide capital may need to change. Our relationships with consumption, employment, inequality, and nature are all likely to change. An economic transition that better promotes social justice and healthy ecosystems is likely to achieve net zero more quickly and more sustainably.
- Current market pricing does not accurately incorporate systemic risk. In addition, multi-factor attribution frameworks don't provide an accurate reading of risk in portfolios. Therefore, we need to re-define our investment models to better reflect the uncertainty associated with non-linear and inter-related systemic risks such as climate change and biodiversity loss.
- It is in our beneficiaries' financial interest and well-being that we invest the portfolio in the new carbon-free economy.
- The actions we take will lead to a portfolio (and hence returns) that might, or is likely to, look very different to the market portfolio in the short term.
- Organisations should invoke the principles of a net-positive business which aims to not only reduce harm but deliver positive outcomes for society. It is not sufficient to focus solely on net-zero mandates but to incorporate other sustainable development goals.
- Climate, biodiversity and resource scarcity are all inter-related and, therefore, the actions will include these three factors. Look for a way to build circular economies by not only incorporating market price signals, but also biodiversity, resources, carbon budget, etc.
- Transition costs will increase considerably as carbon budgets run out.

# Belief 6 | we will actively participate in the collective action required to address climate change

(we must collaborate)

Collective action is required to amplify our individual actions in order to have the impact required. As individuals operating independently our actions have insignificant impact on an issue such as climate. We as asset owners also have limited ability to impact the overall system and the end users of the capital we invest. No single actor, regardless of the size of its assets (as large as they may be), can practically address the climate crisis alone; however, collectively, no matter our size, we control the aggregate result.

Our choices combined with similar choices by many other investment organisations can, and will, impact the climate trajectory.

## Implications

- We will actively choose to collaborate.
- In participating in collective action and engagement, we will focus on big picture impact as opposed to finessing fine details.
- We will commit resources to those groups so that the work can be done, and the voice of the group can be amplified.
- We will strategically allocate resources to collaborations over the long term.
- We view this as the first step on an unfamiliar journey. We will be active learners and will adjust our steps as we learn so that we become continually-improving collaborators.

# Climate actions which emerge from our beliefs

By including implications below the beliefs we have just reviewed, we sought to move from potentially dry and theoretical statements to richer and more engaging drivers. We now take a step further in bringing the beliefs to life by considering practical actions.

The actions that flow from your beliefs will be context specific – based on your organisation's reality, resource constraints, and governance structures. The actions we suggest here may need to be modified accordingly. If any actions appear hard to achieve, it might be tempting to water down the belief. Instead, we would argue for maintaining the belief and moderating the action. Actions can always be scaled up as and when possible.

## Baseline actions as standard practice

We start with a list of actions which we think organisations should already be taking or actively working towards. We divide the actions into those you can achieve within your organisation and those which call for external impact and collaboration.

### Internal

1. Review and refresh organisational purpose, vision and mission statements to manage the transformational change
2. Make a net-zero declaration with clear timelines and project plan
3. Take steps to decarbonise own operations
4. Build necessary resources and capabilities to manage organisational change
5. Expand risk management framework to a systems-context and incorporate non-financial factors
6. Look beyond pure market price signals to construct portfolios and consider other factors which ensure a carbon neutral economy
7. Take steps to lengthen investment time horizon and adopt actions which favour early transition
8. Develop scorecard reporting to demonstrate progress made on move to net-zero economy and impact

### External

9. Strengthen engagement and voting policy. Actively engage with high waste companies/sectors to steer them towards greener solutions (with possible threat of divestment)
10. Be vocal about climate change being an emergency with all stakeholders and external parties (such as regulators, potential service providers, and the press)
11. Join and/or increase our support of collaborations eg CA 100+

## Additional actions to consider from the six beliefs

The list of actions we present below are in sequential order. They build upon one another. Consequently, the ones further down the list are more ambitious, and effectively require the application of systems thinking and universal ownership strategies. They are likely to require more resources and expertise. We recommend organisations consider which of these actions best suit their organisational context and level of climate ambition. We attribute the actions to the climate beliefs we discussed above. This is of course a non-exhaustive list and is meant to provide a foundation for organisations to build from.

### Internal

1. Install a sustainability lead on your board and have a fixed agenda item on sustainability in board meetings [Belief 1, 2, 5]
2. Allocate resources and expertise to develop technological capabilities, a conducive culture and appropriate talent to drive organisational innovation [Belief 1, 2, 3, 5]
3. Develop processes to identify and resolve internal organisational blockages of knowledge gaps, differences in beliefs, greenwashing, status quo bias and embedded power structures [Belief 1, 2, 3, 5]
4. Build more sophisticated business, governance, operational and investment models to enhance reporting, improve risk management frameworks, build climate resiliency and achieve climate ambitions [Belief 1, 2, 3, 4, 5]
5. Incorporate cost of stranded assets into investment frameworks (eg valuation models, fundamental analysis, etc) [Belief 4, 5]
6. Move from 2D (risk/return) to 3D mandates (risk/return/impact) in an attempt to capture the cost of externalities [Belief 1, 2, 3, 4, 5]
7. Evolve portfolio construction by factoring systemic risks into the assessment of long-term portfolio risk and considering the potential contribution of portfolios to mitigating systemic risks. The latter could be thought of as integrating an impact “lens” into the framework for defining portfolio quality under a TPA approach. [Belief 3, 4, 5]
8. Supplement necessary reporting on short-term portfolio performance with reporting on real-world impact, with a growing emphasis on the latter [Belief 2, 3, 4, 5, 6]
9. Invest in climate solutions. Create frameworks to suitably invest in and monitor primary investments. [Belief 1, 3, 4, 5, 6]
10. Build investment decision processes which consider biodiversity gains, constrained carbon budget and resource scarcity [Belief 2, 3, 4, 5]
11. Invest in technologies and businesses which help create a circular economy [Belief 1, 4, 5, 6]
12. Develop systems thinking and systems leadership, and invest using a total portfolio approach and universal ownership mindset [Belief 1, 3, 4, 5, 6]
13. Allocate capital to development and deployment of negative emission technologies even though these might not provide immediate returns (or any returns for that matter) [Belief 1, 3, 4, 5, 6]

## External

1. Collaborate with industry to improve financial data, consolidate standards and reporting, enhance frameworks [Belief 1, 2, 3, 5, 6]
2. Encourage public-private partnerships to develop new avenues to drive primary investments [Belief 1, 2, 5, 6]
3. Champion international, national and sector-level initiatives to create a net-zero economy [Belief 5, 6]
4. Actively lobby to change public policy on regulation, subsidy and tax frameworks which support climate change mitigation and adaptation strategies [Belief 2, 5, 6]
5. Actively lobby and collaborate with industry members to change industry convention on financial performance measurements and reporting, and portfolio construction theories (CAPM, MPT), as we recognise that continuing to report risk/returns based on traditional/orthodox conventions to beneficiaries is not sustainable [Belief 5, 6]
6. Drive change in the investments industry through climate leadership [Belief 1, 2, 3, 4, 5, 6]

## Conclusion

Building climate beliefs is a difficult process. It is iterative, and it is resource intensive. But we assert that it is worth it. The transformational change that is required over this decisive decade and beyond will create a level of uncertainty which has rarely been witnessed before. Not every organisation will be successful in managing this transition. Those with climate beliefs in their arsenal will be better able to steer these increasingly choppy waters of change.

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