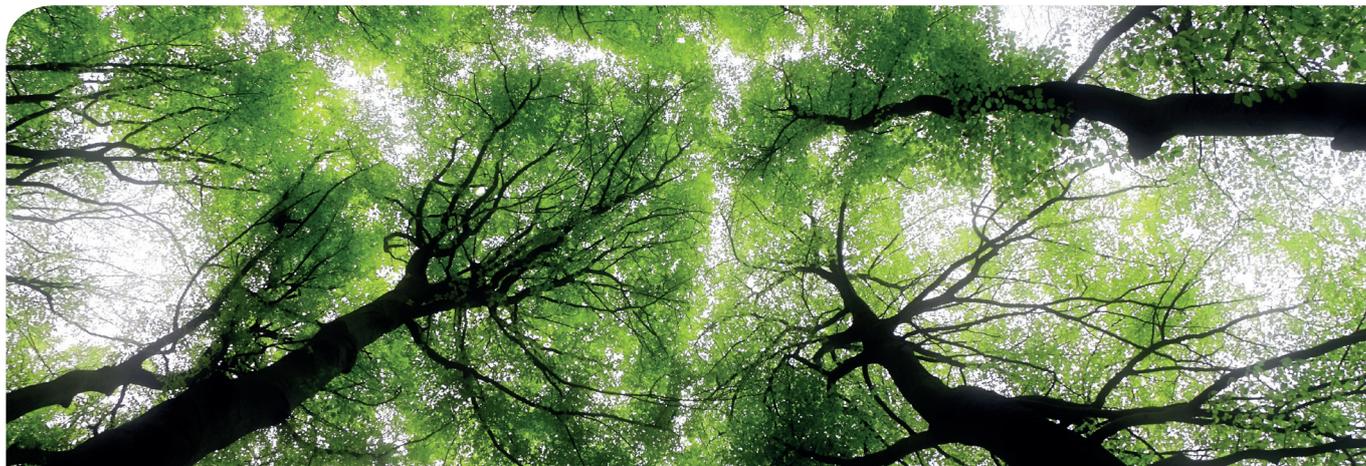


This special series of EIT Climate-KIC Climate Innovation Insights captures key arguments, presentations and examples of our work that will be shared at various events during the first ever London Climate Action Week.



Investing in our future: Is time the most potent prism for climate action?

Dr Riyong Kim and Jaelyn Asuncion, Mission Finance, EIT Climate-KIC | June 2019

- Short-termism in the financial system undermines effective climate action, putting our ability to prevent catastrophic climate change at risk.
- Short-termism has a range of causes, including skewed remuneration structures, the absence of robust forward-looking data, and the lack of a long-term perspective on risks and opportunities in mainstream benchmarks.
- Individuals are prone to cognitive biases that lock them into short-term mindsets such as “temporal myopia” and “hyperbolic discounting”.
- To show what is possible at the level of whole systems transformations – i.e. what a long-term approach to decision-making might look like and how it could be embedded into global finance and other macro-systems – EIT Climate-KIC is working with partners to design a ‘Deep Demonstration’ of Long-Termism.
- Designing systems interventions for long-termism involves multidisciplinary and connected approaches that can bring technology, arts, culture and financial markets in a portfolio of experiments.

A financial system that is fit-for-purpose

Shortcomings in our financial system – including short-termism – prevent us from meeting the challenges of financing sustainability. Unchecked climate change poses an existential threat to humanity, yet its effects are largely external to the current financial system, with the result that the true costs of climate change and the benefits of preventative action are rarely accounted for unless quantifiable. Deeply-rooted axioms surrounding value and monetisation limit the ability of capital markets to transform the real economy (*see Insight 4.2: Transformation*

Capital). There has been some forward movement towards a fit-for-purpose financial system, through policy recommendations and regulations, new information architectures (i.e. disclosure, benchmarks), and decision-making frameworks (i.e. labelling), but this has been limited to ensuring mitigation of climate risk and business continuity under current and future climate impacts. Many investments in infrastructure, energy and property that could mitigate future impacts of climate change will require long-term perspectives, and a way to better value remedial and preventative climate action. In other words, investments into structural changes that are needed to

meet the coming and experienced effects of climate change, as well as the reduction of future emissions will require investment into nascent technologies and infrastructure that will have relatively little monetary return on investment. The IPCC Special Report's Low Energy Demand scenario¹ demands a change to current investment patterns that lead to "lock-in", instead calling out the need to rapidly identify "green revenue" opportunities.

The final report of the High Level Expert Group on Sustainable Finance - released in February 2018 – highlighted the role of short-termism in stemming investments into sustainability. In their report, short-termism is described as "a tendency to place too much weight on short-run profitability at the expense of the long run".² "Short-termism" is translated into acceptable investment horizons for all major investment classes: 10 years for public stocks, 5–7 years for private equity, and 3–5 years for corporate bonds, for example. These time horizons represent normative views of the period over which an investment is supposed to generate some acceptable rate of return. This has also seemingly worsened: average holding of equities fell from 8 years to 8 months over the span of 20 years³. The greater availability of real time information, shorter performance assessment intervals of financial investors, and more frequent corporate reporting have contributed to this trend. Moreover, there are feedback loops in the investment allocation system: analyst recommendations and past performance influence benchmark construction. These benchmarks are then used to allocate assets, with the result that mainstream benchmarks do not incorporate long-term risks and opportunities⁴.

Other key drivers that promote short-termism related to financial institutions are various financial actors that work under short-term pressures. For example, executive decision-makers and managers often work under remuneration structures, especially in firms that deal with active trading, which may reward managers that turn over their portfolio holdings more frequently. Investment banks' equity sell-side analysts often work with backward looking disclosures, highlighting a critical need for enough forward-looking information to be able to judge long-term risks and opportunities. Moreover, the most widely used financial models and tools for valuation, such as net present value, have short-termism built in. In portfolio management, long-term value creation instruments such as equity are either used for short-term value extraction or are continuously benchmarked, which makes it difficult for portfolio managers to take a long-term view and withstand periods when their investments underperform in the short term despite

their long-term potential. There is also little demand from clients for long-term assessments, leading to analysts make recommendations based on information over one year. Asset owners have not demanded long-term analysis.

As a result, if capital markets depend on—and indeed nurture—the perpetuation of the status quo based on axioms, theories and hypotheses that systematically undervalue the costs of climate change, they are unlikely to fuel the type of profound transitions the world needs to cope with the gravest challenge facing our future.

The notion of time and value

The notion of time and how society values time is central to understanding how a shift towards long-termism might occur. As the digital anthropologist Danielle Knight observes, humans struggle to emotionally connect with the future.⁵ This is due to an evolutionary psychological bias that dissuades us from tackling the strenuous complexities that arise from long-term planning and encourages us instead to focus on immediate problems of survival. Known as 'temporal myopia', this inherited bent predisposes us to automatically prioritise present rather than future rewards. Central to designing interventions to promote long-termism, therefore, is an understanding of the role that time plays in creating value.

Work on this topic has already begun by some early movers: in the financial system, the Long-Term Stock Exchange aims to build an alternative system for long-term investments and value creation⁶. From a socio-cultural perspective, the Long Now Foundation aims to develop parallel architecture to today's fast culture⁷. A number of proponents of long-termism, such as acclaimed British sociologist, Barbara Adam⁸, have dedicated decades on researching 'social time'⁴. Others such as those behind the Long-Time project⁹, have begun collating examples of long-term behaviors and action, writing about five long term paths that include "deep time" (our sense of time relative to the beginnings of the universe) to cultivating "multigenerational emotions" (using empathetic tools of fiction and coaching tools to foster care about our future generations)¹⁰.

Learning from a portfolio of interventions

Over the past four years, EIT Climate-KIC has supported the development of a suite of tools to mainstream climate in the financial markets, including the Value- At-Risk metric¹¹ developed by Potsdam Institute for Climate and Carbon Delta that monetises physical and transition risk

for companies, and CDP's Climetrics¹² which rates equity funds on their climate impact.

Learning from our past, we realise that fundamental shifts are needed in the paradigms that make up the economic and financial system: around notions of value, monetisation and "externalities", and in the underlying behaviours that drive financial flows, including short-termism.

Under the banner of 'Mission Finance' we are working with partners and advisors to challenge dominant narratives in finance. Together we are working to create leverage points for transformational change towards an economic and financial system fit for the purpose of addressing climate challenges.

A deep demonstration of long-termism

Addressing short-termism in finance is a critical part of unlocking effective investment into sustainability. Short-term thinking in investment cycles and in concepts of economic value prevent the 1.5 °C transition we need.

Our 'deep demonstration' of long-termism in finance is one of eight 'deep demonstrations' we are convening to trigger systems-level responses to systemic challenges. We will work with institutional investors, insurance companies, faith-based organisations, land owners and other problem owners on experiments to help shift attention to longer-term time horizons (see Box 2: Deep Demonstrations).

1. Investing in our future: Together with Mission Innovation (see Box 1: Mission Innovation), we have already begun work on identifying avoided emissions of potential future solutions. But the question remains, how can this work be done fast enough, and robustly enough to enable wide-scale uptake at minimum resource cost? These considerations will be key to evaluating potential investments and challenging capital into disruptive solutions that are relevant for a low-energy demand future. These solutions may not have mature markets today. The key here is the role of the public sector and green investment banks, which remain critical sources of patient capital, as well as tapping into family offices and ultra-high net worth (UHNW) clients who may often have a more comfortable risk profile and lower liquidity requirement.

2. Deep technology as an enabler for a new climate economy: We are working with emerging transformative technologies such as artificial intelligence and big data to help identify new market trends for climate solutions that are currently not mainstream but are highly likely to become increasingly relevant in the future.

Cryptoeconomics and Internet of Things (IoT) when used judiciously and intelligently can help value social goods and using blockchain can facilitate peer-to-peer trading of resources.

3. Using arts, culture, and social narrative for long-termism: Short-termism is almost natural human behaviour. "Temporal myopia", "hyperbolic discounting" and "ambiguity bias", where we favour options that have more knowable and certain outcomes, play a role in short-termism. We also can become addicted to constant information flow and stimulation. Partnering with institutions in the creative industries, we want to shape experiments that influence sentiment, and personal and cultural narratives, for example through creative experiences, social media, and creative commercial channels.

4. Tackling short-termism in the financial markets: We work at the policy level through our engagement with the Technical Expert Group (TEG) in Sustainable Finance, which involves defining "green" for banks, investors, and the wider financial sector. We will also codesign interventions and experiments in innovative valuation methods, accounting, metrics, and benchmarks, and learn from faith-based investments and public investments into low-carbon infrastructure.

5. Futures literacy as a capability: Being "futures literate" and "using the future" allows people to better understand the role that the future plays in what they see and do. As a result, humans are able to learn to imagine the future for different reasons and in different ways. Partnering with UNESCO, UNFCCC and other key players in futures thinking and foresight, we hope to build capabilities across various applications including in the financial systems and investment community.

Box 1. Mission Innovation's Avoided Emissions Framework

EIT Climate-KIC supports the development of the Avoided Emissions Framework (AEF) under Mission Innovation. The recent MI4 in Vancouver showcased the first 100 high-impact climate solutions, featuring 17 solutions supported by EIT Climate-KIC. Avoiding 'lock in' and investing into high-impact, disruptive solutions with often nascent markets will be an essential part of the shift to a low-energy demand future. The AEF is evolving the needed decision metrics to help investors understand the avoided emissions of potential solutions and identify the relevant green business opportunities. Achieving this objective will require a connected approach through a portfolio of interventions influencing multiple key levers of change simultaneously.

Box 2. What is a Deep Demonstration?

Deep demonstrations are intended to be inspirational examples of what is possible at the level of whole systems transitions. During the first nine years, EIT Climate-KIC's approach to innovation has sought to bring together a knowledge pyramid of research, business, education and governmental entities, and in so doing link supply-side actors with demand-side actors in a thematic context. We have found, however, that the gravitational force of working with an innovation pipeline model, competitive calls and key performance indicators (KPIs) weighted to innovation supply: research projects, technologies and products looking for funding and customers or investors to sell to. We have also learned that a supply approach to innovation, in a context of public or even philanthropic funding, runs the risk of bias towards discrete, single-point solutions of an incremental nature. Such solutions rarely achieve systemic change and will not address climate change at the speed and scale we need.

A breakthrough systems-level, demand-led approach starts by identifying the complex nature of the problem and the necessary scale for intervention. It encourages us to cast innovation challenges as missions that capture imagination and inspire action across boundaries and contexts. It highlights the importance of understanding and addressing underlying assumptions that determine habits, behaviours and value generation models. Importantly, it favours using a combination of solutions – and working on multiple drivers of change simultaneously – to create deep demonstrations that enable different futures. EIT Climate-KIC has therefore chosen to position itself as an orchestrated innovation ecosystem that connects 'demand' and 'supply' in catalysing transformational systemic change, one that brings together public and private actors – businesses and states, individuals and cities. Our Deep Demonstration approach embodies this.

More information can be found here: <https://www.climate-kic.org/wp-content/uploads/2019/04/EIT-Climate-KIC-Deep-Demonstrations.pdf>

Call to action

Promoting long-termism in financial markets is going require key actors from across the space who are willing to co-design and experiment with interventions to this effect. If you would like to get involved and for more information please contact missionfinance@climate-kic.org

Endnotes

1. The P1 Low Energy Demand Scenario focuses on radically more resource efficient delivery of the society's needs and importantly a rapid reduction in fossil fuel emissions post-2020, with a relatively small, future contribution from negative emissions. IPCC (2018) Global Warming of 1.5C <https://www.ipcc.ch/sr15/>
2. "Financing A Sustainable Economy" Final Report by the High-Level Expert Group (HLEG) on Sustainable Finance (2018) p. 45
3. HLEG (2018) p. 46, "The Long and Winding Road: How Long-Only Equity Managers Turn Over Their Portfolios Every 1.7 Years" 2 Degree Investing Initiative (2°ii), Generation Foundation, and Mercer (2017)
4. HLEG (2018), 2°ii, Generation, Mercer (2017), "All Swans Are Black in the Dark: How the Short-Term Focus of Financial Analysis Does Not Shed Light On Long-Term Risks" 2°ii and Generation Foundation (2017)
5. <https://medium.com/superfluxstudio/how-hacking-our-sense-of-time-can-combat-climate-change-5d66fcaab007>
6. <https://ltse.com/>
7. <http://longnow.org/>
8. E.g. Adam, B. (2003). When Time is Money: Contested Rationalities of Time in the Theory and Practice of Work. *Theoria: A Journal of Social and Political Theory*, (102), 94-125. Retrieved from <http://www.jstor.org/stable/41791393>
9. <https://medium.com/@thelongtimeinquiry/the-long-time-3383b43d42ab>
10. Others include: Legacy stance – and how to build a positive legacy e.g. Black sky thinking; Mortality consciousness – "Our denial of our own mortality prevents us from engaging with the long term future; Interconnected world views – where "Valuing the long-term is also about understanding our place in the wider web of life, fostering a sense of connection to the non-human."
11. <https://www.carbon-delta.com/climate-value-at-risk/>
12. <https://www.climetrics-rating.org/>

About

EIT Climate-KIC is Europe's largest knowledge and innovation community focused on the rapid, broad-based systems transitions we now need to build prosperous, resilient, net zero-carbon societies in time.

Across most industries in Europe, the 'easier stuff' on the path to net-zero has already been done, mostly through cleaner energy supply and efficiency. What lies ahead is unprecedented and more difficult: structural change in social, economic and financial systems; fundamental transformations of city-systems, industry and land-use. New concepts of value and relationship. EIT Climate-KIC is building portfolios of co-ordinated innovations that work together to address these 'systems level' challenges.

We invite new partners and funders to help shape and scale these portfolios for large-scale climate impacts.

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