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Act now

A climate emergency roadmap for the international financial architecture

Dr Steve Waygood and Thomas Tayler

It takes Aviva Investors

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Steve Waygood
Chief Responsible Investment Officer

Main responsibilities

Steve leads Aviva Investors' Global Responsible Investment team, which is responsible for integrating environmental social and corporate governance (ESG) issues across all asset classes and regions of c£350bn of assets under management. The team has achieved an A+ ranking in governance and strategy from the UN Principles for Responsible Investment; a Tier 1 assessment for Stewardship from the UK Financial Reporting Council; and won the Responsible Investment Thought Leader and Innovator of the Year global award in 2017.

Thomas Tayler
Senior Manager, Sustainable Finance Centre for Excellence

Main responsibilities

Tom's work focusses on market reform and sharing expertise and best practice on sustainable finance through the Aviva Investors ESG Academy.

He supports Aviva Investors work regarding sustainable finance with a particular focus on market and regulatory reform, including contributing to the work of the COP26 High Level Climate Champions, the EU High-Level Expert Group on Sustainable Finance, the UK Green Market Taskforce, the UN-convened Net Zero Asset Owners' Alliance, and the UN Global Investors for Sustainable Development.

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This is an emergency: We need to act accordingly

> *"We cannot solve our problems with the same thinking we used when we created them."*
>
> **Albert Einstein**

A 2°C world might be uninsurable. A 4°C world certainly would be.[1]

If we do not bend the curve of emissions and global temperature trajectories, and close the gaps to get as close to 1.5°C as possible, the physical impacts of warming in excess of 2°C will threaten the lives and livelihoods of billions of people, nature, global security and the stability (possibly the existence) of the financial system.

Make no mistake: 1.5°C of warming is not just a least-worst option; it represents a planetary boundary.[2] Once it is crossed, we risk not only setting off negative feedback loops that dramatically increase the pace of warming, however quickly we cut emissions; we also risk crossing tipping points and moving to a different system state from which there is no return.[3,4]

A domino can knock over another twice its size due to the concentration of potential energy stored by placing the domino on its shortest end – a phenomenon known as force amplification.[5] Similarly, the finance system stores up significant systemic risk and interdependencies between its three limbs of insurance, banking and investment. If one element were to fall, it could bring the whole system crashing down. This would not be a financial crisis; it would be a collapse. Whilst we can and have recovered from previous financial crises, a collapse would be irretrievable.[6]

Insurers and reinsurers are already raising premiums in the face of dramatic rises in loss events,[7] and are in some cases withdrawing from offering cover "at any price".[8]

In a world without insurance to manage risk and offset losses, the rest of finance as we know it would become unworkable. Companies and projects would be unable to function. Insurance would become unavailable as a condition of loans or granting of security, meaning terms would become unaffordable or unavailable whether for domestic mortgages, commercial property, project finance or infrastructure. Capital and debt would be unable to be raised due to unmanaged or unmanageable risks. Banking would cease to function, and investment would not be far behind.

> *"In a world without insurance to manage risk and offset losses, the rest of finance as we know it would become unworkable"*

All this would result in the three interlinking limbs of finance ceasing to function and the trillions of dollars it embeds ceasing to flow.

However, this doomsday scenario is not inevitable. This report sets out practical and pragmatic steps to avoid a climate catastrophe: a roadmap to navigate the climate emergency. We propose an ambitious plan to reset and repurpose the global financial architecture, one that would be brought to fruition at a "Bretton Woods +80" summit in 2024.

1. Dina Medland, 'A 2°C world might be insurable, a 4°C world certainly would not be,' Forbes, May 2015.
2. Per Professor Johan Rockström: see Fiona Harvey, 'Climate experts warn world leaders 1.5C is "real science", not just talking point,' The Guardian, October 2021.
3. Fiona Harvey, 'Climate experts warn world leaders 1.5C is "real science", not just talking point,' The Guardian, October 2021.
4. David I. Armstrong McKay et al, 'Exceeding 1.5°C global warming could trigger multiple climate tipping points,' Science, September 2022.
5. Bob Yirka, 'Physicist creates math model to predict maximum incremental domino size,' Phys.org, January 2013.
6. James Vaccaro, 'Blip, crisis or collapse: why financial regulators need to prepare for more than a climate crisis,' Green Central Banking, May 2022.
7. 'Floods and storms drive global insured catastrophe losses of $38 billion in first half of 2022, Swiss Re Institute estimates,' Swiss Re press release, August 2022.
8. Ian Smith, 'Climate, war and inflation jolt reinsurers into action,' Financial Times, August 2022.

The world has coalesced around the collective goal of a global average of net-zero greenhouse-gas emissions by or before 2050 to limit warming to 1.5°C, with over 90 per cent of global GDP now covered by some sort of net-zero target.[9] A huge amount of work is being undertaken by both governments and the private sector to close the implementation gap and turn promises into action, and everyone is agreed that the role of private finance is mission critical to a successful transition. To make that objective a reality, and to realise the ambition of embedding consideration of climate into every financial decision,[10] the way in which global finance is governed needs to evolve to place climate at the centre of its purpose and work.

Finance is a highly regulated sector, for good reason – we collectively look after the money of billions of citizens around the world. As a result, financial market participants are hugely influenced by their regulatory regimes and respond to the signals that regulators and supervisors give them. Reform of the whole of the international financial architecture, including the Bretton Woods institutions – the World Bank and the International Monetary Fund – but also going beyond solely those institutions to include the ways that asset management, insurance and banking are overseen, can have a powerful effect in incentivising even greater focus on addressing climate change than has been the case to date.

Those signals will support financial institutions in managing climate risks; in allocating capital towards solutions and companies committed to the transition, and away from those unwilling to change; and in mobilising finance to support the mitigation and adaptation efforts of countries around the world, particularly in emerging markets and developing economies. Without changing the regulatory regimes, the risk is that those actions are only ever a second-tier priority. Financial institutions are committing to net zero at scale and each institution is working out how it can best implement the goal it has set; the sector needs similar focus from its regulatory architecture. The world is pivoting towards net zero and finance needs proactive net-zero leadership from its regulators, which means they need to evolve to embrace the new paradigm.

> *"The world is pivoting towards net zero and finance needs proactive net-zero leadership from its regulators"*

The original Bretton Woods Conference in 1944 created the financial architecture required to lift the world out of the darkness of the Second World War. A new Bretton Woods meeting to reset the priorities of the architecture would prepare the global system to deal with climate change: the defining crisis of the next 80 years.

Let's heed the warnings and act now.

Mark Versey
CEO, Aviva Investors

9. Zero Tracker, 2022.
10. Mark Carney, 'The road to Glasgow,' Bank of England, February 2020.

A climate emergency plan

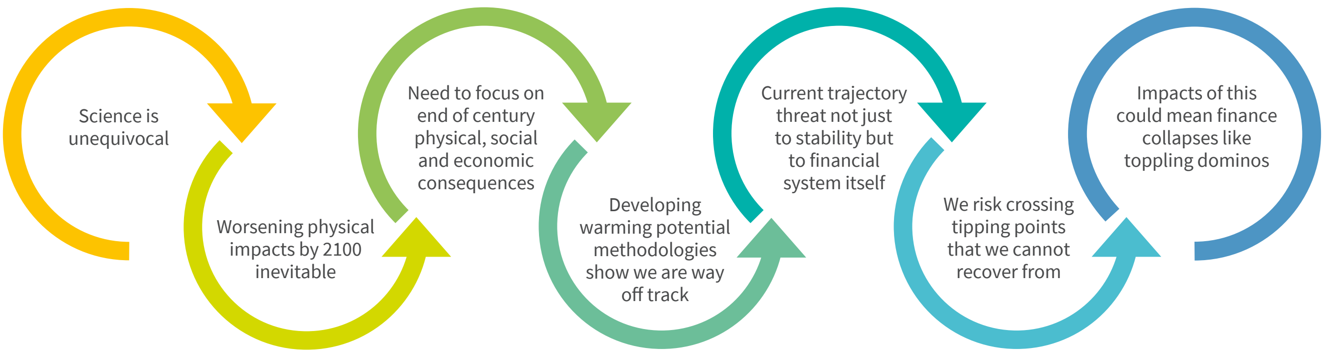
An emergency requires a commensurate response. The scientific consensus is unequivocal: we must rapidly and dramatically reduce emissions to avoid the very worst effects of human-induced climate change. Failure to do so could have catastrophic environmental, social and economic consequences,[11] including the potential collapse of the financial system before the end of the century.

The global economy and financial system are currently financing their own destruction.[12] To avoid that fate, a paradigm-shifting reorientation of the financial system, designed to put a just transition to net zero by or before 2050 at its heart, is required. A roadmap for the financial system must be created, overseen and stewarded by a reformed and repurposed international financial architecture, in order to deliver as orderly and just a transition as is possible. Clear short- and medium-term goals must also be outlined to steer progress on the road to 2050.[13]

> *"The global economy and financial system are currently financing their own destruction"*

The present international financial architecture has evolved, rather than being designed. It has tended to react to crises of the past, such as the two World Wars, in the case of the creation of the original Bretton Woods institutions, or the 2008 financial crisis in the case of the Financial Stability Board (FSB). To pre-emptively address the climate crisis before it overwhelms the system, coordinated planning and reform is needed. We must create an architecture fit for the challenge.

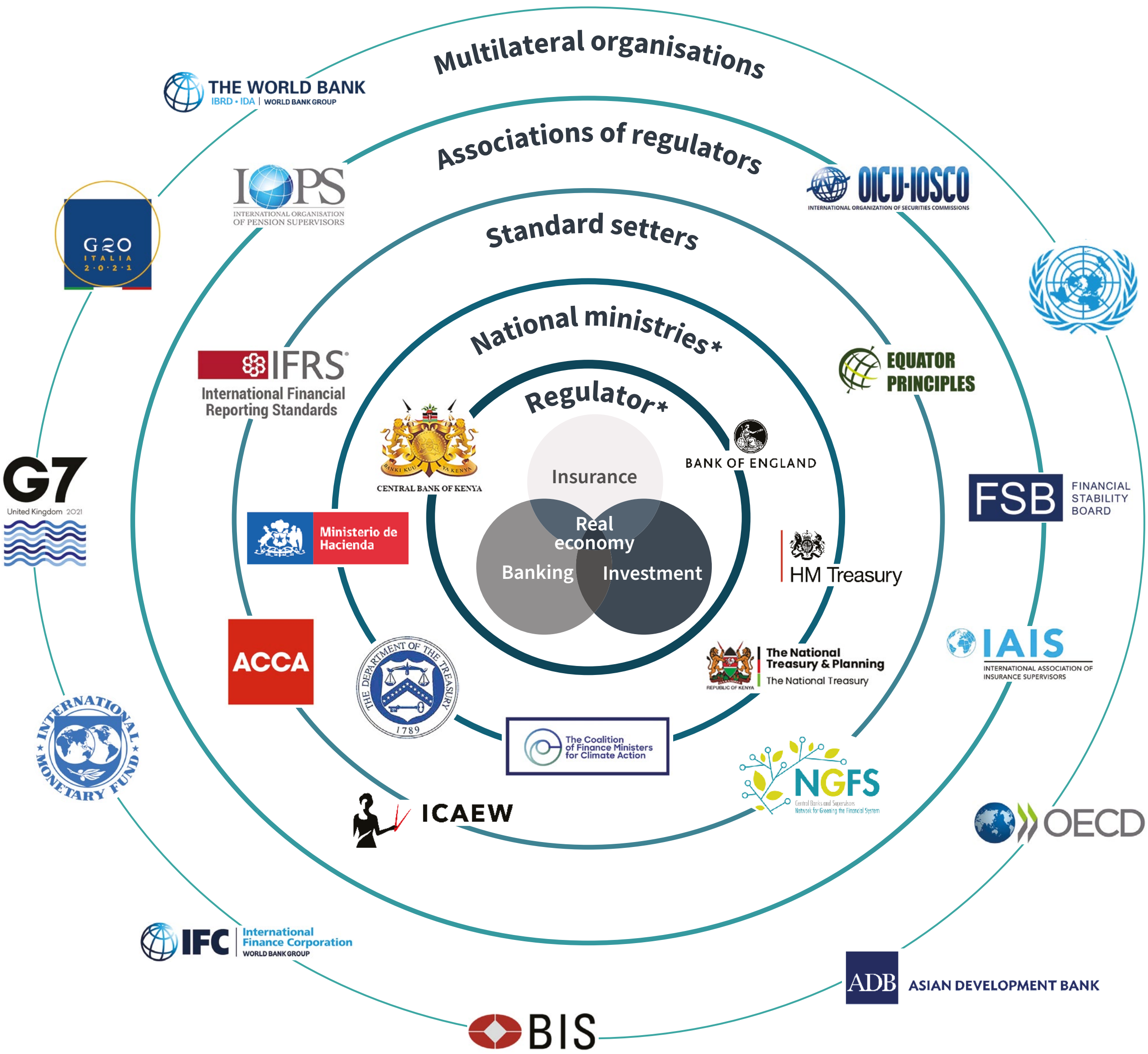
Figure 1. **The trajectory of a crisis**



Source: Aviva Investors, October 2022.

11. V. Masson-Delmotte, et al., 'Summary for policymakers', IPCC, 2021.
12. 'The Assisi Accord to harness finance to address climate change, in pursuit of global peace and equality', The Global Foundation, May 2022.
13. Steve Waygood, 'Harnessing the international financial architecture to deliver a smooth and just transition,' Aviva Investors, April 2021.

Figure 2. **The current architecture does not deliver optimal outcomes for society**



Note: This is not a completely exhaustive view – but highlights key global organisations due to their mandate. *Illustrative examples.
Source: Aviva Investors, September 2022.

Building on existing foundations

Substantial progress has been made in recent years. Financial institutions and those who regulate and oversee them have developed understanding, practices and frameworks to assess and begin to manage climate and other sustainability-related risks.

The Task Force on Climate-related Financial Disclosures (TCFD),[14] whose recommendations are now moving towards becoming a mandatory requirement in the G7 and EU, provided the starting point for the developing work of the International Financial Reporting Standards Foundation's International Sustainability Standards Board. Similarly, the work and analysis of the Network for Greening the Financial System[15] is providing valuable resources and the means for capacity building for the industry.

The Roadmaps issued in 2021 by the G20 Sustainable Finance Working Group (SFWG)[16] (as endorsed by the G20 Leaders) and the FSB[17] form the beginnings of a plan to reorient finance towards sustainability – not only in an ecological and social sense, but in terms of the sustainability of the financial system itself.

These beginnings, however, are still less than what is required to effect the necessary paradigm shift. The power of financial markets must be harnessed by putting delivery of the objectives of the Paris Agreement at their heart. These objectives are to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty.[18] They aim to create a financial system guided by the "North Star" for finance represented by Article 2.1.c of the Paris Agreement: "*Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.*"

The welcome actions already being taken by supervisors, regulators and policymakers, as well as the private-sector ambitions encapsulated in the Net Zero Alliances that make up the Glasgow Financial Alliance for Net Zero (GFANZ),[19] are facing headwinds in the form of short-term political and economic challenges. The strong forces of incumbency are self-interestedly reinforcing the status quo. This is troubling, as the actions taken so far do not yet represent the level of change necessary to reorient the financial system to address the climate crisis. The crisis will continue to escalate, with many of the effects materialising when it is too late to avoid them, as former Bank of England Governor Mark Carney explained in his speech "Breaking the tragedy of the horizon – climate change and financial stability."[20]

> *"The strong forces of incumbency are self-interestedly reinforcing the status quo"*

The pivotal role of finance, and particularly private finance, in supporting global climate action has formed an ever-greater part of discussions and negotiations at the Conference of the Parties to the United Nations Framework Convention on Climate Change (or "COPs"). COP26 in Glasgow in 2021 represented the high-water mark to date for private finance involvement, with the CEOs of financial institutions featuring prominently in the pledges made and in the plenary discussions.

14. 'Recommendations of the Task Force on Climate-related Financial Disclosures', TCFD, June 15, 2017.
15. 'NGFS publications', Network for Greening the Financial System, 2022.
16. 'G20 Sustainable Finance Working Group Roadmap', 2021.
17. 'FSB Roadmap for addressing financial risks from climate change: 2022 progress report', Financial Stability Board, July 14, 2022.
18. 'Paris Agreement', United Nations, 2015.
19. Glasgow Financial Alliance for Net Zero.
20. Mark Carney, 'Breaking the tragedy of the horizon - climate change and financial stability - speech by Mark Carney', Bank of England, September 29, 2015.

Private finance also features in the COP26 outcome document, the Glasgow Climate Pact: it is called upon to mobilise capital for climate adaptation, mitigation, and loss and damage. The potential of a properly focussed financial system to support the tackling of climate change is significant. Global financial assets held by financial corporations total an estimated $510 trillion;[21] the problem is not a lack of capital, but rather its misallocation. Too much money continues to flow towards activities that exacerbate climate change, while those in need of capital to fund climate mitigation, adaptation, and loss and damage cannot access the resources they need.

"The potential of a properly focussed financial system to support the tackling of climate change is significant"

There is an understandable focus on the continuing failure by developed countries to mobilise the $100 billion per year that was promised at COP15 in Copenhagen, the delivery of which is an issue of trust for the least-developed countries. There is the Green Climate Fund, which has been established within the framework of the UNFCCC with a mandate to finance climate action among developing economies, but there is a need to further mobilise finance for adaptation and loss and damage. It is understandable those least responsible for historic and current greenhouse-gas emissions – who are often those most impacted by, and least able to absorb, the costs of the effects of the warming climate – want to see funds transferred from the developed and fast-growing countries that have done the most to cause the problem.

This focus seems certain to remain in discussions at COP27 and future COPs, but given the scale of financial markets, it is essential to also seek to reorient markets so they are supporting, not undermining, the achievement of the Paris goals, and so they are working in the collective interests of all countries and stakeholders. A call to harness markets to support climate outcomes through reform of the architecture that oversees and governs them could be all the more powerful coming not only from developed countries, but also developing countries and emerging markets that depend on the mobilisation of finance from all sources at scale.

21. James Manyika, et al., 'The rise and rise of the global balance sheet', McKinsey Global Institute, November 2021.

A plan to shift the paradigm – time for a new Bretton Woods

The recommendations of the G20 SFWG represent the beginnings of a plan to reorient finance towards its essential role in supporting the political ambitions embodied in the Paris Agreement and the United Nations' Sustainable Development Goals and 2030 Agenda.

The SFWG Roadmap is intended to provide a greater focus on options to scale up finance to support a just and affordable climate transition, and to further integrate other aspects of sustainability, including nature and biodiversity, along with social issues such as energy access and poverty reduction.

Its five areas of focus – aligning investments to sustainability goals; decision-useful information on risks, opportunities and impacts; assessment and management of climate and sustainability risks; the role of international financial institutions, public finance and policy incentives; and cross-cutting issues – complement the work of the FSB in its own Roadmap, which focusses on disclosure, data, vulnerabilities and supervisory approaches.

However, we suggest that to fully pivot finance towards not just supporting but *accelerating* delivery of an orderly and just transition to a more sustainable net-zero economy – one that continues to promote sustainable development and poverty alleviation – a grander vision is needed. A vision that resets and repurposes the existing financial architecture, much like the Bretton Woods Conference in 1944, which took place in the shadow of the denouement of the Second World War. Nearly 80 years on, we need a new vision for the next 80 years, one that addresses the pre-eminent crisis of this century – a crisis that the institutions of the last century are not fully equipped to address.[22]

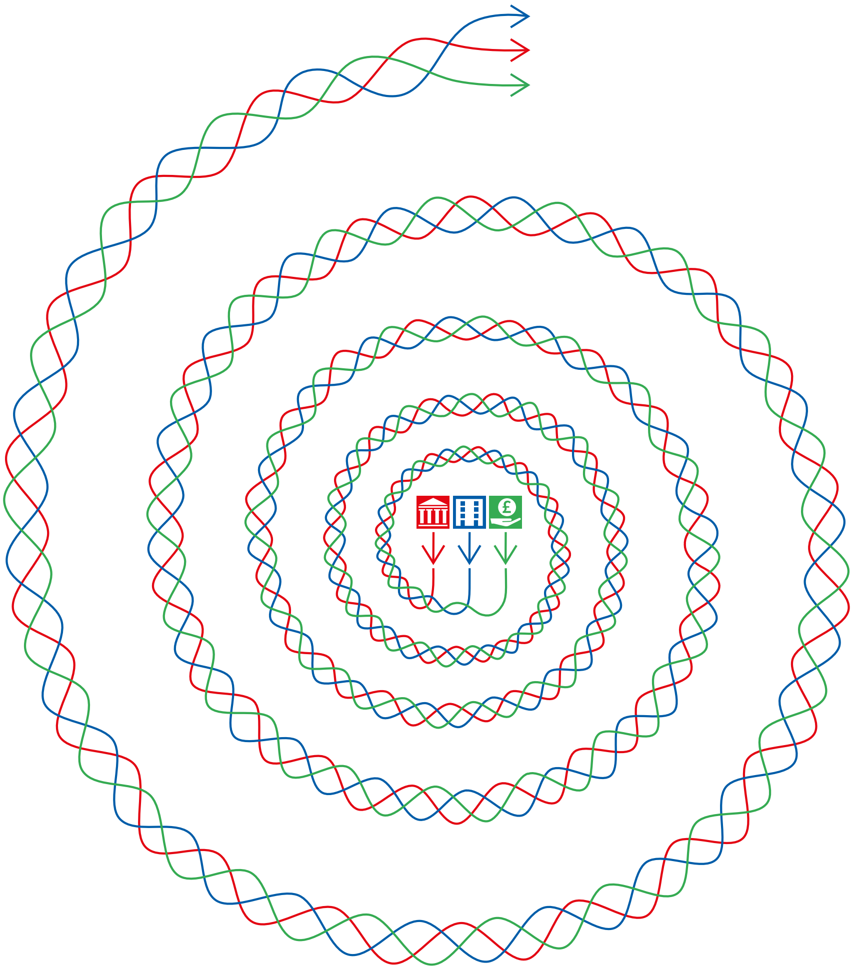
To do so, work should begin now to prepare recommendations that might plausibly be brought to fruition in 2024 at a summit to celebrate 80 years since the Bretton Woods Conference. The idea would be to deliver an architecture that, in the words of US Treasury Secretary Janet Yellen, operates as a "global public good"[23] and is "designed to deal with the novelty and breadth of…global crises".[24]

How this new paradigm might come to pass is a question that will require great collaborative vision and ambition. We have set out our ideas in this paper and in a 2021 White Paper containing recommendations to the G7 and G20 to harness the architecture for net zero.[25] But we do not have all the answers. We know this challenge must mobilise the best thinking and expertise from around the world. We need to bring together multiple, diverse stakeholders from all geographies to create, steward and ultimately deliver a roadmap at the global financial level, as well as at the individual institutional level. Such a roadmap should speak to the needs of emerging markets and developing countries as well as the most developed, accounting for common but differentiated responsibilities across the globe. It should consider individual needs within a global vision.

"We need to bring together multiple, diverse stakeholders from all geographies to create, steward and ultimately deliver a roadmap at the global financial level, as well as at the individual institutional level"

22. For example, the recommendations of the Assisi Accord include a collaborative review of the international financial architecture by the SFWG to create recommendations for reform of this kind. See 'The Assisi Accord to harness finance to address climate change, in pursuit of global peace and equality', The Global Foundation, May 2022.
23. 'Transcript of press conference from Secretary of the Treasury Janet L. Yellen as part of 2022 IMF-World Bank spring meetings, G7 and G20 finance ministers and central bank governors meetings', U.S. Department of the Treasury, April 21, 2022.
24. 'Remarks by Secretary of the Treasury Janet L. Yellen on way forward for the global economy, US Department of the Treasury, April 13, 2022.
25. 'Harnessing the international financial architecture to deliver a smooth and just transition', Aviva Investors, April 2021.

Figure 3. **The current architecture does not deliver optimal outcomes for society**



Companies

- Ambitious targets and public reporting on progress to meet the opportunity created by the policy environment
- Delivery against commitments creates space for governments to do more and increase ambition as well as attracting investment from finance, rewarding innovation and ambition

Government policy

- Clear, ambitious, predictable policy sending long-term signals to support investment in and commitment to transition
- Responding to the progress of corporates and finance by filling the space with an ever-increasing regulatory bar to reward leaders
- Public finance utilised to de-risk investment, finance breakthrough innovations and crowd in private investment

Finance

- Setting clear targets for own activity and investment, lending and underwriting; using stewardship and engagement to encourage ambition and delivery from corporates
- Engagement with governments to create enabling environment to deliver on own ambition and pushing corporates to meet ever increasing expectations and policy environment
- Finance mobilisation to leaders and breakthroughs creates more space for public and private sector action and delivery

Source: The Ambition Loop, Aviva Investors, September 2022.

Such a roadmap should represent the needs not just of finance, but of all sectors and civil society – and ultimately, of course, the global citizens whose money and interests the financial system ought to serve. This new paradigm should harness the expertise and innovation embedded within the private sector and utilise it in a new spirit of global coordination and cooperation, acting in the collective interest and the interests of future generations. Coordination and collaboration between the macro and micro levels can improve the trajectory of learning curves and delivery schedules in a positive “ambition loop”,[26] or even a reinforcing “triple helix” of action (see Figure 3).[27] By working towards mutually supportive action and delivery, governments, regulators, supervisors, financial institutions and companies can accelerate progress.

> *“This new paradigm should harness the expertise and innovation embedded within the private sector and utilise it in a new spirit of global coordination and cooperation”*

26. Ambition Loop.
27. ‘The levers of change: A systems approach to reconcile finance with planetary boundaries’, Aviva Investors, September 2022.

To be successful, we need the input of more than just financial institutions and corporates. Every institution within the international financial architecture, and the national and supranational regulators and supervisors that participate in and take their lead from those institutions, needs to be directed to coordinate these goals and report annually on their progress. The mandates of all institutions within the architecture should be reviewed and updated so a new goal is set at the heart of the financial system: to support and catalyse delivery of an orderly and just transition to achieve the outcomes of the Paris Agreement and Glasgow Climate Pact.

Correcting the "greatest market failure the world has ever seen"

Any such plan must include urgent guidance on the introduction and maintenance of policy measures to price carbon and correct the market failure to internalise the externality of greenhouse-gas emissions. In 2006, this failure was described by climate economist Nicholas Stern as "*the greatest the world has ever seen*".[28]

Carbon pricing will not deliver the transition on its own; it will require complementary policy measures including massive incentives for low-carbon industries and technologies, as well as other supporting measures – a deliberate blend of "carrots" and "sticks". However, without carbon pricing initiatives with sufficient coverage and price, the risk is that there will be no transition – or no transition at the scale and pace required. It will continue to be cheaper to pollute than decarbonise, and big emitters and those who finance their activities will seek to squeeze "one last drop" out of activities that are profitable due to the continuing market failure to make the polluters pay.

"Only policy and regulation can correct market failures, and until that happens financial institutions will be trying to transition with one hand tied behind their backs...any entity that has made a net-zero commitment should then pivot its efforts to advocating in the strongest possible terms for the policy measures needed to achieve it"

Only policy and regulation can correct market failures, and until that happens financial institutions will be trying to transition with one hand tied behind their backs. Governments have the biggest role to play here, but strong signals to those governments from the international financial architecture recommending more robust carbon pricing, with predictable forward cost curves and increasing coverage, would provide forceful impetus for greater coordinated governmental action.

Additionally, any entity that has made a net-zero commitment should then pivot its efforts to advocating in the strongest possible terms for the policy measures needed to achieve it, thus aligning its long-term ambitions with its duties to its customers, shareholders and other stakeholders.[29] This is part of what we call *macro stewardship*: stewardship of the system that we operate within and rely on, to promote its integrity in the interests of those whose money we steward. Such stewardship will form a crucial part of the private sector's contribution to a successful transition.[30]

28. Nicholas Stern, 'Stern Review: The economics of climate change', October 2006.
29. See, for example, the more detailed arguments made by the Race to Zero 'The Pivot Point' report, September 2022.
30. See more detail in Aviva Investors' AIQ: The Macro Stewardship Edition, September 2022.

The International Monetary Fund estimates around 30 per cent of global emissions are covered by some form of carbon pricing, with a global average of $6/ton CO2; to limit global warming, this figure must rise to at least $75/ton while covering more emissions.[31] The World Bank report *State and Trends of Carbon Pricing 2022* finds that although there are 68 carbon pricing instruments in operation globally, these only cover around 23 per cent of global greenhouse-gas emissions. Moreover, less than four per cent of emissions are covered by a direct carbon price at or above the range needed by 2030 to limit warming to 2°C or below.[32]

The High Level Commission on Carbon Prices recommended a range of $50-100/ton CO2 by 2030 to limit warming to less than 2°C by the end of the century,[33] with the Commission's two principal economists, Stern and Joseph Stiglitz, along with Charlotte Taylor, recommending to the US Biden administration that a social cost of carbon at or in excess of the upper end of that range is necessary to be consistent with the US's goal of net zero by 2050.[34]

Necessary but not sufficient

A meaningful cost of carbon – with clear forward guidance to markets on the rising future price curve and on expansion of coverage, increases in minimum pricing and measures to avoid carbon leakage or other distortion of competition – is a necessary and essential part of the required response to the climate emergency. But it will not be sufficient on its own.

To deliver the transition to net zero in the timescales required by the scientific consensus requires a transformation of unprecedented scale and speed. To have any hope of success, the financial might of global markets must be harnessed to incentivise and support the very best that human ingenuity and collective ambition can devise. To bring this about, a global transition plan must be created and delivered, bringing together the transition plans of all governments, policymakers, regulators, supervisors, market participants and corporates.

> *"To deliver the transition to net zero in the timescales required by the scientific consensus requires a transformation of unprecedented scale and speed"*

Systemic transitions throughout history have followed an s-curve pattern, reaching a tipping point at which action proceeds exponentially, with the transition occurring much faster than many had previously anticipated. Our hope for the net-zero transition is that this can happen again, when the economic, regulatory, policy and citizen demand signals all align to incentivise ambition and delivery at pace and scale.[35] This plan needs to be created and significant progress made before 2025 if we are to have a chance of successfully supporting the levels of emissions reductions needed to put us on a pathway for net zero by 2050. A 2024 Bretton Woods +80 summit could form a key focus point along that road.

31. Simon Black, et al., 'More countries are pricing carbon, but emissions are still too cheap', IMF, July 21, 2022.
32. 'Global carbon pricing generates record $84 billion in revenue,' World Bank, May 24, 2022.
33. High-level Commission on Carbon Pricing and Effectiveness, 2021.
34. Nicholas Stern, et al., 'A social price of carbon consistent with a net-zero climate goal,' Roosevelt Institute, January 2022.
35. Thomas Tayler, 'Hope for net zero,' Aviva Investors, March 21, 2022.

Sketching the roadmap

> *"We cannot tackle the defining challenge of this century with institutions that were defined by the last."*
>
> **Alok Sharma**[36]
> COP26 President

We need to put climate change management at the heart of the international financial architecture if we are to bring about an enabling regulatory and policy environment and achieve a just transition to net zero for the finance sector.

Since the Paris Agreement in 2015,[37] and particularly since the Intergovernmental Panel on Climate Change's (IPCC) *Special Report on Global Warming of 1.5°C* in 2018,[38] the world has coalesced around the need to limit warming to 1.5°C above pre-industrial average temperatures. To avoid the worst effects of our warming planet, we should seek to reach a global average net-zero equilibrium between greenhouse gases emitted and absorbed by 2050.

> *"To avoid the worst effects of our warming planet, we should seek to reach a global average net-zero equilibrium between greenhouse gases emitted and absorbed by 2050"*

By 2022, 83 per cent of global greenhouse-gas emissions, representing 91 per cent of global GDP, were covered by some form of net-zero target.[39] However, concerns remain, both about the integrity of some net-zero commitments and about the implementation gap between promises made and emissions reductions delivered, both at national and corporate levels.

One means to demonstrate the credibility of commitments, and to evidence the progress we so urgently need, is seen in the emergence of transition plans to provide a roadmap to connect the ultimate destination of net zero with the current status quo.

Parties to the Paris Agreement must submit their Nationally Determined Contributions (NDC), a statement of contribution towards globally agreed decarbonisation targets, along with plans to highlight climate actions and objectives. Crucially, the Glasgow Climate Pact requested all Parties revisit and strengthen their 2030 decarbonisation targets to align with the temperature goal of the Paris Agreement.[40] However, to support both confidence in the delivery of promises made by Parties and to provide the private sector with the clear policy signals it needs to commit to actions and investments aligned to net zero, national climate commitments need to be turned into roadmaps and transition plans. This is to demonstrate the decarbonisation trajectories and choices governments will take to deliver the deep emissions reductions needed before 2030 that the science-based pathways require.[41]

Non-state actors committing to the UN's Race to Zero campaign, including those within GFANZ, undertake to produce a transition plan for the implementation of their ambition and to report their progress against it annually. GFANZ itself is producing guidance for transition plans for financial institutions and real economy corporates. In the UK, the government has convened the UK Transition Plan Taskforce (which Aviva is honoured to co-chair), to provide best practice guidance in supporting the move towards making the publication of transition plans mandatory for financial and non-financial corporates.

36. Cabinet Office and The Rt Hon Alok Sharma MP, 'Looking back and stepping forward', October 14, 2022.
37. 'The Paris Agreement process', United Nations Framework Convention on Climate Change, 2022.
38. 'Global warming of 1.5 °C', IPCC, 2018.
39. 'Net zero stocktake 2022', Zero Tracker, June 13, 2022.
40. 'Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021', March 2022.
41. 'Aligning the UK Financial System to Net Zero: a WWF-Aviva position paper', Aviva, 2022.

Individual companies publishing transition plans alone will not achieve net zero. We continue to need clear, strong signals from government and regulators to steer the entire economy in the direction of net zero.

To mobilise a broader economic transition towards net zero, we propose a systematic macro approach to government policy, where country governance meets corporate governance. Transitioning away from the "business as usual" climate-change trajectory is arguably the toughest governance challenge humanity has ever faced. Addressing it will require policy and regulatory innovation that involves working together for the collective common good.

We must take steps to enact the vision of a financial system where each actor supports the others to understand regulatory and market failures and to collectively correct them. Private sector financial institutions should support policymakers who can pull the requisite levers needed to align incentives with a transition to net zero.

Figure 4. **Leverage points – from least to most effective**

12 Constants, parameters, numbers

- Size of the financial system / global economy and rate of consumption.
- Scale of regenerative ability of the planet.
- As the planetary boundaries work of Johan Rockstrom and the Stockholm Resilience centre shows, we can (and should) change rates of consumption and enhance the regenerative ability of the planet through reforestation, giving space for regeneration, rewetting peat bogs, and so on. But more substantial intervention is needed.

11 Size of buffers relative to their flows

- This is about maintaining key stabilising forces (e.g., ice sheets, rainforests, ocean currents, etc.) and looking at the financial system – i.e., the capital buffers and scale of flows in the system.

10 Structure of stocks and flows

- The way money flows around the financial system (the plumbing).
- Structure and mandates of the international financial architecture (see Figure 2).

9 Lengths of delays relative to the rate of system change

- Short-termism is pervasive. Our 'just-in-time' approach to change means there are sometimes delays between regulatory interventions and their effects becoming visible. However, valuations often react quickly to signals from policymakers and regulators, so are much more volatile.

8 Negative (correcting) feedback loops

- Ratings, rankings, benchmarks (examples: WBA, CHRB, SSE, PRI, CDP).
- Conventional ratings and rankings are often backward-looking and do not sufficiently incorporate issues of sustainability and impact. Use of metrics that incorporate sustainability and impact, as well as forward-looking efforts from companies, must become more widespread.

7 Gains around positive (reinforcing) feedback loops

- E.g., momentum on sustainability.
- Overall momentum on sustainability is building but insufficient to overcome pre-existing incentives and priorities, especially under stress.

Source: Aviva Investors; Donella Meadows, 'Leverage points: Places to intervene in a system,' The Donella Meadows Project, as of August 18, 2022.

Financial market participants, those who regulate and supervise them, those in whom they invest, to whom they lend, and whose activities they underwrite, must all act together in a coordinated and purposeful manner if the vision of Article 2.1.c of the Paris Agreement – to make financial flows consistent with a pathway towards low greenhouse-gas emissions and climate-resilient development – is to be realised. It is heartening to see discussion of these reforms emerging across all of the different interested parties, from world leaders and policymakers in initiatives like the Bridgetown Agenda,[42] to leading financial institutions in the GFANZ Call to Action,[43] and collected business leaders discussing how to achieve the aim of limiting warming to 1.5°C at Chatham House.

To make this vision a reality, it needs to be placed at the heart of the mandates and purpose of the institutions that make up the international financial architecture. In the words of COP26 President Sharma: "*We have to incentivise every aspect of the international system to recognise the systemic risk of climate change, and to make managing it effectively a central task… There is frankly no logical reason why every single one of those institutions should not be adapting to [make] tackling the climate crisis a fundamental part of their overall purpose*."

6 Structure of information flows

- SFDR, TCFD, traditional financial reporting.
- Information on sustainability and disclosure is increasing, but too slowly, with too much focus on disclosure as an end in itself. Reporting initiatives such as TCFD and SFDR are important, but not as important as the actions being taken by companies to improve their sustainability.
- There is too little information consistency – e.g., net-zero commitments not translating into company accounts and projections in financial reporting.

5 Rules of the system

- Rules that govern the financial system.
- This is a key leverage point – not just the rules on disclosure, but the rules that govern the system itself, for example the extent to which transition plans, net-zero commitments etc. become mandated, and the extent to which the bodies of the international financial architecture embed responsibility for monitoring and overseeing the delivery of net zero.
- How can markets be harnessed for a smooth, orderly and just transition to net zero?

4 The power to self-evolve

- This is hugely powerful – and underexploited. Participants in the financial system should advocate for its reform to make sure it has a long-term (sustainable) future.

3 Goals of the system

- Profit maximisation or profit optimisation? Extractive and exploitative or regenerative?
- How to bring the economy back within planetary boundaries?

2 Mindset or paradigm

- What is the system for? Do we serve the system, or does it serve us?
- This is critical: we need mindset shifts to make all the other interventions work. Otherwise, the power of the paradigm makes the system hugely resistant to change and interventions will be insufficient to shift the course.

1 Transcend paradigms

- The power to see the paradigm itself, to be able to understand and change it.
- Global growth at all costs inexorably leads to civilisational collapse.

42. 'The 2022 Barbados agenda', Barbados Government Information Service, September 23, 2022.
43. 'Call to action', GFANZ, October 11, 2021.

Each of the entities that make up this architecture should produce its own roadmap to indicate how both it, and those whom it oversees or regulates, will manage the physical risks of climate change and will seize the opportunities of the transition. As they assess their work in this area to date, and how they will shift their focus to addressing these existential issues, these organisations may conclude changes to their mandates are required; they should engage with their key stakeholders accordingly. They should report annually on the progress made towards managing an orderly and just net-zero transition. An international body should be tasked with annually assessing the overall state of the transition and making recommendations for further work, change or assessment – this role might be played by the FSB.

To date, the institutions of the international financial architecture have largely focused their work relating to climate change on disclosure and management of transition risks, as an element of their financial stability management. However, transitioning the work programmes of these institutions, and the focus and mindsets of the institutions that they collectively regulate and supervise, is a much harder task. Indeed, the focus on disclosure, while an essential element in enabling better understanding of the systemic risk embedded in the system, may actually disincentivise action to mobilise capital towards areas where it is most needed, such as projects and investments in emerging markets and developing countries (EMDCs), which will often have a relatively higher risk profile that institutional investors may be reluctant to add to their disclosures and reporting.

Similarly, prudential regimes for pools of capital in banking and insurance, as governed by the Basel Committee and the International Association of Insurance Supervisors, require the matching of liabilities and investments, and encourage holding assets perceived as low risk, such as developed market sovereign debt and investment-grade corporate bonds. The liability profile of the biggest institutions means prudential regimes disincentivise investment in EMDC despite such investments being crucial to the mitigation of the long-term systemic risks that pose a significant threat to the stability and even viability of those institutions. Therefore, a means of incentivising and giving credit to investments that take risk out of the system is badly needed. In a climate-induced financial crisis or collapse, no asset class or geography will be unaffected, including the assets perceived as “low risk” that are required by prudential regimes to be held in huge quantity. A more holistic and systemic approach is needed;[44] this could be provided through the preparation and implementation of climate roadmaps throughout the architecture.

> *“A more holistic and systemic approach is needed; this could be provided through the preparation and implementation of climate roadmaps throughout the architecture”*

A systems-based approach teaches us that to make effective systemic interventions, it is important to understand which leverage points are most effective (see Figure 4). Rules and disclosures provide an important foundation, but to move the system and ensure it is effectively redirected towards a new or different goal, as is needed in order to put climate change at the heart of the international financial architecture, deeper shifts in objectives, mindsets and paradigms are far more important.

44. See, for example, Steve Waygood, ‘A Tragedy of Perception: Fixing the ESG blind spots in business, finance and economics’, Aviva Investors, September 8, 2022.

These fundamental changes cannot be brought about overnight. It also makes no sense for any single country or actor to win a race towards its own net-zero ambition while others lag far behind – or even head in the opposite direction. The G20 member states and interested G77 members should begin work towards convening a summit to collectively harness the international financial architecture to promote a global net-zero target, inviting institutions within the architecture to develop roadmaps and proposals for reform. This work should start now, with a view to proposals being adopted at such a summit: the ultimate aim is to make the global economic system operate in the interests of the global public good by supporting action to address the biggest challenge faced by humanity. The summit might be most appropriately hosted at Bretton Woods in 2024, marking the 80th anniversary of the historic 1944 meeting.[45]

> *"The G20 member states and interested G77 members should begin work towards convening a summit to collectively harness the international financial architecture to promote a global net-zero target"*

45. 'The levers of change: A systems approach to reconcile finance with planetary boundaries,' Aviva Investors, September 13, 2022.

Call to action: A roadmap for the international financial architecture

We call on each of the institutions within the international financial architecture to:

1. Create a Roadmap or Transition Plan to place the supervision of the just transition to net zero on or before 2050 on a science-based pathway at the centre of its purpose and work programmes.

2. Review its mandate and constitution and request relevant stakeholders suggest any changes necessary to support the reorienting of the institution towards putting climate at its heart.

3. Report annually on the progress of the institution and those it supervises, regulates, coordinates and oversees, towards delivery of the net-zero ambition.

4. Collaborate with the other elements of the architecture to create and collectively steward a global net-zero transition plan for finance, reporting annually on global progress and making recommendations to governments for the policy action needed to deliver the enabling environment for the successful transition of the global finance system.

5. Convene a summit to agree and implement necessary reforms, celebrating 80 years since the original Bretton Woods Conference and plotting a pathway for the global financial system to be harnessed to tackle the pre-eminent challenge of the next 80 years – the climate emergency.

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